

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

<b>NEPR</b>
<b>Received:</b>
<b>Jun 18, 2026</b>
<b>10:08 AM</b>

**IN RE:**

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

**CASE NO. NEPR-MI-2021-0002**

**SUBJECT: Motion Submitting Six (6) FEMA Approvals of Project, Request for Confidential Treatment, and Supporting Memorandum of Law**

**MOTION SUBMITTING SIX (6) 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, respectfully submit the following:

**I. Submittal of Six FEMA Approvals and Request for Confidentiality**

1. On March 26, 2021, this Honorable Puerto Rico Energy Bureau ("Energy Bureau") issued a Resolution and Order in the instant proceeding, ordering, in pertinent part, that the Puerto Rico Electric Power Authority ("PREPA") submit to the Energy Bureau the specific transmission and distribution projects ("T&D Projects" or "Projects") to be funded with Federal Emergency Management Agency ("FEMA") funds or any other federal funds at least thirty (30) calendar days prior to submitting these Projects to the Puerto Rico Central Office for Recovery, Reconstruction and Resiliency ("COR3"), FEMA or any other federal agency ("March 26<sup>th</sup> 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 have

not yet been approved by the Energy Bureau.<sup>1</sup> The Energy Bureau thereafter determined that this directive should be applied to PREPA and LUMA. *See* Resolution and Order of August 20, 2021.

2. On August 30, 2021, LUMA submitted 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 30<sup>st</sup> Motion”), whereby it submitted twenty-nine (29) SOWs for the Energy Bureau’s review and approval prior to submitting them to COR3 and FEMA. Among the SOWs submitted, LUMA included the “Microwave Point-to-Point” T&D Project.

3. On September 22, 2021, the Energy Bureau issued a Resolution and Order that determined that most of the SOWs for T&D projects submitted by LUMA in the August 30<sup>th</sup> Motion were necessary to improve the system’s reliability (“September 22<sup>nd</sup> Order”). Therefore, it approved most of the projects presented in the August 30<sup>th</sup> Motion, including the “Microwave Point-to-Point” T&D Project. The Energy Bureau also ordered LUMA to submit a copy of the approval by COR3 and/or FEMA of the Project, which shall contain the costs obligated for each project within ten (10) days of receiving such approval.

4. Furthermore, on April 24, 2023, LUMA submitted a *Motion Submitting Scope of Work and Request for Confidentiality and Supporting Memorandum of Law* (“April 24<sup>th</sup> Motion”), whereby it submitted one (1) SOW for the Energy Bureau’s review and approval prior to submitting it to COR3 and FEMA (“April 24<sup>th</sup> Motion”). The SOW submitted by LUMA was for the “Island-Wide Vegetation Clearing” T&D Project.

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

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 5<sup>th</sup> 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. As shown in Exhibit 5 of the Motion filed on July 31, 2024, *Motion Submitting Three Amended Scopes of Work, and One Scope of Work, an Updated Project List, and Request for Confidentiality and Supporting Memorandum of Law*, and most recently in Exhibit 1 of the Motion filed on October 27, 2025, *Motion Submitting LUMA’s Consolidated List with Costs Incurred for Obligated Projects*, the “Island-Wide Vegetation Clearing” SOW was divided into separate projects, by group, which include, among others, the “FAASt [Caguas Region 4 - Feeder 3007-03] (Vegetation)”, the “FAASt [Mayaguez Region 5 Feeder 6014-02] (Vegetation)”, the “FAASt [Mayaguez Region 5 Feeder 6012-02] (Vegetation)”, the “FAASt [Caguas Region 4 - Feeder 3301-01] (Vegetation)” and the “FAASt [Mayaguez Region 5 Line 1900 (38kV) – Dos Bocas HP to San Sebastian TC] (Vegetation)” T&D Projects. *See Id.*

7. In compliance with the September 22<sup>nd</sup> and May 5<sup>th</sup> Orders, LUMA hereby submits copies of the “FAASt [Microwave Point-to-Point Backbone] (Telecommunications)”,<sup>2</sup> the “FAASt [Caguas Region 4 - Feeder 3007-03] (Vegetation)”, the “FAASt [Mayaguez Region 5 Feeder 6014-02] (Vegetation)”, the “FAASt [Mayaguez Region 5 Feeder 6012-02] (Vegetation)”, the “FAASt [Caguas Region 4 - Feeder 3301-01] (Vegetation)” and the “FAASt [Mayaguez Region 5 Line 1900 (38kV) – Dos Bocas HP to San Sebastian TC] (Vegetation)” T&D Projects

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<sup>2</sup> This is the FEMA project name for the “Microwave Point-to-Point” T&D Project.

approval by FEMA, which were obligated on June 12, 2026. *See Exhibit 1*<sup>3</sup> to this Motion. The document contains FEMA’s approvals and includes the costs obligated for each Project.

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

## **II. Memorandum of Law in Support of Request for Confidentiality**

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

9. 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 (2025). 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

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<sup>3</sup> Please note that **Exhibit 1** has digitalization and table format issues, which are found on the documents as issued by FEMA.

administrative procedure in which the allegedly confidential document is submitted.” *Id.* § 1054n(a).

10. 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).

11. 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.

12. 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 that 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.

13. 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).

14. 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

15. The FEMA approvals included in **Exhibit 1** contains portions of CEII that, under relevant federal law and regulations, are protected from public disclosure. LUMA stresses that the FEMA approvals with CEII warrant confidential treatment to protect critical infrastructure from threats that could undermine the system and negatively affect electric power services to the detriment of the interests of the public, customers, and citizens of Puerto Rico. In several proceedings, this Energy Bureau has considered and granted requests by PREPA to submit CEII under seal of confidentiality.<sup>4</sup> In at least two Data Security and Physical Security proceedings,<sup>5</sup> this Energy Bureau, *motu proprio*, has conducted proceedings confidentially, thereby recognizing the need to protect CEII from public disclosure.

16. Similarly, the Energy Bureau has granted LUMA's requests for confidential treatment of portions of the FEMA approvals submitted for approval 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.

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<sup>4</sup> *See e.g., In re Review of LUMA's System Operation Principles*, NEPR-MI-2021-0001 (Resolution and Order of May 3, 2021); *In re Review of the Puerto Rico Power Authority's System Remediation Plan*, NEPR-MI-2020-0019 (order of April 23, 2021); *In re Review of LUMA's Initial Budgets*, NEPR-MI-2021-0004 (order of April 21, 2021); *In re Implementation of Puerto Rico Electric Power Authority Integrated Resource Plan and Modified Action Plan*, NEPR MI 2020-0012 (Resolution of January 7, 2021, granting partial confidential designation of information submitted by PREPA as CEII); *In re Optimization Proceeding of Minigrid Transmission and Distribution Investments*, NEPR-MI 2020-0016 (where PREPA filed documents under seal of confidentiality invoking, among others, that a filing included confidential information and CEII); *In re Review of the Puerto Rico Electric Power Authority Integrated Resource Plan*, CEPR-AP-2018-0001 (Resolution and Order of July 3, 2019 granting confidential designated and request made by PREPA that included trade secrets and CEII. However, *see* Resolution and Order of February 12, 2021, reversing in part, grant of confidential designation).

<sup>5</sup> *In re Review of the Puerto Rico Electric Power Authority Physical Security Plan*, NEPR-MI-2020-0018.

17. As mentioned above, the Energy Bureau’s Policy on Management of Confidential Information provides for the management of CEII. It directs that the parties’ authorized representatives access information validated as CEII only after executing and delivering a Non-Disclosure Agreement.

18. CEII or critical infrastructure information is generally exempted from public disclosure because it involves assets and information that pose public security, economic, health, and safety risks. Federal Regulations on CEII, particularly, 18 C.F.R. § 388.113, state that:

Critical energy infrastructure information means specific engineering, vulnerability, or detailed design information about proposed or existing critical infrastructure that:

- (i) Relates details about the production, generation, transportation, transmission, or distribution of energy;
- (ii) Could be useful to a person in planning an attack on critical infrastructure;
- (iii) Is exempt from mandatory disclosure under the Freedom of Information Act, 5 U.S.C. 552; and
- (iv) Does not simply give the general location of the critical infrastructure.

*Id.*

23. 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.*

24. 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”).<sup>6</sup>

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<sup>6</sup> 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;

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).<sup>7</sup>

25. Portions of the FEMA approvals in **Exhibit 1** qualify as CEII because each of these documents contains the express coordinates and physical addresses to power transmission and distribution facilities (18 C.F.R. § 388.113(iv)), and these specific coordinates and addresses could

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- (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.

<sup>7</sup> CII includes the following types of information:

- (A) actual, potential, or threatened interference with, attack on, compromise of, or incapacitation of critical infrastructure or protected systems by either physical or computer-based attack or other similar conduct (including the misuse of or unauthorized access to all types of communications and data transmission systems) that violates Federal, State, or local law, harms interstate commerce of the United States, or threatens public health or safety;
- (B) the ability of any critical infrastructure or protected system to resist such interference, compromise, or incapacitation, including any planned or past assessment, projection, or estimate of the vulnerability of critical infrastructure or a protected system, including security testing, risk evaluation thereto, risk management planning, or risk audit; or
- (C) any planned or past operational problem or solution regarding critical infrastructure or protected systems, including repair, recovery, construction, insurance, or continuity, to the extent it is related to such interference, compromise, or incapacitation.

potentially be helpful to a person planning an attack on the energy facilities listed as part of this FEMA approval. The information identified as confidential in this paragraph is not common knowledge and is not made publicly available. Therefore, it is respectfully submitted that, on balance, the public interest in protecting CEII weighs in favor of protecting the relevant portions of the FEMA approvals with CEII in **Exhibit 1** from disclosure, given the nature and scope of the details included in those portions of the Exhibit.

26. Based on the above, LUMA respectfully submits that portions of the FEMA approvals should be designated as CEII. This designation is a reasonable and necessary measure to protect the specific location of the energy facilities listed or discussed in the FEMA approvals in **Exhibit 1**. Given the importance of ensuring the safe and efficient operation of the generation assets and the T&D System, LUMA respectfully submits that these materials constitute CEII that should be maintained confidentially to safeguard their integrity and protect them from external threats.

**C. Identification of Confidential Information**

27. In compliance with the Energy Bureau’s Policy on Management of Confidential Information (CEPR-MI-2016-0009) below, find a table summarizing the portions of the FEMA approval for which we present this request for confidential treatment.

<b>Document</b>	<b>Name</b>	<b>Pages in which Confidential Information is Found, if applicable</b>	<b>Summary of Legal Basis for Confidentiality Protection, if applicable</b>	<b>Date Filed</b>
Exhibit 1	FAASt [Microwave Point-to-Point Backbone] (Telecommunications)	Pages 1, 6, 8-11, 15	Critical Energy Infrastructure Information, 18 C.F.R. § 388.113;	June 18, 2026

<b>Document</b>	<b>Name</b>	<b>Pages in which Confidential Information is Found, if applicable</b>	<b>Summary of Legal Basis for Confidentiality Protection, if applicable</b>	<b>Date Filed</b>
			6 U.S.C. §§ 671-674.	
Exhibit 1	FAASt [Caguas Region 4 - Feeder 3007-03] (Vegetation)	Pages 1, 3, 16	Critical Energy Infrastructure Information, 18 C.F.R. § 388.113; 6 U.S.C. §§ 671-674.	June 18, 2026
Exhibit 1	FAASt [Mayaguez Region 5 Feeder 6014-02] (Vegetation)	Pages 1, 3, 14	Critical Energy Infrastructure Information, 18 C.F.R. § 388.113; 6 U.S.C. §§ 671-674.	June 18, 2026
Exhibit 1	FAASt [Mayaguez Region 5 Feeder 6012-02] (Vegetation)	Pages 1, 3, 13	Critical Energy Infrastructure Information, 18 C.F.R. § 388.113; 6 U.S.C. §§ 671-674.	June 18, 2026
Exhibit 1	FAASt [Caguas Region 4 - Feeder 3301-01] (Vegetation)	Pages 1, 15	Critical Energy Infrastructure Information, 18 C.F.R. § 388.113; 6 U.S.C. §§ 671-674.	June 18, 2026
Exhibit 1	FAASt [Mayaguez Region 5 Line 1900 (38kV) – Dos Bocas HP to San Sebastian TC] (Vegetation)	Pages 1, 3	Critical Energy Infrastructure Information, 18 C.F.R. § 388.113;	June 18, 2026

Document	Name	Pages in which Confidential Information is Found, if applicable	Summary of Legal Basis for Confidentiality Protection, if applicable	Date Filed
			6 U.S.C. §§ 671-674.	

**WHEREFORE**, LUMA respectfully requests that the Energy Bureau **take notice** of the aforementioned; **accept** the copy of the FEMA approvals attached herein as **Exhibit 1**; and **grant** the request for confidential treatment of **Exhibit 1**.

**RESPECTFULLY SUBMITTED.**

We hereby certify that we filed this Motion using the electronic filing system of this Energy Bureau. We will send an electronic copy of this Motion to PREPA via Alexis Rivera, [alexis.rivera@prepa.pr.gov](mailto:alexis.rivera@prepa.pr.gov), and through its counsel of record, Natalia Zayas Godoy, [nzayas@gmlex.net](mailto:nzayas@gmlex.net), Richard Cruz Franqui, [rcruzfranqui@gmlex.net](mailto:rcruzfranqui@gmlex.net), and Mirelis Valle Cancel, [mvalle@gmlex.net](mailto:mvalle@gmlex.net), to Genera PR LLC, through its counsel of record, Jorge Fernández-Reboredo, [jfernandez@ecija.com](mailto:jfernandez@ecija.com), José J. Díaz Alonso, [jdiaz@ecija.com](mailto:jdiaz@ecija.com), and Ernesto R. Ramos Maldonado, [eramos@ecija.com](mailto:eramos@ecija.com).

In Guaynabo, Puerto Rico, on this 18<sup>th</sup> day of June 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

<b>Project #</b>	662238	<b>PW #</b>	107742	<b>Project Type</b>	Specialized
<b>Project Category</b>	F - Utilities	<b>Applicant</b>		<b>Applicant</b>	PR Electric Power Authority (000-UA2QU-00)
<b>Project Title</b>	FAASt [Microwave Point-to-Point Backbone] (Telecommunications)			<b>Event</b>	4339DR-PR (4339DR)
<b>Project Size</b>	Large	<b>Declaration Date</b>		<b>Declaration Date</b>	9/20/2017
<b>Activity Completion Date</b>	9/20/2027	<b>Incident Start Date</b>		<b>Incident Start Date</b>	9/17/2017
<b>Process Step</b>	Obligated	<b>Incident End Date</b>		<b>Incident End Date</b>	11/15/2017

## Damage Description and Dimensions

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

### Damage #1206170; FAASt [Microwave Point-to-Point Backbone]

#### General Facility Information:

- **Facility Type:** Communication
- **Facility:** Microwave Point-to-Point Backbone
- **Facility Description:** The microwave backbone network consists of multiple licensed point-to-point (PTP) microwave radio links supporting the transmission network. The licensed PTP transmission links utilize microwave radio equipment that utilizes licensed frequencies granted by the Federal Communications Commission (FCC) in both the 6 GHz and 11 GHz MW bands. The FCC license database lists 44 actively licensed links in the 6 GHz band and 7 actively licensed links in the 11 GHz band. The transmission microwave currently has AVIAT Eclipse version 1, HARRIS FARRION (HF), and HARRIS TRUEPOINT5000 (HT) microwave radios.
- **Approx. Year Built:** 1970
- **GPS Latitude/Longitude:** [REDACTED]

## Final Scope

### 1206170 FAASt [Microwave Point-to-Point Backbone]

#### 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/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." SOP at 4.

This document contains the Detailed Scope of Work (DSOW) for project 662238 Microwave Point-to-Point Backbone for FEMA Public Assistance (PA) program under the Hurricane Maria Disaster (DR-4339-PR). 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 federal funds approval from FEMA, PA and HM.

LUMA submits this DSOW 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**

This project outlines the equipment and service requirements for essential components of permanent work under Category F, Utilities, of FEMA Public Assistance ("PA"). The component damaged during the DR4339PR event that needs to be repaired is the Microwave Backbone Point-To-Point Network.

The Microwave Point-to-Point Backbone Network consists of 54 licensed microwave radio links and an additional 10 links as mitigation to increase the network's resilience for a total of 64 links.

The main function of this system is to support the remote control and monitoring of transmission and distribution components of the power grid.

These licensed point-to-point transmission links utilize microwave radio equipment that utilizes licensed frequencies granted by the Federal Communications Commission (FCC) in both the 6 GHz and 11 GHz MW bands.

Existing damaged microwave links are composed of legacy AVIAT Eclipse version 1, HARRIS FARRION (HF), and HARRIS TRUEPOINT5000 (HT) microwave radios for legacy OC3 or TDM transport. These microwave radios are located at core telecommunications towers and building facilities across the Island. To maintain the system working, non-critical links have been used as spare parts to repair critical links and keep them functioning at very limited capacity to date. The implementation of new microwave equipment depends on the availability of the necessary equipment, room facilities and telecommunications towers under the separate tower infrastructure program.

Microwave radio links are defined in the System Design Criteria (see "Proposed Section 428 Public Assistance Scope of Work" below and Appendix C) as fully indoor units, split units, and fully outdoor units. These are mainly selected based on Radio Frequency (RF) power and bandwidth requirements.

Indoor units have final RF amplifiers within the equipment room with waveguide transmission lines to the antennas on the tower. Split units utilize intermediate frequency over a coaxial line to outdoor RF amplifiers matched to the antenna on the tower. All outdoor units only have a data connection from the equipment room, and all radio link functions are self-contained on the tower itself behind the antenna.

## **Facilities**

### **FACILITIES LIST – BUILDINGS AND SUBSTATIONS**

As part of the microwave communications backbone repairs, please refer to the Appendix B document for the locations of the sites related to the 54 links that will be repaired as 428. Such information in Appendix B is included below as well for convenience of review.

For MW Link Location Table, refer to document: "662238 DR4339PR FEMA DSOW Microwave PTP Backbone Rev 11 signed.pdf"

### **FACILITIES LIST – OTHER FACILITIES**

As part of the microwave communications backbone repairs, please refer to Appendix B for the locations of the sites related to the 10 links that are included as part of the 406 proposals. The information in Appendix B is included below as well for convenience of review.

For New MW Link Location (FEMA 406) Table, refer to document: "662238 DR4339PR FEMA DSOW Microwave PTP Backbone Rev 11 signed.pdf"

## **PROJECT AREA MAP WITH BOUNDARIES OF CONSTRUCTION**

To see the maps below, please refer to **Appendix A** for review.

For Figure 1: Microwave Backbone Existing 54 link Network, refer to document: "662238 DR4339PR FEMA DSOW Microwave PTP Backbone Rev 11 signed.pdf"

For Figure 2: Microwave Backbone 428 and 406 Proposed 64 links Network, refer to document: "662238 DR4339PR FEMA DSOW Microwave PTP Backbone Rev 11 signed.pdf"

## **§ 428 SCOPE OF WORK**

The proposed type of work for this project:

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

### **DESCRIPTION OF PROPOSED WORK TO BE PERFORMED**

#### **Proposed 428 Public Assistance Scope of Work**

This scope of work includes repairing 54 links and reestablishing the microwave point-to-point network communications.

1. Complete assessment of microwave point-to-point sites, equipment rooms, damaged equipment, antennas, lines, and other components of the damaged legacy microwave system.

2. Perform engineering studies and microwave paths analysis to validate the proposed topology of this microwave data network to support Grid Operational Technologies (GOT). The studies will consider interoperability with fiber optic facilities in conjunction with the fiber-based data network.
3. Remove 196 microwave radios and replace them with an equivalent model (Harris Stratex / Aviat) according to the capacity of the pre-disaster equipment.
4. Complete FCC requirements for frequency assignment for the 54 links of the microwave network.
5. Remove and replace 120 Microwave existing antennas for 54 links.

The links are separated into three groups (A, B and C) to segment the microwave equipment by category. The below three tables are **also included in Appendix C for convenience of review.**

**Summary of Group A:**

Frequency	Radios	Antennas
L6	28	14
11	4	2
Totals:	32	16

For Group A – Full Indoor Units table, refer to document: “662238 DR4339PR FEMA DSOW Microwave PTP Backbone Rev 11 signed.pdf”

**Summary of Group B:**

Frequency	Radios	Antennas
L6	36	22
U6	12	4
11	24	16
18	4	4
Totals:	76	46

For Group B – Split Mount Units table, refer to document: “662238 DR4339PR FEMA DSOW Microwave PTP Backbone Rev 11 signed.pdf”

**Summary of Group C:**

Frequency	Radios	Antennas
U6	14	12
L6	8	4
11	44	22
18	18	12
80	4	2
Totals:	88	52

For Group C – All Outdoor Units table, refer to document: “662238 DR4339PR FEMA DSOW Microwave PTP Backbone Rev 11 signed.pdf”

6. Install and integrate the Network Management System and Control Consoles on at Monacillos and Ponce LUMA's Control Centers
7. Commission and integrate services for the 54 Microwave Links from pre disaster event. The list is also included in Appendix B for convenience of review.

For 406 HAZARD MITIGATION PROPOSAL, refer to document: "662238 DR4339PR FEMADSOW Microwave PTP Backbone Rev 11 signed.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.

**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.

- This project does not include demolition or construction. It is only a replacement of the network. Electrical and electronic equipment is generally solid and not dispersed and there are no risks of human exposure or emission to the environment from its use in direct normal contact. "E-waste", "electronic waste", "e-scrap" and "end-of-life electronics", are terms often used to describe used electronics that are nearing the end of their useful life, and are donated, given to a recycler and the last option discarded. The debris will be separated and taken to an authorized waste disposal facility.
- The equipment to be used includes computers, Antenna Alignment Tool (AAT), Electric Winch, Pole, Rope, and Personal Protection Equipment.
- All debris will be disposed by authorized carrier once it is uninstalled from the site. During uninstallation, material will be on site inside the premises.

**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.).

- Each facility that is part of this project has access via existing roads and points. The main staging areas will be located inside the premises of the telecom sites and will serve as assembly points for all the materials to be installed.
- Refer to Appendix B for coordinates.

**PROJECT COST ESTIMATE (PCE)**

The estimated costs (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 the referenced Appendix G to access the full document "Microwave PTP Backbone Cost Estimate (LPCE) Rev 2-13-2026."

Cost Estimate			
Cost Element	428	406	Project Total
<b>PLANNING</b>	<b>\$2,336,810.62</b>	<b>\$439,162.58</b>	<b>\$2,775,973.20</b>
(A&E) Permitting and Assessments	\$192,738.36	\$36,221.79	\$228,960.15
(A&E) Environmental Documentation & Management	\$548,812.13	\$103,139.61	\$651,951.74
(A&E) Engineering Services & Design	\$1,595,260.14	\$299,801.17	\$1,895,061.31
<b>MANAGEMENT</b>	<b>\$4,568,150.54</b>	<b>\$858,503.78</b>	<b>\$5,426,654.32</b>
(A&E) Design Development Project Management A&E	\$337,519.46	\$63,430.86	\$400,950.32

(A&E) - Design Lodging & Per Diem A&E	\$34,139.15	\$6,415.85	\$40,555.00
Project Management	\$1,912,610.27	\$359,441.56	\$2,272,051.83
Construction Management	\$1,158,816.80	\$217,779.30	\$1,376,596.10
Contracting, Procurement & Contract Administration	\$450,025.95	\$84,574.48	\$534,600.43
Projects Controls (Scheduling, Estimating, Support, Cost Control, Risk, Document Control & Reporting)	\$675,038.91	\$126,861.73	\$801,900.64
<b>Microwave PTP Backbone 64 Links, FAAS#662238</b>	<b>\$23,394,002.84</b>	<b>\$4,396,492.58</b>	<b>\$27,790,495.42</b>
Microwave PTP Backbone 64 Links, FAAS#662238, material labor, and equipment.	\$19,468,521.56	\$3,658,767.21	\$23,127,288.77
Start Up/Commissioning	\$292,027.82	\$54,881.51	\$346,909.33
Construction Trespass	\$97,342.60	\$18,293.84	\$115,636.44
Transportation Expenses	\$97,342.60	\$18,293.84	\$115,636.44
Security (Field 24 hr)	\$175,216.69	\$32,928.90	\$208,145.59
Insurance	\$393,264.13	\$73,907.10	\$467,171.23
Contingency	\$2,195,248.52	\$412,558.46	\$2,607,806.98
Escalation	\$675,038.91	\$126,861.73	\$801,900.64
<b>GENERAL CONDITIONS</b>	<b>\$1,236,031.42</b>	<b>\$232,290.43</b>	<b>\$1,468,321.85</b>
Sales Tax	\$262,605.35	\$49,352.07	\$311,957.42
Municipal Construction Tax	\$973,426.07	\$182,938.36	\$1,156,364.43
<b>COST TOTALS</b>	<b>\$31,534,995.42</b>	<b>\$5,926,449.37</b>	<b>\$37,461,44.79</b>
<b>DEDUCTIONS</b>	<b>TOTAL INSURANCE PROCEEDS RECEIVED</b>		<b>\$0.00</b>
	<b>DE-OBLIGATION TO FAAS# IF APPLICABLE</b>		<b>\$0.00</b>
<b>FAAS# ALLOCATIONS</b>	FAAS# Project #662238 - 428		<b>\$28,826,526.19</b>
	FAAS# Project #662238 – 406 HM		\$5,926,449.37
	<b>FAAS# Project #662238 Total</b>		<b>\$34,752,975.56</b>
	FAAS# A&E Project #335168 - 428		\$2,708,469.23
	FAAS# A&E Project #335168 - 406		\$509,009.29
	<b>FAAS# A&amp;E Project #335168 – Total</b>		<b>\$3,217,478.52</b>
	FAAS# Project #673691 – 428		<b>\$0.00</b>
	FAAS# Project #673691 – 406 HM		<b>\$0.00</b>
	<b>FAAS# Project #673691 – Total</b>		<b>\$0.00</b>

Please refer to Appendix G to access full document "Microwave PTP Backbone Cost Estimate (LPCE) Rev 2-13-2026."

**Work to be Completed (WTBC): \$31,534,995.42**

**A&E Deduction (Global A&E FAAS 335168): -\$2,708,469.23**

**Project Total: \$28,826,526.19**

**Project Notes:**

1. Refer to detailed SOW provided in document labeled: "662238 DR4339PR FEMA DSOW Microwave PTP Backbone Rev 11 signed.pdf"
2. Refer to detailed Cost Estimate provided in document labeled: "662238 DR4339PR Appendix G - LPCE Microwave PTP Backbone 64 Links Rev 2-13-2026.xlsx".
3. A&E cost included in this project will be reduced from this project and obligated under theFAAS Project #335168, A&E, as shown in in the table above. The A&E project wasobligated to track and account for costs associated with individual FAAS projects.
4. Regarding the difference of \$0.01 in the total amounts between the applicant provided SOW/cost vs. total cost in calculated by GM. For more details see email file: "662238 Cost clarification.pdf"
5. Attachments:
  - a. A: Microwave Backbone Network Map Rev 12-30-2025
  - b. B: Microwave PTP and Location Rev 12-30-2025
  - c. C: System Design Criteria Rev 12-30-2025
  - d. D: Path Loss and Fade Margin Calculations for FIU
  - e. E: Path Loss and Fade Margin Calculations for SMU
  - f. F: Path Loss and Fade Margin Calculations for AOU
  - g. G: LPCE Microwave PTP Backbone 64 Links Rev 2-13-2026
  - h. H: Consent to Federal Funding Letter
  - i. I: Microwave Radios Review Analysis for 428 and 406 Funds Rev 11-21-2025
  - j. J: MW Links Hazard Mitigation Proposal Rev 12-30-2025
  - k. K: Microwave PTP Backbone - Cost Estimate per facility for FEMA Insurance Rev 01-14-2026
  - l. L: MW Technical 428 and 406 Overview Rev 10-10-2025
  - m. M: 428 Microwave Radio Aviat prices list 2016
  - n. N: 406 Microwave Radio Aviat prices list 2025

**406 HMP Scope**

**Project number:** [662238] FAAS [Microwave Point-to-Point Backbone] (Telecommunications)

**Damage #:** 1206170; FAAS [Microwave Point-to-Point Backbone]

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

**Location:** Puerto Rico

**GPS Latitude/Longitude:** [REDACTED]

## **Hazard Mitigation Narrative**

The purpose of a telecommunications network is to interconnect the transport Wireless Area Network, substation Local Area Networks, field networks, and data/control centers using routers, switches, and firewalls through microwave links and/or fiber optic cables. All the components are necessary to convey monitoring and control data from substations to the corresponding control center(s). LUMA has three control centers (Monacillos TC, Ponce, and Mayaguez) that monitor the electrical grid, and the data traffic must reach almost one dispatch in the event of a breakdown of some communication links.

The telecommunications network, including its components, equipment, and inherent services, is considered critical infrastructure due to the crucial role it plays in supporting Puerto Rico's electrical grid. Actual Microwave links have 2 types of redundancy: optical link or alternate microwave link. The proposed links will provide alternate microwave links in case the main connection fails on sites where no optical link is available.

The Microwave Point-to-Point Backbone (MW) networks will enhance the redundancy of the fiber network while providing connectivity to sites that currently lack access. This capability is vital for the effective management of power grid systems, including the Remote Terminal Unit (RTU), SCADA System, Emergency Management System (EMS), Advanced Metering Infrastructure (AMI), Distribution Automation (DA), Advanced

Distribution Management System (ADMS), Distributed Energy Resource Management System (DERMS), Phase Measurement Units (PMUs), and other critical systems. Implementing these measures is essential for maintaining the stability and resilience of the power grid, ensuring continuous service delivery to critical facilities on the island before, during, and after a disaster.

Due to the importance of these assets and their components, it is essential to consider all the natural hazards to which they are exposed, such as high wind and flooding. If one component within a telecommunications network fails, the network's function will be degraded through limited monitoring and control operation from a substation, meaning that the industrial, commercial, and residential customers' electric service may be compromised or disrupted.

## **Hazard Mitigation Proposal (HMP) Scope of Work:**

### **Replacement Mitigation**

#### **Part 1: Mitigation of Existing Radios**

1. Installing high-capacity microwave radios on all modern hardware platforms.
2. Redesign the microwave backbone with Full Indoor Units (FIUs) for core links to reduce distance and landscape intrusion, eliminate vegetation interference, heavy rainfall, strong winds and improve signal strength.
3. Incorporate multi-radio protection schemes using dual or multiple frequency channels to mitigate band interference, provide a continuous service connection, and maximize throughput in the network.
4. Implementing Adaptive Code Modulation (ACM) with Quadrature Amplitude Modulation (QAM) technology will provide a strong signal to prevent signal loss in the event of high hurricane winds, heavy rain, and high-density cloud interference.
5. Switching to Full Indoor Units (FIU) is a mitigation measure that can prevent or avoid damage to equipment caused by water intrusion during future disasters, such as hard wing rain.
6. Installing high-capacity microwave radios to all modern hardware platforms with enhanced environmental tolerance, featuring robust enclosures, improved RF components, and internal diagnostics. This aligns with industry's best practices and supports greater operational stability during severe weather events.
7. Implement Adaptive Code Modulation (ACM) with Quadrature Amplitude Modulation (QAM) technology as a functionality of the new radios. ACM dynamically adjusts the modulation scheme in real time based on link quality, significantly improving link availability under signal degradation due to heavy rain, wind, or other storm-related effects. Instead of a complete loss of communication, ACM gracefully degrades throughput while maintaining connectivity — a key requirement for critical infrastructure during emergencies.
8. Incorporate multi-radio protection schemes using dual or multiple frequency channels, which allow for frequency and path diversity. This approach enables the system to automatically switch between available channels in case of link degradation or failure, ensuring continuous operation and minimizing service interruptions during and after the storm.
9. Redesign the microwave backbone with Full Indoor Units (FIUs) for core links, replacing existing split-mount configurations. FIUs offer superior environmental protection and centralized control and maintenance functions. This architectural shift reduces points of failure, simplifies power management, and enhances system survivability during long-duration outages.

#### **Part 2: New Radios 100% Hazard Mitigation**

### **Supplementary Mitigation**

**Implementation of 10 New Microwave links:**

It has been identified that achieving robust resiliency on the microwave backbone requires adding redundant connections to secure services over the air. This can be done by creating a microwave network ring over the existing optical network; to reach this goal, it is necessary to add new microwave links.

- The Section 406 scope of work is to install the following 10 links with their specifications:

New MW Link Locations (FEMA 406)						
Link	Point A	Lat Pt. A	Long Pt. A	Point B	Lat Pt. B	Long Pt. B
1	CERRO PUNTA	[REDACTED]	[REDACTED]	LA SANTA	[REDACTED]	[REDACTED]
2	AGUIRRE STEAM PLANT	[REDACTED]	[REDACTED]	SANTA ISABEL	[REDACTED]	[REDACTED]
3	ATALAYA	[REDACTED]	[REDACTED]	MAYAGUEZ	[REDACTED]	[REDACTED]
4	ATALAYA	[REDACTED]	[REDACTED]	MONTAÑA	[REDACTED]	[REDACTED]
5	CERRO PIÑA	[REDACTED]	[REDACTED]	CAYEY TC	[REDACTED]	[REDACTED]
6	CERRO PIÑA	[REDACTED]	[REDACTED]	LA SANTA	[REDACTED]	[REDACTED]
7	DAGUAO	[REDACTED]	[REDACTED]	REPEATER DAGUAO	[REDACTED]	[REDACTED]
8	HUMACAO TEC	[REDACTED]	[REDACTED]	REPEATER DAGUAO	[REDACTED]	[REDACTED]
9	MONTAÑA	[REDACTED]	[REDACTED]	MORA TC	[REDACTED]	[REDACTED]
10	FLAMENCO	[REDACTED]	[REDACTED]	EL YUNQUE	[REDACTED]	[REDACTED]

**Link 1. From Cerro Punta to La Santa**

Cerro Punta sends its traffic through the El Gato site to Monacillo TC (MTC). Monacillo is a PCC (Primary Control Center). In case the Cerro Punta to El Gato MW link fails, the traffic can be from Cerro Punta through La Santa to reach Monacillo TC dispatch (MTC).

**Link 2. From Culebra (Flamenco) to El Yunque**

Communication with Culebra today is through fiber optic cable. This microwave link would create redundancy with the main island. Another advantage is that it allows an additional communication path through Vieques in case of a fiber optic failure between Punta Lima and Vieques.

**Link 3. From Cayey TC to Cerro Piña and Link 4. From Cerro Piña to La Santa**

Cayey TC is a critical substation currently connected only by fiber optic cable. According to the line-of-sight studies, the most viable alternative for redundancy is using a microwave repeater at a new location (Cerro Piña) to interconnect with La Santa.

Based on the previous considerations, these 4-microwave links have been considered a priority to secure the resilience of the telecom infrastructure for Puerto Rico.

**The following is the 406 scope of work, for the 3 areas that cover the Microwave Network:**

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**Group A**

Install 8 radios equivalent to Models (Full Indoor Units IRU 600) and 4 antennas for each one new Microwave link from Cerro Punta to La Santa.

<b>Backbone Link Details(1): Group A - FEMA 406 Fund</b>											
Trunk Link: 720Mbps @ 99.995%, Fade Margin> 30dB, Max Capacity - 1000Mbps Distribution Link: 528Mbps @ 99.995%, Fade Margin > 30dB, Max Capacity = 800Mbps End Link: 300Mbps @ 99.995%, Face Margin > 30dB, Max Capacity - 500Mbps											
Site Name	Lat (N)	Lon (W)	Links to	Freq. Band (GHz)	Ch. BW (MHz)	Link Type	Radio			Antenna/SD	
							Typ	Configuration	Diversity?	Height (Ft)	Size (Ft)
CERRO PUNTAS	█	█	LA SANTA	L6	30	TRUNK	FIU	4+4 MHSB	SPACE	25/50	6/4
LA SANTA	█	█	CERRO PUNTAS	L6	30	TRUNK	FIU	4+4 MHSB	SPACE	25/50	6/4

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**Group B**

- Install 4 radios equivalent to Models (Split Mount ODU 600) and 2 antennas for each new Microwave links from Aguirre to Santa Isabel.

<b>Backbone Link Details(1): Group B - FEMA 406 Fund</b>											
Trunk Link: 720Mbps @ 99.995%, Fade Margin> 30dB, Max Capacity - 1000Mbps Distribution Link: 528Mbps @ 99.995%, Fade Margin > 30dB, Max Capacity = 800Mbps End Link: 300Mbps @ 99.995%, Face Margin > 30dB, Max Capacity - 500Mbps											
Site Name	Lat (N)	Lon (W)	Links to	Freq. Band (GHz)	Ch. BW (MHz)	Link Type	Radio			Antenna/SD	
							Typ	Configuration	Diversity?	Height (Ft)	Size (Ft)
AGUIRRE SP	█	█	SANTA ISABEL	U6	30	DIST	SMU	4+0	None	60	6

SANTA ISABEL	■	■	AGUIRRE SP	U6	30	DIST	SMU	4+0	None	55	6
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**Group C**

- Install 18 radios equivalent to Models (All Outdoor Units WTM 400) and 16 antennas for seven new Microwave links.

Backbone Link Details(8): Group C - FEMA 406 Fund											
Trunk Link: 720Mbps @ 99.995%, Fade Margin> 30dB, Max Capacity - 1000Mbps Distribution Link: 528Mbps @ 99.995%, Fade Margin > 30dB, Max Capacity = 800Mbps End Link: 300Mbps @ 99.995%, Face Margin > 30dB, Max Capacity - 500Mbps											
Site Name	Lat (N)	Lon (W)	Links to	Freq. Band (GHz)	Ch. BW (MHz)	Link Type	Radio			Antenna/SD	
							Typ	Configuration	Diversity?	Height (Ft)	Size (Ft)
ATALAYA	■	■	MAYAGUEZ	11	40	DIST	AOU	2+0	None	20	6
	■	■	MONTAÑA	11	40	DIST	AOU	2+0	None	82	6
CAYEYTC	■	■	CERRO PIÑA	11	40	END	AOU	1+0	None	98	4
CERRO PIÑA	■	■	CAYEYTC	11	40	END	AOU	1+0	None	25	4
	■	■	LA SANTA	11	40	DIST	AOU	2+0 HW Red	None	20	4
CULEBRA	■	■	EL YUNQUE	L6	30	END	AOU	2+0 A2C+	None	140	8
DAGUAO	■	■	REPEATER DAGUAO	L6	30	END	AOU	2+0	None	120	6
EL YUNQUE	■	■	CULEBRA	L6	30	END	AOU	2+0 A2C+	None	50	8
HUMACAO TEC	■	■	REPEATER DAGUAO	18	40	END	AOU	2+0	None	20	2
LA SANTA	■	■	CERRO PIÑA	11	40	DIST	AOU	2+0 HW Red	None	40	4
MAYAGUEZ	■	■	ATALAYA	11	40	DIST	AOU	2+0	None	105	6

MONTAÑA	■	■	ATALAYA	11	40	DIST	AOU	2+0	None	60	6
	■	■	MORA TC	11	40	END	AOU	2+0	None	23	4
MORA TC	■	■	MONTAÑA	11	40	END	AOU	2+0	None	36	4
REPEATER DAGUAO	■	■	DAGUAO	L6	30	END	AOU	2+0	None	60	6
	■	■	HUMACAO TEC	18	40	END	AOU	2+0	None	50	2

### 406 Proposed Microwave System Antennas

The proposed mitigation measures aim to enhance the resilience of the existing network, which consists of 54 links. Additionally, this proposal includes 10 new links to provide redundancy in locations that are more susceptible to communication disruptions during future disaster events.

Component	System	Proposed 406 Replacement
Radio Type	Split Mount (ODU + IDU)	Full Indoor Unit (FIU)
Modulation	Static (e.g., QPSK, 16QAM)	Adaptive Coding and Modulation
Channel Bandwidth and Redundancy	Single Channel, No Path Diversity	Multi-Channel Frequency, Diversity with Protection
Environmental Resilience	Outdoor exposure, higher failure rate	Indoor protected environment, higher survivability
Maintenance Accessibility	Dispersed units, harder to manage	Centralized units, simplified operations

### Part 3: Hazard Mitigation for all Radios (Existing and New)

#### Supplementary Mitigation

High-Wind Hardened Antennas and Hardware:

This hardware includes heavy-duty and redundant mounting hardware as well as aerodynamic and/or hardened dish antenna radomes (E.g., RFS extreme radomes or similar). It is also defined for high wind upgraded dish antennas and components. Typically, beyond ANS/ITIA-222-H 155MPH.

#### Hazard Mitigation Proposal (HMP) Cost

Total Net Hazard Mitigation Cost (Base Cost)=	\$4,228,724.23
+ HM (Applicant A&E, Management & General Conditions) =	\$1,697,725.14
<b>Hazard Mitigation Total Cost =</b>	<b>\$5,926,449.37</b>

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

Equipment and Materials (E&M)=	\$ 0.00
Architecture and Engineering (A&E)=	\$ 509,009.29
Construction Cost=	\$5,417,440.08
<b>Hazard Mitigation Total Cost =</b>	<b>\$5,926,449.37</b>

**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 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 \$5,926,449.37 (Hazard Mitigation Total Cost). The cost of this HMP combined with 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	\$31,534,995.42	Uncompleted
3510	1	Lump Sum	(\$2,708,469.23)	Uncompleted

CRC Gross Cost	\$28,826,526.19
Total 406 HMP Cost	\$5,926,449.37
Total Insurance Reductions	\$0.00
<hr/>	
CRC Net Cost	\$34,752,975.56
Federal Share (90.00%)	\$31,277,678.01
Non-Federal Share (10.00%)	\$3,475,297.55

## 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 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.

## Insurance

### Additional Information

**4/21/2026**

#### **GENERAL INFORMATION**

Event: DR4339-PR

Project: SP 662238

Category of Work: Cat F - Utilities

Applicant: PR Electric Power Authority

Event Type: Hurricane / Hurricane Maria

Cause of Loss: Wind / Wind Driven Rain

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

### **COMMERCIAL INSURANCE INFORMATION**

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

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

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

Mapfre Praico Insurance Company (1398178000644)

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

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

Policy Limits: \$300,000,000.00

RCV or ACV: Replacement Cost Value

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

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

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

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

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

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

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

### **Damaged Inventory (DI) #1206170:**

#### **FAAST [Microwave Point-to-Point Backbone]**

Location Description: Microwave Point-to-Point Backbone

GPS Coordinates: XXXXXXXXXX

Cause of Loss: Wind / Wind Driven Rain

Damage Inventory Amount: \$34,752,975.56 (CRC Gross Cost \$28,826,526.19 + Mitigation Amount \$5,926,449.37)

-

#### **Prior Obtain and Maintain Requirement:**

No prior insurance requirements were found for this facility.

-

#### **Reduction(s):**

No insurance reduction will be applied to this project. An anticipated insurance reduction of \$275,000,000.00 was applied to FAAST project # 136271 for anticipated insurance proceeds for Hurricane Maria losses. For ease of reference, please see table of insurance allocations: "PREPA Allocation Plan – All Disasters" file.\_

-

**Obtain and Maintain Requirement:**

An Obtain & Maintain Requirement is being required for Equipment, for the peril of Wind (all wind associated losses including "wind driven rain" for the FAAST [Microwave Point-to-Point Backbone]) in the amount of \$34,752,975.56.

-

**Insurance Proceeds Statement:**

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

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

**Standard Insurance Comments**

**FEMA Policy 206-086-1**

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

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

1. Before FEMA approves assistance for a property, an applicant must provide FEMA with information about any actual or anticipated insurance settlement or recovery it is entitled to for that property.

2. FEMA will reduce assistance to an applicant by the amount of its actual or anticipated insurance proceeds.

3. Applicants must take reasonable efforts to recover insurance proceeds that they are entitled to receive from their insurer(s).

...

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

a. FEMA will reduce assistance by the actual or anticipated insurance proceeds, or the amount of insurance required in the previous disaster, whichever is greater.

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

-

**FEMA Policy 206-086-1**

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

1. If the applicant failed to maintain the required insurance from the previous disaster, then the facility is not eligible for assistance in any subsequent disaster.

2. Upon proof that the applicant maintained its required insurance, FEMA will reduce assistance in the subsequent disaster by the amount of insurance required in the previous disaster regardless of:

a. The amount of any deductible or self-insured retention the applicant assumed (i.e., "retained risk").

...

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

**Obtain and Maintain Requirements:**

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

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

(b)

(1) Assistance under section 406 of the Stafford Act will be approved only on the condition that the recipient obtain and maintain such types and amounts of

insurance as are reasonable and necessary to protect against future loss to such property from the types of hazard which caused the major disaster. The extent of insurance to be required will be based on the eligible damage that was incurred to the damaged facility as a result of the major disaster. The Regional Administrator shall not require greater types and extent of insurance than are certified as reasonable by the State Insurance Commissioner.

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

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

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

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

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

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

**FEMA Policy 206-086-1**

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

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

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

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

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

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

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

**O&M Requirements**

Insured Peril	Item Type	Description	Required Coverage Amount
Wind	Equipment	An Obtain & Maintain Requirement is being required for Equipment, for the peril of Wind (all wind associated losses including "wind driven rain" for the FAASt [Microwave Point-to-Point Backbone] in the amount of \$34,752,975.56.	\$34,752,975.56

**406 Mitigation**

There is no additional mitigation information on **FAASt [Microwave Point-to-Point Backbone] (Telecommunications)**.

**Environmental Historical Preservation**

Is this project compliant with EHP laws, regulations, and Yes

executive orders?

### 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 Applicant shall handle, manage, and dispose of all types of hazardous waste in accordance with requirements of local, state, and federal laws, regulations, and ordinances. In addition, the Applicant shall ensure that all debris is separated and disposed of in a manner consistent with the PR DNER guidelines at a permitted site or landfill. The contractor/applicant will be responsible for the proper disposition of construction debris in authorized landfills providing the name, location, coordinates and permits of the facility to the corresponding authorities. Unusable equipment, debris, white goods, scrap metal any other material shall be disposed in approved manner and location. In the event significant items are discovered during the implementation or development of the project the Applicant shall handle, manage, and dispose petroleum products, hazardous materials, and toxic waste in accordance with the requirements of the local and federal agencies. Noncompliance with these requirements may jeopardize receipt of federal funds.

### EHP Additional Info

There is no additional environmental historical preservation on **FAASt [Microwave Point-to-Point Backbone] (Telecommunications)**.

## Final Reviews

### Final Review

**Reviewed By** LEFRANC-GARCIA, CARLOS L.

**Reviewed On** 05/08/2026 3:07 PM PDT

### Review Comments

Project 662238 outlines the equipment and service requirements for essential components of permanent work under Category F, Utilities, of FEMA Public Assistance ("PA"). The component damaged during the DR4339PR event that needs to be repaired is the Microwave Backbone Point-To-Point Network. The Microwave Point-to-Point Backbone Network consists of 54 licensed microwave radio links and an additional 10 links as mitigation to increase the network's resilience for a total of 64 links. The main function of this system is to support the remote control and monitoring of transmission and distribution components of the power grid. Costs include Federal share: \$31,277,678.01 and 406 HMP Cost: \$5,926,449.37. Project has been reviewed, found eligible and reasonable. CLG 05/08/26

### Recipient Review

**Reviewed By** Cajigas, Cesar

**Reviewed On** 05/14/2026 2:45 PM PDT

### Review Comments

Please refer to COR3 Transmittal for more details.

## Project Signatures

**Reviewed By** Unsigned

**Reviewed On** Unsigned

## Award Information

### Version Information

Version #	Eligibility Status	Current Location	Bundle Number	Project Amount	Cost Share	Federal Share Obligated	Date Obligated
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### 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	6/12/2026	\$31,277,678.01	90%	Accepted	4339DRPRP01077421

**Department of Homeland Security  
Federal Emergency Management Agency**

v0

## General Info

<b>Project #</b>	956330	<b>P/W #</b>	108145	<b>Project Type</b>	Specialized
<b>Project Category</b>	F - Utilities	<b>Applicant</b>	PR Electric Power Authority (000-UA2QU-00)	<b>Event</b>	4339DR-PR (4339DR)
<b>Project Title</b>	FAASt [Caguas Region 4 - Feeder 3007-03] (Vegetation)	<b>Declaration Date</b>	9/20/2017	<b>Incident Start Date</b>	9/17/2017
<b>Project Size</b>	Large	<b>Incident End Date</b>	11/15/2017		
<b>Activity Completion Date</b>	9/20/2027				
<b>Process Step</b>	Obligated				

## Damage Description and Dimensions

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

### Damage #1716276; Caguas Region 4 - Feeder 3007-03

#### General Facility Information:

- **Facility Type:** Power generation, transmission, and distribution facilities
- **Facility:** Feeder 3007-03
- **Facility Description:** Single line distribution feeder project for line 3007-03 (4.80/8.32 kV) in Caguas Region 4. The total length mileage is 60.23.
- **Approx. Year Built:** 1980
- **Start GPS Latitude/Longitude:** [REDACTED]
- **End GPS Latitude/Longitude:** [REDACTED]

## Final Scope

### 1716276 Caguas Region 4 - Feeder 3007-03

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 were 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 unintended 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 unintended to, poses to Puerto Rico's electric T&D system. The actual recovery solution seeks to mitigate the 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 Caguas Region 4 Feeder 3007- 03 (see project note #1 and #2).

FEMA 406 Hazard Mitigation (HM) team will review this actual recovery solution and issue a 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: Distribution. See document FAASTVegetationHMPApproach\_Distribution\_03.24.2025.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) = \$34,908.51 per mile. Therefore, the total cost (PA) for this project will be \$1,914,845.33.

D#	PA Vegetation Clearance Overlap per mile	Total miles	WTBC - PA Cost with Subrecipient Management & General Conditions	A&E - PA	Total - PA
1716276	\$ 34,908.51	59.41	\$2,073,914.58	\$159,069.25	\$ 1,914,845.33

**Work to be completed total: \$2,073,914.58**

**A&E Deduction (Global A&E FAAST 335168): -\$159,069.25**

**Project Total: \$1,914,845.33**

**Project Notes:**

1. This is a Distribution-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). However, at times there is overlap between these lines (i.e., multiple distribution lines (13.2kV and down) coexist on the same pole infrastructure, transmission lines (38 KV and up) can be located above distribution lines within the same right of way, various lines may pass each other with overlapping right of ways, etc.). 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 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 956330 - FAAST [Caguas Region 4 - Feeder 3007-03] (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:** [956330] FAASt [Caguas Region 4 - Feeder 3007-03] (Vegetation)

**Damage #:** #1716276; Caguas Region 4 - Feeder 3007-03

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

**Location:** San Juan, Puerto Rico

**GPS Latitude/Longitude:** Start: [REDACTED]

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### **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 damaged 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 Maria, 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 Island-wide 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 15 feet from energized conductors to directly reduce the potential for future damage to the "transmission and/or distribution" (T&D) systems (refer to "*LUMA Vegetation Management 10ft and 12ft clearance diagram (1).pdf*" in project documents). 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:

- 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 FAAS 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, which is associated with impervious locations within the Caguas Region where the majority of the distribution lines are located parallel or adjacent to maintained roads, along maintained land near residential and industrial areas; including disturbed forest fragments around power facilities and non- agricultural areas 13.2kV and below; 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).

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. WTBC Cost (PA) = \$34,908.51 per mile.

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 will be adjusted as describe in FEMA-4339-DR-PR Public Assistance PREPA FAASt Post-Fixed Cost Estimate Obligation Vegetation HMP Approach: Distribution "FAAStVegetationHMPApproach\_Distribution\_03.24.2025.pdf".

Note: This unit cost specifically applies to the Distribution System projects. The Transmission System projects will require a separate evaluation to determine a unit cost according to the assets characteristics.

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

#### **Damage #1716276; Caguas Region 4 - Feeder 3007-03**

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) 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 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:

Line Type	Voltage Class	Easement Width Edge to Edge Centerline)
Single Phase (1Ø)	7.6/13.2kV	10' (5')
Multi-phase (2-3Ø)	7.6/13.2kV	10' (5')
Double circuit 3Ø	7.6/13.2kV	10' (5')
Aerial Spacer Cable	7.6/13.2kV	10' (5')
Single Phase (1Ø)	=4.8/8.3kV	10' (5')
Multi-phase (2-3Ø)	=4.8/8.3kV	10' (5')

### 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.

### **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 12 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 15 feet. Diagrams illustrating these clearing distances are provided as attachments within Grants Portal. The following clearing methods will be provided as Attachment B-*“FAASiVegetationHMPApproach\_Distribution\_03.24.2025.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.

**Power Distribution Primary Group A - Vegetation Clearing Work Locations, Cost, and Description**

Distribution lines typically start at substations and branch out in multiple directions to serve end-use customers. The GPS coordinate points provided in "Appendix C", are for the PREPA substations where the Distribution lines start. GIS shapefiles, which show the locations of the lines and the end points, have been uploaded to Grants Portal.

**Duplication Analysis**

Every project is evaluated for convergence between Distribution and Transmission lines (Overlapped Distribution and Transmission Lines), which typically share poles among different voltages. In cases where overlapped T&D systems are allocated on the same pole, the highest voltage will determine the Vegetation Clearance requirements for that facility. A full review of this analysis will be included in the cost estimation of the project. For damage #1716276; Caguas Region 4 - Feeder 3007-03 the sub-grantee claimed a total length of 60.23 circuit miles (CM). After analysis, we identified duplication of 0.36 CM for 38KV, and 0.47 CM for duplicated distribution lines. The CM evaluated for vegetation clearance is 59.41 CM. Please refer to the table below for further details.

Duplicity Check (Summary)					
Total Project Miles	Duplicity With 38KV in Miles	Duplicity With 115KV in Miles	Duplicity With 230KV in Miles	Duplicity with distribution	Miles to Evaluate
60.23	0.36	0.000	0.00	0.47	59.41

**(III) Hazard Mitigation Proposal (HM0.1P) Cost:**

<sup>1</sup> HM Vegetation Clearance Cost per Mile (Base Cost) =	\$108,102.81 /
Vegetation General Conditions per Mile (15% Soft Cost) =	\$16,215.42 /
HM Vegetation Clearance Cost per Mile (w/Soft Cost) =	\$124,318.23 /
*Risk Factor approved by the DR4339-PR leadership (5%) =	\$130,534.15 /
<sup>2</sup> PA Vegetation Clearance Overlap per Mile (Deduction) =	(\$34,908.51 /
<b>Hazard Mitigation Total Cost per Mile =</b>	<b>\$95,625.64 /</b>
Project Total Miles (PN750066) =	59.41 r

Hazard Mitigation Total Cost per Mile =	<u>\$95,625.64 /</u>
<b>Hazard Mitigation Total Cost =</b>	<b>\$5,681,11</b>

**Note:** The \$95,625.64 / 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.<sup>3</sup>

Total Net Hazard Mitigation Cost (Base Cost) =	\$4,701,1
+ HM (Management & General Conditions Factors) =	<u>\$544.2</u>
<b>Hazard Mitigation Total Cost =</b>	<b>\$5,245,3</b>

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

Architecture and Engineering (A&E) =	\$435,7
Remaining Vegetation Clearance Cost =	<u>\$5,235,8</u>
<b>Hazard Mitigation Total Cost =</b>	<b>\$5,681,1</b>

**Cost Summary:**

The Hazard Mitigation Proposal is divided in 1ea Sub-Project: Damage #1716276: Caguas Region 4 - Feeder 3007-03 **The total HMP Cost is the HM Net Cost \$4,701,122.81) + Applicant A&E, Management & General Conditions \$979,996.46= \$5,681,119.27.**

**(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) Chapte2. 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 is \$5,680,674.33 (Hazard Mitigation Total Cost). The cost of this HMP combined with 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).**

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<sup>1</sup> Validated by FEMA.

<sup>2</sup> FEMA cost analysis in "FAASTVegetationHMPApproach\_Distribution\_03.24.2025.pdf".

<sup>3</sup> FEMA cost estimate "PN 956340-DR4339PR-HMCE-20250926-REG.xlsx"

**(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 **\$108,102.81 / mile**. An additional 15% amount was added to this base cost for General Conditions, resulting in a total cost of **\$124,318.23/mile**. Additionally, the DR4339-PR leadership has approved the application of a 5% risk factor to the average cost per mile, resulting in **\$130,534.15 / mile**. After deducting Public Assistance (PA) \$34,908.51 amount (incidental work-refer to document *FAASTVegetationHMPApproach\_Distribution\_03.24.2025.pdf*), the final total is **\$95,625.64 / 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 may 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 UNDERSTANDING STATEMENT:** 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 PERFORMANCE:** The Applicant must provide & maintain competent & adequate project performance & supervision during the execution phase to ensure that the completed work conforms to the approved plans & specifications & all applicable material & industry 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 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.

**HEAVY MACHINERY USED ON SITE** *Free uprooting and/or removal may be necessary to comply with Regulation 7282. However, uprooting will be minimized and will only be carried out when necessary to ensure the safety of people or protect the asset. There will not be any synthetic or biological chemicals utilized for tree stump removals, however, there may be heavy machinery used for*

uprooting trees, tree removal, and mulching includes specialized equipment designed for efficient and safe vegetation management.

Below is a description of commonly utilized heavy machinery:

I. *Tree Removal and Uprooting*

- *Excavators with Grapple Attachments: Equipped with powerful hydraulic grapples or thumbs to grab and uproot trees, these machines are ideal for handling large trees and stumps.*
- *Bulldozers: Used to push over trees and remove roots. Bulldozers with a ripper attachment can also break up soil and roots.*
- *Skid Steers with Tree Pullers: Compact and versatile, skid steers fitted with tree puller attachments can uproot smaller trees and shrubs effectively.*
- *Backhoes: Used for digging out tree stumps and roots, particularly in areas requiring precision.*
- *Stump Grinders: Specialized machines that grind tree stumps into mulch, leaving the area ready for replanting or other uses.*

II. *Mulching*

- *Forestry Mulchers: These machines are designed to shred trees, branches, and other vegetation into mulch directly on-site. They are typically mounted on excavators, skid steers, or tractors and are suitable for clearing large areas of vegetation.*
- *Chippers: Convert cut branches, tree limbs, and smaller logs into wood chips for disposal or reuse.*

III. *Additional Equipment*

- *Cranes: Used for safely removing large trees in sections, especially in urban or constrained environments.*
- *Tree Spades: Specialized for uprooting and transplanting trees while keeping the root system intact.*
- *Tracked Feller Bunchers: Machines that cut and gather trees in a single operation, useful for logging or large-scale clearing projects.*
- *Log Loaders: Used for handling and transporting felled trees and logs.*
- *Brush Cutters: Heavy-duty cutters designed to clear dense vegetation and small trees.*

*Each piece of equipment is selected based on the size of the trees, site conditions, environmental considerations, and project goals.*

ARBORICULTURE TECHNIQUES: The ANSI A300 standards for arboriculture establish industry best practices for tree care and maintenance. They provide guidelines for techniques such as pruning, planting, transplanting, soil management, support systems (cabling and bracing), lightning protection, and risk assessment. These standards aim to promote tree health, safety, and structural integrity while minimizing environmental impact. They serve as a resource for professionals, property owners, and organizations to develop effective tree care specifications and ensure consistent, high-quality practices.

**ATTACHMENTS:**

Please refer to the following documents.

1. *"Island-Wide Vegetation Clearance - FEMA letter dated March 24 2023.pdf"*

2. *"LUMA Vegetation Management 10ft and 12ft clearance diagram (1).pdf"*
3. *"FAAStVegetationHMPApproach\_Distribution\_03.24.2025.pdf"*
4. *"Appendix A and B - Protected Flora and Incompatible Flora Species.pdf"*
5. *"IWBCA HMP Package.pdf"*
6. *"PN956330-DR4339PR-HMCE-20251003-WJP"*
7. *"PN956330-DR4339PR-HMP-2025103-WJP.pdf"*
8. *PN956330 Duplication\_3007\_03.KMZ*

## Cost

Code	Quantity	Unit	Total Cost	Section
9001	1	Lump Sum	\$2,073,914.58	Uncompleted
3510	1	Lump Sum	(\$159,069.25)	Uncompleted

CRC Gross Cost	\$1,914,845.33
Total 406 HMP Cost	\$5,681,119.27
Total Insurance Reductions	\$0.00
<hr/>	
CRC Net Cost	\$7,595,964.60
Federal Share (90.00%)	\$6,836,368.14
Non-Federal Share (10.00%)	\$759,596.46

## 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 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.

## Insurance

### Additional Information

10/8/2025

### GENERAL INFORMATION

Event: DR4339-PR

Project: SP 956330

Category of Work: Cat F - Utilities

Applicant: PR Electric Power Authority

Event Type: Hurricane / Hurricane Maria

Cause of Loss: Wind / Wind Driven Rain

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

**COMMERCIAL INSURANCE INFORMATION**

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

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

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

Mapfre Praico Insurance Company (1398178000644)

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

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

Policy Limits: \$300,000,000.00

RCV or ACV: Replacement Cost Value

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

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

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

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

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

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

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

**Damaged Inventory (DI) #1716276:**

**Caguas Region 4 - Feeder 3007-03**

Location Description: Single line distribution feeder project for line 3007-03 (4.80/8.32 kV) in Caguas Region 4.

GPS Coordinates: [REDACTED]

Cause of Loss: Wind / Wind Driven Rain

SOV / Schedule #: Not Insured

SOV / Schedule Amount: \$0.00

Applicable Deductible Amount: \$0.00

Damage Inventory Amount: \$7,595,964.60 (CRC Gross Cost \$1,914,845.33 + HMP Cost \$5,681,119.27)

Prior Obtain and Maintain Requirement:

No prior insurance requirements were found for this facility.

Reduction(s):

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

Obtain and Maintain Requirement:

No Obtain & Maintain Requirement is being mandated for San Juan Region 1 - Feeder 2401-01 because facility does not meet the definition of building, equipment, contents, or vehicle.

**Insurance Proceeds Statement:**

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

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

**Standard Insurance Comments**

**FEMA Policy 206-086-1**

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

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

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

...

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

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

Jorge Parrilla, PA Insurance Specialist

CRC Atlantic, Guaynabo, PR

**O&M Requirements**

There are no Obtain and Maintain Requirements on **FAAST [Caguas Region 4 - Feeder 3007-03] (Vegetation)**.

**406 Mitigation**

## 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.
- Pre-Construction Phase: a. FEMA will require that an archaeologist, who meets the Secretary of the Interior (SOI) Qualification Standards (36 CFR Part 61) for archaeology, conduct a Level II Desktop Review and Background Research, as outlined in Stipulation II.D.3.b of the PSPA, for all projects that includes vegetation clearing activities not covered by Tier II Programmatic Allowances and require further Section 106 consultation, as described in the FEMA letter 2 dated March 7, 2025. In this case, the areas of potential effects (APEs) that would be subject to this level of analysis are ROW segments of unmaintained T&D lines in suburban and/or rural areas where work cannot be conducted from an existing shoulder and/or requires construction of new access roads through undisturbed land within or outside of existing ROWs. The Level II Desktop Review and Background Research results shall be documented in a Phase I Analysis Report, as described in Stipulation II.D.5 of the PSPA, to be submitted to FEMA for review prior to the initiation of any work in the areas defined above.
- 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.
- Applicant must obtain any required permits from the Puerto Rico Permits Management Office (OGPe) prior to initiating work and comply with any conditions of the permit established by the Planning Board (JP) for constructions in floodplains. All coordination (emails, letters, documented phone calls) pertaining to these activities and compliance must be provided and maintained in the Applicant's permanent files. Debris may not be staged, stored, or disposed of in the floodplain without obtaining a letter/permit from the state or local floodplain administrator prior to initiating work
- Debris may not be staged, stored, or disposed of in wetlands without the required permits. The applicant is responsible for proper identification of wetlands. Under EO11990 (Protection of Wetlands); the applicant is responsible for coordinating with and obtaining any required Section 404 Permit(s) from the United States Army Corps of Engineers (USACE) prior to initiating work. The applicant shall comply with all conditions of the required permit. All coordination (emails, letters, documented phone calls) pertaining to these activities and compliance must be provided and maintained in the Applicant's permanent files. The Applicant shall ensure best management practices are implemented to prevent erosion and sedimentation to surrounding, nearby or adjacent wetlands. To ensure that wetlands are not adversely impacted, per the Clean Water Act and Executive Order 11990, equipment storage and staging of construction materials and machinery must be in a location that would prevent erosion and sedimentation.
- The Applicant shall handle, manage, and dispose of all types of hazardous waste in accordance with requirements of local, state, and federal laws, regulations, and ordinances. In addition, the Applicant shall ensure that all debris is separated and disposed of in a manner consistent with the PR DNER guidelines at a permitted site or landfill. The contractor/applicant will be responsible for the proper disposition of construction and/or vegetative debris in authorized landfills providing the name, location, coordinates and permits of the facility to the corresponding authorities. This site is for temporary debris storage (TDS). Final disposal will take place at an authorized sanitary landfill. All coordination pertaining to final disposal activities should be documented and forwarded to FEMA as part of the permanent project file. Non-compliance with these requirements may jeopardize receipt of federal funds.

Unusable equipment, debris, white goods, scrap metal any other material shall be disposed in approved manner and location. In the event significant items are discovered during the implementation or development of the project the Applicant shall handle, manage, and dispose petroleum products, hazardous materials, and toxic waste in accordance with the requirements of the local and federal agencies. Noncompliance with these requirements may jeopardize receipt of federal funds.

- The Applicant shall comply with one of the following conditions including any coordination (emails, letters, documented calls) pertaining to these compliance activities must be documented and maintained in the Applicant's permanent files. Correspondence (email, letter, documented phone conversation, etc. from/with a representative from the U.S. Army Corps of Engineers (USACE) and/or State) indicating that the activity did not require a USACE/State permit authorization (at closeout); OR; A copy of a permit authorization or compliance letter issued by the USACE/State for the specific project and scope of work. If the issued permit required that a compliance certification be submitted to the USACE following the completion of work, please provide a copy of that compliance certification as well; OR; All permits or Pre-Construction Notification (PCN) (at closeout).
- If Conservation Measures are required, insert relevant USFWS Conservation Measures and include the following condition: The Applicant must provide documentation at close-out that proves completion of required Conservation Measures.
- Puerto Rican boa (PR boa; *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 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](mailto: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.
- Birds The below conservation measures apply to the following species: Puerto Rican plain pigeon (*Patagioenas inornata wetmorei*), Puerto Rican broad-winged hawk (*Buteo platypterus brunnescens*), and Puerto Rican sharp-shinned hawk (*Accipiter striatus venator*).
  - 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 plain pigeon: April-September. Puerto Rican broad-winged hawk: December-June. Puerto Rican sharp-shinned hawk: December-June. 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](mailto:Caribbean_es@fws.gov). Office phone: 786-244-0081.
- 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.

- For new and/or temporary access roads, including opening of a hiking path for walking crews, identified as part of this project scope, LUMA is required to submit detail information including type of work to be completed, location (shapefile with linear GIS data) and dimensions (length, width, depth), to FEMA for EHP evaluation prior to any construction, ground disturbance activities and/or any vegetation management. 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.

## EHP Additional Info

There is no additional environmental historical preservation on **FAASt [Caguas Region 4 - Feeder 3007-03] (Vegetation)**.

## Final Reviews

### Final Review

**Reviewed By** LEFRANC-GARCIA, CARLOS L.

**Reviewed On** 02/10/2026 1:00 PM PDT

#### Review Comments

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. Therefore, the total cost (PA) for this project will be \$ 1,914,845.33. 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. Hazard Mitigation Total Cost= \$5,681,119.27. Project has been reviewed, found eligible and reasonable. Subrecipient and its agents are responsible for complying with all grants and subgrant conditions, including any applicable Federal, State and local requirements. CLG 2/10/26

### Recipient Review

**Reviewed By** Mulero, Noel

**Reviewed On** 02/23/2026 12:59 PM PDT

#### Review Comments

Recipient review completed. Applicant must ensure to compliance with all regulatory requirements, Record of Environmental Consideration (REC) Special Conditions and PA policy. Project is ready for applicant review.

## Project Signatures

**Reviewed By** Unsigned

**Reviewed On** Unsigned

## Award Information

### Version Information

Version #	Eligibility Status	Current Location	Bundle Number	Project Amount	Cost Share	Federal Share Obligated	Date Obligated
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### 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	6/12/2026	\$6,836,368.14	90%	Accepted	4339DRPRP01081451

# Department of Homeland Security Federal Emergency Management Agency

v0

## General Info

<b>Project #</b>	956331	<b>P/W #</b>	108146	<b>Project Type</b>	Specialized
<b>Project Category</b>	F - Utilities	<b>Applicant</b>	PR Electric Power Authority (000-UA2QU-00)	<b>Event</b>	4339DR-PR (4339DR)
<b>Project Title</b>	FAASt [Mayaguez Region 5 Feeder 6014-02] (Vegetation)		<b>Declaration Date</b>	9/20/2017	
<b>Project Size</b>	Large	<b>Incident Start Date</b>	9/17/2017		
<b>Activity Completion Date</b>	9/20/2027	<b>Incident End Date</b>	11/15/2017		
<b>Process Step</b>	Obligated				

## Damage Description and Dimensions

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

### Damage #1716282; Mayaguez Region 5 Feeder 6014-02

#### General Facility Information:

- **Facility Type:** Power generation, transmission, and distribution facilities
- **Facility:** Feeder 6014-02
- **Facility Description:** Single line distribution line 6014-02 (2.40/4.16 kV) in Mayaguez Region 5. The total length 60.5 miles
- **Approx. Year Built:** 1980
- **Start GPS Latitude/Longitude:** [REDACTED]
- **End GPS Latitude/Longitude:** [REDACTED]

## Final Scope

### 1716282 Mayaguez Region 5 Feeder 6014-02

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 were 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 the 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 Mayaguez Region 5 Feeder 6014-02 (see project note #1 and #2).

FEMA 406 Hazard Mitigation (HM) team will review this actual recovery solution and issue a 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: Distribution. See document FAASTVegetationHMPApproach\_Distribution\_03.24.2025.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) = \$34,908.51 per mile. Therefore, the total cost (PA) for this project will be \$1,813,962.21.

D#	PA Vegetation Clearance Overlap per mile	Total miles	WTBC - PA Cost with Subrecipient Management & General Conditions	A&E - PA	Total - PA
1716282	\$ 34,908.51	56.28	\$1,964,650.94	\$150,688.73	\$1,813,962.21

**Work to be completed total: \$1,964,650.94**

**A&E Deduction (Global A&E FAAST 335168): -\$150,688.73**

**Project Total: \$1,813,962.21**

**Project Notes:**

1. This is a Distribution-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). However, at times there is overlap between these lines (i.e., multiple distribution lines (13.2kV and down) coexist on the same pole infrastructure, transmission lines (38 KV and up) can be located above distribution lines within the same right of way, various lines may pass each other with overlapping right of ways, etc.). 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 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: 956331 - FAAST Mayaguez Region 5 Feeder 6014-02 (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:** 956331; FAASt [Mayaguez Region 5 Feeder 6014-02] (Vegetation)

**Damage #:** 1716282; Mayaguez Region 5 Feeder 6014-02

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

**Location:** Mayaguez, Puerto Rico

**GPS Latitude/Longitude:** Start: [REDACTED] End: [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 damaged 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 Island-wide 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 15 feet from energized conductors to directly reduce the potential for future damage to the "transmission and/or distribution" (T&D) systems (refer to "LUMA Vegetation Management 10ft and 12ft clearance diagram (1).pdf" in project documents). 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:

- 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 FAAS 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, which is associated with impervious locations within the Mayaguez Region where the majority of the distribution lines are located parallel or adjacent to maintained roads, along maintained land near residential and industrial areas; including disturbed forest fragments around power facilities and non-agricultural areas 13.2kV and below; 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).

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.

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. WTBC Cost (PA) = \$34,908.51 per mile.

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 will be adjusted as describe in FEMA-4339-DR-PR Public Assistance PREPA FAAST Post-Fixed Cost Estimate Obligation Vegetation HMP Approach: Distribution "FAASTVegetationHMPApproach\_Distribution\_03.24.2025.pdf".

Note: This unit cost specifically applies to the Distribution System projects. The Transmission System projects will require a separate evaluation to determine a unit cost according to the assets characteristics.

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

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 5 (Mayaguez) 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 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:

Line Type	Voltage Class	Easement Width Edge to Edge Centerline)
Single Phase (1Ø)	7.6/13.2kV	10' (5')
Multi-phase (2-3Ø)	7.6/13.2kV	10' (5')
Double circuit 3Ø	7.6/13.2kV	10' (5')

Aerial Spacer Cable	7.6/13.2kV	10' (5')
Single Phase (1Ø)	=4.8/8.3kV	10' (5')
Multi-phase (2-3Ø)	=4.8/8.3kV	10' (5')

### 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.

### 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 12 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 15 feet. Diagrams illustrating these clearing distances are provided as attachments within Grants Portal. The following clearing methods will be provided as Attachment B-"FAAStVegetationHMPApproach\_Distribution\_03.24.2025.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.

**Power Distribution Primary Group A - Vegetation Clearing Work Locations, Cost, and Description**

Distribution lines typically start at substations and branch out in multiple directions to serve end-use customers. The GPS coordinate points provided in "Appendix C", are for the PREPA substations where the Distribution lines start. GIS shapefiles, which show the locations of the lines and the end points, have been uploaded to Grants Portal.

**Duplication Analysis**

Every project is evaluated for convergence between Distribution and Transmission lines (Overlapped Distribution and Transmission Lines), which typically share poles among different voltages. In cases where overlapped T&D systems are allocated on the same pole, the highest voltage will determine the Vegetation Clearance requirements for that facility. A full review of this analysis will be included in the cost estimation of the project. For damage #1716282 in the Mayaguez Region 5 Feeder 6014-02, the sub-grantee claimed a total length of 60.50 circuit miles (CM). After analysis, we identified duplication of 3.81 CM for 38 KV, 0.08 CM for 115KV and 0.33 CM for 230 KV. The CM evaluated for vegetation clearance is 56.28 CM. Please refer to the table below for further details.

Duplicity Check (Summary)					
Total Project Miles	Duplicity With 38KV in Miles	Duplicity With 115KV in Miles	Duplicity With 230KV in Miles	Duplicity with distribution	Miles to Evaluate
60.50	3.81	0.08	0.33	0.00	56.28

**(III) Hazard Mitigation Proposal (HMP) Cost:**

HM Vegetation Clearance Cost per Mile (Base Cost) = \$108,102.81 / mile  
 HM Vegetation General Conditions per Mile (15% Soft Cost) = \$16,215.42 / mile  
 HM Vegetation Clearance Cost per Mile (w/Soft Cost) = \$124,318.23 / mile  
 \*Risk Factor approved by the DR4339-PR leadership (5%) = \$130,534.15 / mile

PA Vegetation Clearance Overlap per Mile (Deduction) = (\$34,908.51 / mile)

**Hazard Mitigation Total Cost per Mile = \$95,625.64 / mile**

Project Total Miles (PN956331) = 56.28 miles

Hazard Mitigation Total Cost per Mile = \$95,625.64 / mile

**Hazard Mitigation Total Cost = \$5,381,811.02**

**Note:**

The \$95,625.64 / 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) =	\$4,453,445.40
+ HM (Applicant A&E, Management & General Conditions) =	<u>\$928,365.62</u>
<b>Hazard Mitigation Total Cost =</b>	<b>\$5,381,811.02</b>

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

Architecture and Engineering (A&E) =	\$412,784.91
Remaining Vegetation Clearance Cost =	<u>\$4,969,026.11</u>
<b>Hazard Mitigation Total Cost =</b>	<b>\$5,381,811.02</b>

**(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 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 **\$5,381,811.02** (Hazard Mitigation Total Cost). The cost of this HMP combined with 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:**

**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 **\$108,102.81 / mile**. An additional 15% amount was added to this base cost for General Conditions, resulting in a total cost of **\$124,318.23 / mile**. Additionally, the DR4339-PR leadership has approved the application of a 5% risk factor to the average cost per mile, resulting in **\$130,534.15 / mile**. After deducting Public Assistance (PA) \$34,908.51 amount (incidental work-refer to document FAASVegetationHMPApproach\_Distribution\_03.24.2025.pdf), the final total is **\$95,625.64 / 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 UNDERSTANDING STATEMENT:** 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 PERFORMANCE:** The Applicant must provide & maintain competent & adequate project performance & supervision during the execution phase to ensure that the completed work conforms to the approved plans & specifications & all applicable material & industry 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.

**HEAVY MACHINERY USED ON SITE:** Tree uprooting and/or removal may be necessary to comply with Regulation 7282. However, uprooting will be minimized and will only be carried out when necessary to ensure the safety of people or protect the asset. There will not be any synthetic or biological chemicals utilized for tree stump removals, however, there may be heavy machinery used for uprooting trees, tree removal, and mulching includes specialized equipment designed for efficient and safe vegetation management.

Below is a description of commonly utilized heavy machinery:

### I. Tree Removal and Uprooting

- **Excavators with Grapple Attachments:** Equipped with powerful hydraulic grapples or thumbs to grab and uproot trees, these machines are ideal for handling large trees and stumps.
- **Bulldozers:** Used to push over trees and remove roots. Bulldozers with a ripper attachment can also break up soil and roots.
- **Skid Steers with Tree Pullers:** Compact and versatile, skid steers fitted with tree puller attachments can uproot smaller trees and shrubs effectively.
- **Backhoes:** Used for digging out tree stumps and roots, particularly in areas requiring precision.
- **Stump Grinders:** Specialized machines that grind tree stumps into mulch, leaving the area ready for replanting or other uses.

### II. Mulching

- **Forestry Mulchers:** These machines are designed to shred trees, branches, and other vegetation into mulch directly on-site. They are typically mounted on excavators, skid steers, or tractors and are suitable for clearing large areas of vegetation.
- **Chippers:** Convert cut branches, tree limbs, and smaller logs into wood chips for disposal or reuse.

### III. Additional Equipment

- **Cranes:** Used for safely removing large trees in sections, especially in urban or constrained environments.
- **Tree Spades:** Specialized for uprooting and transplanting trees while keeping the root system intact.
- **Tracked Feller Bunchers:** Machines that cut and gather trees in a single operation, useful for logging or large-scale clearing projects.
- **Log Loaders:** Used for handling and transporting felled trees and logs.
- **Brush Cutters:** Heavy-duty cutters designed to clear dense vegetation and small trees.

Each piece of equipment is selected based on the size of the trees, site conditions, environmental considerations, and project goals.

**ARBORICULTURE TECHNIQUES:** The ANSI A300 standards for arboriculture establish industry best practices for tree care and maintenance. They provide guidelines for techniques such as pruning, planting, transplanting, soil management, support systems (cabling and bracing), lightning protection, and risk assessment. These standards aim to promote tree health, safety, and structural integrity while minimizing environmental impact. They serve as a resource for professionals, property owners, and organizations to develop effective tree care specifications and ensure consistent, high-quality practices.

### ATTACHMENTS:

Please refer the following documents.

1. "Island-Wide Vegetation Clearance - FEMA letter dated March 24 2023.pdf"
2. "LUMA Vegetation Management 10ft and 12ft clearance diagram (1).pdf"
3. "FAAStVegetationHMPApproach\_Distribution\_03.24.2025.pdf"

4. "Appendix A and B - Protected Flora and Incompatible Flora Species.pdf"
5. "WBCA HMP Package.pdf"
6. "PN956331-DR4339PR-HMCE-20250930-JIIR.xlsx"
7. "PN956331-DL6014-02.KMZ"

## Cost

Code	Quantity	Unit	Total Cost	Section
9001	1	Lump Sum	\$1,964,650.94	Uncompleted
3510	1	Lump Sum	(\$150,688.73)	Uncompleted

CRC Gross Cost	\$1,813,962.21
Total 406 HMP Cost	\$5,381,811.02
Total Insurance Reductions	\$0.00
<hr/>	
CRC Net Cost	\$7,195,773.23
Federal Share (90.00%)	\$6,476,195.91
Non-Federal Share (10.00%)	\$719,577.32

## 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.

## Insurance

### Additional Information

10/7/2025

#### GENERAL INFORMATION

Event: DR4339-PR

Project: SP 956341

Category of Work: Cat F - Utilities

Applicant: PR Electric Power Authority

Event Type: Hurricane / Hurricane Maria

Cause of Loss: Wind / Wind Driven Rain

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

**COMMERCIAL INSURANCE INFORMATION**

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

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

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

Mapfre Praico Insurance Company (1398178000644)

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

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

Policy Limits: \$300,000,000.00

RCV or ACV: Replacement Cost Value

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

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

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

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

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

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

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

**Damaged Inventory (DI) #1716282:**

**Mayaguez Region 5 Feeder 6014-02**

Location Description: Single line distribution line 6014-02 (2.40/4.16 kV) in Mayaguez Region 5.

GPS Coordinates: [REDACTED]

Cause of Loss: Wind / Wind Driven Rain

SOV / Schedule #: Not Insured

SOV / Schedule Amount: \$0.00

Applicable Deductible Amount: \$0.00

Damage Inventory Amount: \$7,195,773.23 (CRC Gross Cost \$1,813,962.21+ HMP Cost \$5,381,811.02)

**Prior Obtain and Maintain Requirement:**

No prior insurance requirements were found for this facility.

**Reduction(s):**

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

**Obtain and Maintain Requirement:**

No Obtain & Maintain Requirement is being mandated for Mayaguez Region 5 Feeder 6014-02 because facility does not meet the definition of building, equipment, contents, or vehicle.

**Insurance Proceeds Statement:**

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

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

**Standard Insurance Comments**

**FEMA Policy 206-086-1**

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

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

1. Before FEMA approves assistance for a property, an applicant must provide FEMA with information about any actual or anticipated insurance settlement or recovery it is entitled to for that property.
2. FEMA will reduce assistance to an applicant by the amount of its actual or anticipated insurance proceeds.
3. Applicants must take reasonable efforts to recover insurance proceeds that they are entitled to receive from their insurer(s).
- ...
5. If an applicant has an insurance requirement from a previous event:
  - a. FEMA will reduce assistance by the actual or anticipated insurance proceeds, or the amount of insurance required in the previous disaster, whichever is greater.
  - b. FEMA will only consider insolvent insurers, legal fees, or apportionment of proceeds as described in Section VII, Part 2(A)(3) and (4) when the applicant’s anticipated or actual insurance proceeds are higher than the amount of insurance required in the previous disaster.

Jorge Parrilla, PA Insurance Specialist

CRC Atlantic, Guaynabo, PR

**O&M Requirements**

There are no Obtain and Maintain Requirements on **FAASt [Mayaguez Region 5 Feeder 6014-02] (Vegetation)**.

**406 Mitigation**

There is no additional mitigation information on **FAASt [Mayaguez Region 5 Feeder 6014-02] (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.
- FEMA will require that an archaeologist, who meets the Secretary of the Interior (SOI) Qualification Standards (36 CFR Part 61) for archaeology, conduct a Level II Desktop Review and Background Research, as outlined in Stipulation II.D.3.b of the PSPA, for all projects that includes vegetation clearing activities not covered by Tier II Programmatic Allowances and require further Section 106 consultation, as described in the FEMA letter dated March 7, 2025. In this case, the areas of potential effects (APEs) that would be subject to this level of analysis are: ROW segments of unmaintained T&D lines in suburban and/or rural areas where work cannot be conducted from an existing shoulder and/or requires construction of new access roads through undisturbed land within or outside of existing ROWs. The Level II Desktop Review and Background Research results shall be documented in a Phase I Analysis Report, as described in Stipulation II.D.5 of the PSPA, to be submitted to FEMA for review prior to the initiation of any work in the areas defined above.
- 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 to 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.
- Unexpected Discoveries: Pursuant to Stipulation III.B of the PSPA, if, in the course of implementing this Individual Undertaking(s), previously unidentified structures, sites, buildings, objects, districts, or archaeological deposits, that may be eligible for listing in the National Register, or human remains are uncovered, or if it appears that an Individual Undertaking has affected or will affect a previously identified historic property in an unanticipated manner, the contractor must notify Subrecipient who will immediately notify the Recipient. Work must stop in the vicinity of the discovery and measures must be taken to protect the discovery and avoid additional harm.
- 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.
- The Applicant shall comply with one of the following conditions including any coordination (emails, letters, documented calls) pertaining to these compliance activities must be documented and maintained in the Applicant's permanent files. - Correspondence (email, letter, documented phone conversation, etc. from/with a representative from the U.S. Army Corps of Engineers (USACE) and/or State) indicating that the activity did not require a USACE/State permit authorization (at closeout); OR; - A copy of a permit authorization or compliance letter issued by the USACE/State for the specific project and scope of work. If the issued permit required that a compliance certification be submitted to the USACE following the completion of work, please provide a copy of that compliance certification as well; OR; -All permits or Pre-Construction Notification (PCN) (at closeout).
- - The Applicant shall handle, manage, and dispose of all types of hazardous waste in accordance with requirements of local, state, and federal laws, regulations, and ordinances. In addition, the Applicant shall ensure that all debris is separated and disposed of in a manner consistent with the PR DNER guidelines at a permitted site or landfill. The contractor/applicant will be responsible for the proper disposition of construction debris in authorized landfills providing the name, location, coordinates and permits of the facility to the corresponding authorities. - If TDS sites: This site is for temporary debris storage (TDS). Final disposal will take place at an authorized sanitary landfill. All coordination pertaining to final disposal activities should be documented and forwarded to FEMA as part of the permanent project file. Non-compliance with these requirements may jeopardize receipt of federal funds. - Unusable equipment, debris, white goods, scrap metal any other material shall be disposed in approved manner and location. In the event significant items are discovered during the implementation or development of the project the Applicant shall handle, manage, and dispose petroleum products, hazardous materials, and toxic waste in accordance with the requirements of the local and federal agencies. Noncompliance with these requirements may jeopardize receipt of federal funds.
- Applicant must obtain any required permits from the Puerto Rico Permits Management Office (OGPe) prior to initiating work and comply with any conditions of the permit established by the Planning Board (JP) for constructions in floodplains. All coordination (emails, letters, documented phone calls) pertaining to these activities and compliance must be provided and maintained in the Applicant's permanent files. Debris may not be staged, stored, or disposed of in the floodplain without obtaining a letter/permit from the state or local floodplain administrator prior to initiating work.
- Debris may not be staged, stored, or disposed of in wetlands without the required permits. The applicant is responsible for proper

identification of wetlands. Under EO11990 (Protection of Wetlands); the applicant is responsible for coordinating with and obtaining any required Section 404 Permit(s) from the United States Army Corps of Engineers (USACE) prior to initiating work. The applicant shall comply with all conditions of the required permit. All coordination (emails, letters, documented phone calls) pertaining to these activities and compliance must be provided and maintained in the Applicant's permanent files. The Applicant shall ensure best management practices are implemented to prevent erosion and sedimentation to surrounding, nearby or adjacent wetlands. To ensure that wetlands are not adversely impacted, per the Clean Water Act and Executive Order 11990, equipment storage and staging of construction materials and machinery must be in a location that would prevent erosion and sedimentation.

- Conservation Measures for Puerto Rican boa (*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 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.
- Continuation of Conservation Measures for Puerto Rican boa (*Chilabothrus inornatus*): 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](mailto: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.
- Conservation Measures for Puerto Rican parrot (*Amazona vittata*), Puerto Rican broad-winged hawk (*Buteo platypterus brunnescens*), Puerto Rican sharp-shinned hawk (*Accipiter striatus venator*): 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 plain pigeon: April-September. - Puerto Rican broad-winged hawk: December-June. - Puerto Rican sharp-shinned hawk: December-June. - Puerto Rican nightjar: February-August. - Elfín-woods warbler: March-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](mailto:Caribbean_es@fws.gov). Office phone: 786-244-0081.
- Conservation Measures for Puerto Rican harlequin butterfly (*Atlantea tulita*): 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.

- Continuation of Conservation Measures for Puerto Rican harlequin butterfly (*Atlantea tulita*): 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 prickly 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](mailto: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](mailto:caribbean_es@fws.gov).
- The Sub-recipient must provide documentation at close-out that proves completion of required Conservation Measures.
- For new and/or temporary access roads, including opening of a hiking path for walking crews, identified as part of this project scope, the Applicant is required to submit detailed information including type of work to be completed, location (shapefile with linear GIS data) and dimensions (length, width, depth), to FEMA for EHP evaluation prior to any construction, ground disturbance activities and/or any vegetation management. 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.

## EHP Additional Info

There is no additional environmental historical preservation on **FAASt [Mayaguez Region 5 Feeder 6014-02] (Vegetation)**.

## Final Reviews

### Final Review

**Reviewed By** LEFRANC-GARCIA, CARLOS L.

**Reviewed On** 02/13/2026 6:47 PM PDT

#### Review Comments

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. Therefore, the total cost (PA) for this project will be \$1,813,962.21. 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 FAAS Grant. Hazard Mitigation Total Cost= \$5,381,811.02. Subrecipient and its agents are responsible for complying with all grants and subgrant conditions. Reviewed. CLG 2/13/26

### Recipient Review

**Reviewed By** Mulero, Noel

**Reviewed On** 02/23/2026 12:53 PM PDT

#### Review Comments

Recipient review completed. Applicant must ensure to compliance with all regulatory requirements, Record of Environmental Consideration (REC) Special Conditions and PA policy. Project is ready for applicant review.

## Project Signatures

**Reviewed By** Unsigned

**Reviewed On** Unsigned

## Award Information

### Version Information

Version #	Eligibility Status	Current Location	Bundle Number	Project Amount	Cost Share	Federal Share Obligated	Date Obligated
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### 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	6/12/2026	\$6,476,195.91	90%	Accepted	4339DRPRP01081461

# Department of Homeland Security Federal Emergency Management Agency

v0

## General Info

<b>Project #</b>	956337	<b>P/W #</b>	108149	<b>Project Type</b>	Specialized
<b>Project Category</b>	F - Utilities	<b>Applicant</b>	PR Electric Power Authority (000-UA2QU-00)	<b>Event</b>	4339DR-PR (4339DR)
<b>Project Title</b>	FAASt [Mayaguez Region 5 Feeder 6012-02] (Vegetation)		<b>Declaration Date</b>	9/20/2017	
<b>Project Size</b>	Large		<b>Incident Start Date</b>	9/17/2017	
<b>Activity Completion Date</b>	9/20/2027		<b>Incident End Date</b>	11/15/2017	
<b>Process Step</b>	Obligated				

## Damage Description and Dimensions

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

### Damage #1716283; Mayaguez Region 5 Feeder 6012-02

#### General Facility Information:

- **Facility Type:** Power generation, transmission, and distribution facilities
- **Facility:** Feeder 6012-02
- **Facility Description:** Single-line distribution feeder project for line 6012-02 (2.40/4.16 kV) in Mayaguez Region 5. The total length 55.09 miles.
- **Approx. Year Built:** 1980
- **Start GPS Latitude/Longitude:** [REDACTED]
- **End GPS Latitude/Longitude:** [REDACTED]

## Final Scope

### 1716283 Mayaguez Region 5 Feeder 6012-02

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 were 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 unintended 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 unintended to, poses to Puerto Rico's electric T&D system. The actual recovery solution seeks to mitigate the 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 Mayaguez Region 5 Feeder 6012-02 (see project note #1 and #2).

FEMA 406 Hazard Mitigation (HM) team will review this actual recovery solution and issue a 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: Distribution. See document FAASTVegetationHMPApproach\_Distribution\_03.24.2025.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) = \$34,908.51 per mile. Therefore, the total cost (PA) for this project will be \$1,378,198.73.

DI#	PA Vegetation Clearance Overlap per mile	Total miles	WTBC - PA Cost with Subrecipient Management & General Conditions	A&E - PA	Total - PA
1716283	\$ 34,908.51	42.76	\$1,492.687.89	\$114,489.16	\$1,378.198.73

**Work to be completed total: \$1,492.687.89**

**A&E Deduction (Global A&E FAAST 335168): -\$114,489.16**

**Project Total: \$1,378.198.73**

**Project Notes**

1. This is a Distribution-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). However, at times there is overlap between these lines (i.e., multiple distribution lines (13.2kV and down) coexist on the same pole infrastructure, transmission lines (38 KV and up) can be located above distribution lines within the same right of way, various lines may pass each other with overlapping right of ways, etc.). 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 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 956337 - FAAST [Mayaguez Region 5 Feeder 6012- 02] (Vegetation) DSOW
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: 956337; FAASt [Mayaguez Region 5 Feeder 6012-02] (Vegetation)

Damage #: 1716283; Mayaguez Region 5 Feeder 6012-02

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

Location: Mayaguez, Puerto Rico

Start GPS Latitude/Longitude: [REDACTED]

End 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 damaged 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 Island-wide 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 15 feet from energized conductors to directly reduce the potential for future damage to the "transmission and/or distribution" (T&D) systems (refer to "LUMA Vegetation Management 10ft and 12ft clearance diagram (1).pdf" in project documents). 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:

- 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 FAAS 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, which is associated with imperious locations within the Mayaguez Region where the majority of the distribution lines are located parallel or adjacent to maintained roads, along maintained land near residential and industrial areas; including disturbed forest fragments around power facilities and non-agricultural areas 13.2kV and below; 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).

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.

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. WTBC Cost (PA) = \$34,908.51 per mile.

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 will be adjusted as describe in FEMA-4339-DR-PR Public Assistance PREPA FAAST Post-Fixed Cost Estimate Obligation Vegetation HMP Approach: Distribution "FAASTVegetationHMPApproach\_Distribution\_03.24.2025.pdf".

Note: This unit cost specifically applies to the Distribution System projects. The Transmission System projects will require a separate evaluation to determine a unit cost according to the assets characteristics.

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

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 5 (Mayaguez) 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 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:

Line Type	Voltage Class	Easement Width Edge to Edge Centerline)
Single Phase (1Ø)	7.6/13.2kV	10' (5')
Multi-phase (2-3Ø)	7.6/13.2kV	10' (5')
Double circuit 3Ø	7.6/13.2kV	10' (5')
Aerial Spacer Cable	7.6/13.2kV	10' (5')
Single Phase (1Ø)	=4.8/8.3kV	10' (5')

Multi-phase (2-3Ø)	=4.8/8.3kV	10' (5')
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### 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.

### 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 12 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 15 feet. Diagrams illustrating these clearing distances are provided as attachments within Grants Portal. The following clearing methods will be provided as Attachment B-"FAASTVegetationHMPApproach\_Distribution\_03.24.2025.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.

### Power Distribution Primary Group A - Vegetation Clearing Work Locations, Cost, and Description

Distribution lines typically start at substations and branch out in multiple directions to serve end-use customers. The GPS coordinate

points provided in "Appendix C", are for the PREPA substations where the Distribution lines start. GIS shapefiles, which show the locations of the lines and the end points, have been uploaded to Grants Portal.

**Duplication Analysis**

Every project is evaluated for convergence between Distribution and Transmission lines (Overlapped Distribution and Transmission Lines), which typically share poles among different voltages. In cases where overlapped T&D systems are allocated on the same pole, the highest voltage will determine the Vegetation Clearance requirements for that facility. A full review of this analysis will be included in the cost estimation of the project. For damage #1716283 in the Mayaguez Region 5 Feeder 6012-02, the sub-grantee claimed a total length of 55.09 circuit miles (CM). After analysis, we identified duplication of 11.97 CM for 38 KV, 0.21 CM for 115KV, 0.11 CM for 230 KV and 0.03 with distribution lines. The CM evaluated for vegetation clearance is 42.76 CM. Please refer to the table below for further details.

<b>Duplicity Check (Summary)</b>					
<b>Total Project Miles</b>	<b>Duplicity With 38KV in Miles</b>	<b>Duplicity With 115KV in Miles</b>	<b>Duplicity With 230KV in Miles</b>	<b>Duplicity with distribution</b>	<b>Miles to Evaluate</b>
55.09	11.97	0.21	0.11	0.03	42.76

**(III) Hazard Mitigation Proposal (HMP) Cost:**

HM Vegetation Clearance Cost per Mile (Base Cost) = \$108,102.81 / mile  
 HM Vegetation General Conditions per Mile (15% Soft Cost) = \$16,215.42 / mile  
 HM Vegetation Clearance Cost per Mile (w/Soft Cost) = \$124,318.23 / mile  
 \*Risk Factor approved by the DR4339-PR leadership (5%) = \$130,534.15 / mile  
  
 PA Vegetation Clearance Overlap per Mile (Deduction) = (\$34,908.51 / mile)  
**Hazard Mitigation Total Cost per Mile = \$95,625.64 / mile**

Project Total Miles (PN956337) = 42.76 miles  
 Hazard Mitigation Total Cost per Mile = \$95,625.64 / mile  
**Hazard Mitigation Total Cost = \$4,088,952.37**

**Note:**  
 The \$95,625.64 / 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) =	\$3,383,605.64
+ HM (Applicant A&E, Management & General Conditions) =	\$705,346.73
<b>Hazard Mitigation Total Cost =</b>	<b>\$4,088,952.37</b>

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

Architecture and Engineering (A&E) =	\$313,622.65
Remaining Vegetation Clearance Cost =	\$3,775,329.72
<b>Hazard Mitigation Total Cost =</b>	<b>\$4,088,952.37</b>

**(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 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 **\$4,088,952.37** (Hazard Mitigation Total Cost). The cost of this HMP combined with 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:**

**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 **\$108,102.81 / mile**. An additional 15% amount was added to this base cost for General Conditions, resulting in a total cost of **\$124,318.23 / mile**. Additionally, the DR4339-PR leadership has approved the application of a 5% risk factor to the average cost per mile, resulting in **\$130,534.15 / mile**. After deducting Public Assistance (PA) \$34,908.51 amount (incidental work-refer to document FAAStVegetationHMPApproach\_Distribution\_03.24.2025.pdf), the final total is **\$95,625.64 / 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 UNDERSTANDING STATEMENT:** 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 PERFORMANCE:** The Applicant must provide & maintain competent & adequate project performance & supervision during the execution phase to ensure that the completed work conforms to the approved plans & specifications & all applicable material & industry 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.

**HEAVY MACHINERY USED ON SITE:** Tree uprooting and/or removal may be necessary to comply with Regulation 7282. However, uprooting will be minimized and will only be carried out when necessary to ensure the safety of people or protect the asset. There will not be any synthetic or biological chemicals utilized for tree stump removals, however, there may be heavy machinery used for uprooting trees, tree removal, and mulching includes specialized equipment designed for efficient and safe vegetation management.

Below is a description of commonly utilized heavy machinery:

### I. Tree Removal and Uprooting

- **Excavators with Grapple Attachments:** Equipped with powerful hydraulic grapples or thumbs to grab and uproot trees, these machines are ideal for handling large trees and stumps.
- **Bulldozers:** Used to push over trees and remove roots. Bulldozers with a ripper attachment can also break up soil and roots.
- **Skid Steers with Tree Pullers:** Compact and versatile, skid steers fitted with tree puller attachments can uproot smaller trees and shrubs effectively.
- **Backhoes:** Used for digging out tree stumps and roots, particularly in areas requiring precision.
- **Stump Grinders:** Specialized machines that grind tree stumps into mulch, leaving the area ready for replanting or other uses.

### II. Mulching

- **Forestry Mulchers:** These machines are designed to shred trees, branches, and other vegetation into mulch directly on-site. They are typically mounted on excavators, skid steers, or tractors and are suitable for clearing large areas of vegetation.
- **Chippers:** Convert cut branches, tree limbs, and smaller logs into wood chips for disposal or reuse.

### III. Additional Equipment

- **Cranes:** Used for safely removing large trees in sections, especially in urban or constrained environments.
- **Tree Spades:** Specialized for uprooting and transplanting trees while keeping the root system intact.
- **Tracked Feller Bunchers:** Machines that cut and gather trees in a single operation, useful for logging or large-scale clearing projects.
- **Log Loaders:** Used for handling and transporting felled trees and logs.
- **Brush Cutters:** Heavy-duty cutters designed to clear dense vegetation and small trees.

Each piece of equipment is selected based on the size of the trees, site conditions, environmental considerations, and project goals.

**ARBORICULTURE TECHNIQUES:** The ANSI A300 standards for arboriculture establish industry best practices for tree care and maintenance. They provide guidelines for techniques such as pruning, planting, transplanting, soil management, support systems (cabling and bracing), lightning protection, and risk assessment. These standards aim to promote tree health, safety, and structural integrity while minimizing environmental impact. They serve as a resource for professionals, property owners, and organizations to develop effective tree care specifications and ensure consistent, high-quality practices.

### ATTACHMENTS:

Please refer the following documents.

1. "Island-Wide Vegetation Clearance - FEMA letter dated March 24 2023.pdf"
2. "LUMA Vegetation Management 10ft and 12ft clearance diagram (1).pdf"
3. "FAAStVegetationHMPApproach\_Distribution\_03.24.2025.pdf"
4. "Appendix A and B - Protected Flora and Incompatible Flora Species.pdf"
5. "IWBCA HMP Package.pdf"
6. "PN956337-DR4339PR-HMCE-20250930-COD.xlsx"
7. "PN956337-DL6012-02.kmz"

## Cost

Code	Quantity	Unit	Total Cost	Section
9001	1	Lump Sum	\$1,492,687.89	Uncompleted
3510	1	Lump Sum	(\$114,489.16)	Uncompleted

CRC Gross Cost	\$1,378,198.73
Total 406 HMP Cost	\$4,088,952.37
Total Insurance Reductions	\$0.00
<hr/>	
CRC Net Cost	\$5,467,151.10
Federal Share (90.00%)	\$4,920,435.99
Non-Federal Share (10.00%)	\$546,715.11

## 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 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.

## Insurance

### Additional Information

10/7/2025

### GENERAL INFORMATION

Event: DR4339-PR

Project: SP 956337

Category of Work: Cat F - Utilities

Applicant: PR Electric Power Authority

Event Type: Hurricane / Hurricane Maria

Cause of Loss: Wind / Wind Driven Rain

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

**COMMERCIAL INSURANCE INFORMATION**

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

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

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

Mapfre Praico Insurance Company (1398178000644)

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

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

Policy Limits: \$300,000,000.00

RCV or ACV: Replacement Cost Value

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

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

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

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

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

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

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

**Damaged Inventory (DI) #1716283:**

**Mayaguez Region 5 Feeder 6012-02**

Location Description: Single-line distribution feeder project for line 6012-02 (2.40/4.16 kV) in Mayaguez Region 5.

GPS Coordinates: [REDACTED]

Cause of Loss: Wind / Wind Driven Rain

SOV / Schedule #: Not Insured

SOV / Schedule Amount: \$0.00

Applicable Deductible Amount: \$0.00

Damage Inventory Amount: \$5,467,151.10 (CRC Gross Cost \$1,378,198.73 + HMP Cost \$4,088,952.37)

Prior Obtain and Maintain Requirement:

No prior insurance requirements were found for this facility.

Reduction(s):

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

Obtain and Maintain Requirement:

No Obtain & Maintain Requirement is being mandated for Mayaguez Region 5 Feeder 6012-02 because facility does not meet the definition of building, equipment, contents, or vehicle.

**Insurance Proceeds Statement:**

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

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

**Standard Insurance Comments**

**FEMA Policy 206-086-1**

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

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

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

...

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

Jorge Parrilla, PA Insurance Specialist

CRC Atlantic, Guaynabo, PR

**O&M Requirements**

There are no Obtain and Maintain Requirements on **FAAST [Mayaguez Region 5 Feeder 6012-02] (Vegetation)**.

## 406 Mitigation

There is no additional mitigation information on **FAASt [Mayaguez Region 5 Feeder 6012-02] (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.
- Pre-Construction Phase: a. FEMA will require that an archaeologist, who meets the Secretary of the Interior (SOI) Qualification Standards (36 CFR Part 61) for archaeology, conduct a Level II Desktop Review and Background Research, as outlined in Stipulation II.D.3.b of the PSPA, for all projects that includes vegetation clearing activities not covered by Tier II Programmatic Allowances and require further Section 106 consultation, as described in the FEMA letter 2 dated March 7, 2025. In this case, the areas of potential effects (APEs) that would be subject to this level of analysis are ROW segments of unmaintained T&D lines in suburban and/or rural areas where work cannot be conducted from an existing shoulder and/or requires construction of new access roads through undisturbed land within or outside of existing ROWs. The Level II Desktop Review and Background Research results shall be documented in a Phase I Analysis Report, as described in Stipulation II.D.5 of the PSPA, to be submitted to FEMA for review prior to the initiation of any work in the areas defined above
- 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.
- Conservation measures for Puerto Rican boa (*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 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.
- Continuation of Conservation measures for Puerto Rican boa (*Chilabothrus inornatus*): 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 Sub-recipient must provide documentation at close-out that proves completion of required Conservation Measures.
- The Applicant shall comply with one of the following conditions including any coordination (emails, letters, documented calls) pertaining to these compliance activities must be documented and maintained in the Applicant's permanent files. - Correspondence (email, letter, documented phone conversation, etc. from/with a representative from the U.S. Army Corps of Engineers (USACE) and/or State) indicating that the activity did not require a USACE/State permit authorization (at closeout); OR; - A copy of a permit authorization or compliance letter issued by the USACE/State for the specific project and scope of work. If the issued permit required that a compliance certification be submitted to the USACE following the completion of work, please provide a copy of that compliance certification as well; OR; -All permits or Pre-Construction Notification (PCN) (at closeout).
- - The Applicant shall handle, manage, and dispose of all types of hazardous waste in accordance with requirements of local, state, and federal laws, regulations, and ordinances. In addition, the Applicant shall ensure that all debris is separated and disposed of in a manner consistent with the PR DNER guidelines at a permitted site or landfill. The contractor/applicant will be responsible for the proper disposition of construction debris in authorized landfills providing the name, location, coordinates and permits of the facility to the corresponding authorities. - If TDS sites: This site is for temporary debris storage (TDS). Final disposal will take place at an authorized sanitary landfill. All coordination pertaining to final disposal activities should be documented and forwarded to FEMA as part of the permanent project file. Non-compliance with these requirements may jeopardize receipt of federal funds. - Unusable equipment, debris, white goods, scrap metal any other material shall be disposed in approved manner and location. In the event significant items are discovered during the implementation or development of the project the Applicant shall handle, manage, and dispose petroleum products, hazardous materials, and toxic waste in accordance with the requirements of the local and federal agencies. Noncompliance with these requirements may jeopardize receipt of federal funds.
- Applicant must obtain any required permits from the Puerto Rico Permits Management Office (OGPe) prior to initiating work and comply with any conditions of the permit established by the Planning Board (JP) for constructions in floodplains. All coordination (emails, letters, documented phone calls) pertaining to these activities and compliance must be provided and maintained in the Applicant's permanent files. Debris may not be staged, stored, or disposed of in the floodplain without obtaining a letter/permit from the state or local floodplain administrator prior to initiating work.
- Debris may not be staged, stored, or disposed of in wetlands without the required permits. The applicant is responsible for proper identification of wetlands. Under EO11990 (Protection of Wetlands); the applicant is responsible for coordinating with and obtaining any required Section 404 Permit(s) from the United States Army Corps of Engineers (USACE) prior to initiating work. The applicant shall comply with all conditions of the required permit. All coordination (emails, letters, documented phone calls) pertaining to these activities and compliance must be provided and maintained in the Applicant's permanent files. The Applicant shall ensure best management practices are implemented to prevent erosion and sedimentation to surrounding, nearby or adjacent wetlands. To ensure that wetlands are not adversely impacted, per the Clean Water Act and Executive Order 11990, equipment storage and staging of construction materials and machinery must be in a location that would prevent erosion and sedimentation.
- For new and/or temporary access roads, including opening of a hiking path for walking crews, identified as part of this project scope, the Applicant is required to submit detailed information including type of work to be completed, location (shapefile with linear GIS data) and dimensions (length, width, depth), to FEMA for EHP evaluation prior to any construction, ground disturbance activities and/or any vegetation management. 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.

## EHP Additional Info

There is no additional environmental historical preservation on **FAAST [Mayaguez Region 5 Feeder 6012-02] (Vegetation)**.

## Final Reviews

### Final Review

**Reviewed By** LEFRANC-GARCIA, CARLOS L.

**Reviewed On** 02/18/2026 1:05 PM PDT

#### Review Comments

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. Therefore, the total cost (PA) for this project will be \$1,378,198.73. 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 FAAS Grant. Hazard Mitigation Total Cost= \$4,088,952.37. The subrecipient and its agents are responsible for complying with all grants and subgrant conditions. Reviewed, found eligible and reasonable. CLG 02/18/26

### Recipient Review

**Reviewed By** Mulero, Noel

**Reviewed On** 02/27/2026 7:08 PM PDT

#### Review Comments

Recipient review completed. Applicant must ensure to compliance with all regulatory requirements, Record of Environmental Consideration (REC) Special Conditions and PA policy. Project is ready for applicant review.

## Project Signatures

**Reviewed By** Unsigned

**Reviewed On** Unsigned

## Award Information

### Version Information

Version #	Eligibility Status	Current Location	Bundle Number	Project Amount	Cost Share	Federal Share Obligated	Date Obligated
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### 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	6/12/2026	\$4,920,435.99	90%	Accepted	4339DRPRP01081491

# Department of Homeland Security Federal Emergency Management Agency

v0

## General Info

<b>Project #</b>	956339	<b>P/W #</b>	108150	<b>Project Type</b>	Specialized
<b>Project Category</b>	F - Utilities	<b>Applicant</b>	PR Electric Power Authority (000-UA2QU-00)	<b>Event</b>	4339DR-PR (4339DR)
<b>Project Title</b>	FAASt [Caguas Region 4 - Feeder 3301-01] (Vegetation)		<b>Declaration Date</b>	9/20/2017	
<b>Project Size</b>	Large	<b>Incident Start Date</b>	9/17/2017		
<b>Activity Completion Date</b>	9/20/2027	<b>Incident End Date</b>	11/15/2017		
<b>Process Step</b>	Obligated				

## Damage Description and Dimensions

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

### Damage #1716284; Caguas Region 4 - Feeder 3301-01

#### General Facility Information:

- **Facility Type:** Power generation, transmission, and distribution facilities
- **Facility:** Feeder 3301-01
- **Facility Description:** Single line distribution feeder project for distribution line 3301-01 (4.80/8.32 kV) in Caguas Region 4. The total length 90.54 miles.
- **Approx. Year Built:** 1980
- **Start GPS Latitude/Longitude:** [REDACTED]
- **End GPS Latitude/Longitude:** [REDACTED]

## Final Scope

### 1716284 Caguas Region 4 - Feeder 3301-01

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 were 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 unintended 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 unintended to, poses to Puerto Rico's electric T&D system. The actual recovery solution seeks to mitigate the 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 Caguas Region 4 Feeder 3301- 01 (see project note #1 and #2).

FEMA 406 Hazard Mitigation (HM) team will review this actual recovery solution and issue a 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: Distribution. See document FAASTVegetationHMPApproach\_Distribution\_03.24.2025.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) = \$34,908.51 per mile. Therefore, the total cost (PA) for this project will be \$2,887,225.43.

D#	PA Vegetation Clearance Overlap per mile	Total miles	WTBC - PAA Cost with Subrecipient Management & General Conditions	A&E - PA	Total - PA
1716284	\$ 34,908.51	89.58	\$3,127,104.33	\$239,848.90	\$2,887,255.43

**Work to be completed total: \$ 3,127,104.33**

**A&E Deduction (Global A&E FAAST 335168): -\$ 239,848.90**

**Project Total: \$ 2,887,255.43**

**Project Notes:**

1. This is a Distribution-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). However, at times there is overlap between these lines (i.e., multiple distribution lines (13.2kV and down) coexist on the same pole infrastructure, transmission lines (38 kV and up) can be located above distribution lines within the same right of way, various lines may pass each other with overlapping right of ways, etc.). 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 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 956339 - FAAST [Caguas Region 4 - Feeder 3301-01] (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

## 406 HMP Scope

### Introduction:

Puerto Rico's electrical grid infrastructure has been severely compromised by extreme weather events, particularly with Hurricane María 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 damaged when trees downed utility power lines and poles, causing most of the transmission/distribution system to 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 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 Island-wide 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 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 María. 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/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 15 feet from energized conductors to directly reduce the potential for future damage to the "transmission and/or distribution" (T&D) systems (refer to "*LUMA Vegetation Management 10ft and 12ft clearance diagram (1).pdf*" in project documents). 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:

- 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 FAAS 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 DSOWs 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, which is associated with impervious locations within the Caguas Region where the majority of the distribution lines are located parallel or adjacent to maintained roads, along maintained land near residential and industrial areas; including disturbed forest fragments around power facilities and non- agricultural areas 13.2kV and below; 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).

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. WTBC Cost (PA) = \$34,908.51 per mile.

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 will be adjusted as describe in FEMA-4339-DR-PR Public Assistance PREPA FAAST Post-Fixed Cost Estimate Obligation Vegetation HMP Approach: Distribution "FAASTVegetationHMPApproach\_Distribution\_03.24.2025.pdf".

Note: This unit cost specifically applies to the Distribution System projects. The Transmission System projects will require a separate evaluation to determine a unit cost according to the assets characteristics.

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

**Damage # 1716284; Caguas Region 4 - Feeder 3301-01**

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) 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 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:

Line Type	Voltage Class	Easement Width Edge to Edge (from Centerline)
Single Phase (1Ø)	7.6/13.2kV	10' (5')
Multi-phase (2-3Ø)	7.6/13.2kV	10' (5')
Double circuit 3Ø	7.6/13.2kV	10' (5')
Aerial Spacer Cable	7.6/13.2kV	10' (5')
Single Phase (1Ø)	=4.8/8.3kV	10' (5')
Multi-phase (2-3Ø)	=4.8/8.3kV	10' (5')

#### 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 LUMALand 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.

### 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 12 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 15 feet. Diagrams illustrating these clearing distances are provided as attachments within Grants Portal. The following clearing methods will be provided as Attachment B-*FAASTVegetationHMPApproach\_Distribution\_03.24.2025.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.

### Power Distribution Primary Group A - Vegetation Clearing Work Locations, Cost, and Description

Distribution lines typically start at substations and branch out in multiple directions to serve end-use customers. The GPS coordinate points provided in "Appendix C", are for the PREPA substations where the Distribution lines start. GIS shapefiles, which show the locations of the lines and the end points, have been uploaded to Grants Portal.

#### Duplication Analysis

Every project is evaluated for convergence between Distribution and Transmission lines (Overlapped Distribution and Transmission Lines), which typically share poles among different voltages. In cases where overlapped T&D systems are allocated on the same pole, the highest voltage will determine the Vegetation Clearance requirements for that facility. A full review of this analysis will be included in the cost estimation of the project. For damage #1716284; Caguas Region 4 - Feeder 3301-01, the sub-grantee claimed a total length of 90.54 circuit miles (CM). After analysis, we identified duplication of 0.02 CM for 230KV, 0.94 CM for 38KV, and 0.00 CM for duplicated distribution lines. The CM evaluated for vegetation clearance is 89.58 CM. Please refer to the table below for further details.

<b>Duplicity Check</b>
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Total Project Miles	Duplicity With 38KV in Miles	Duplicity With 115KV in Miles	Duplicity With 230KV in Miles	Duplicity with distribution	Miles to Evaluate
90.54	0.94	0.00	0.02	0.00	89.58

(III) **Hazard Mitigation Proposal (HM0.1P) Cost:**

<sup>1</sup> HM Vegetation Clearance Cost per Mile (Base Cost) =	\$108,102.81
Vegetation General Conditions per Mile (15% Soft Cost) =	\$16,215.42
HM Vegetation Clearance Cost per Mile (w/Soft Cost) =	\$124,318.23
*Risk Factor approved by the DR4339-PR leadership (5%) =	\$130,534.15
<sup>2</sup> PA Vegetation Clearance Overlap per Mile (Deduction) =	(\$34,908.51)
<b>Hazard Mitigation Total Cost per Mile =</b>	<b>\$95,625.64</b>
Project Total Miles (PN956339) =	89.58
Hazard Mitigation Total Cost per Mile =	\$95,625.64
<b>Hazard Mitigation Total Cost =</b>	<b>\$8,566,1</b>

**Note:** The \$95,625.64 / 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.<sup>3</sup>

Total Net Hazard Mitigation Cost (Base Cost) =	\$7,088
+ HM (Management & General Conditions Factors) =	\$1,477
<b>Hazard Mitigation Total Cost =</b>	<b>\$8,566</b>

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

Architecture and Engineering (A&E) =	\$657
Remaining Vegetation Clearance Cost =	\$7,909
<b>Hazard Mitigation Total Cost =</b>	<b>\$8,566</b>

**Cost Summary:**

The Hazard Mitigation Proposal is divided in 1ea Sub-Project: **DI# 1716284; Caguas Region 4 - Feeder 3301-01**

. The total HMP Cost is the HMNet Cost (\$7,088,479.73) + Applicant A&E, Management & General Conditions \$1,477,665.10 = \$8,566,144.83.

**(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 VI. 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 is **\$8,566,144.83** (Hazard Mitigation Total Cost). The cost of this HMP combined with 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, VI., Section C, BCARule. 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*).

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<sup>1</sup> Validated by FEMA

<sup>2</sup> FEMA cost analysis in "FAASTVegetationHMPApproach\_Distribution\_03.24.2025.pdf".

<sup>3</sup> FEMA cost estimate "PN956339-DR4339PR-HMCE-20250929-RGL.xlsx"

**(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 **\$108,102.81 / mile**. An additional 15% amount

was added to this base cost for General Conditions, resulting in a total cost of **\$124,318.23/mile**. Additionally, the DR4339-PR leadership has approved the application of a 5% risk factor to the average cost per mile, resulting in **\$130,534.15 / mile**. After deducting Public Assistance (PA) \$34,908.51 amount (incidental work-refer to document *FAASTVegetationHMPApproach\_Distribution\_03.24.2025.pdf*), the final total is **\$95,625.64 / 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 HMSOW (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 UNDERSTANDING STATEMENT:** 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 PERFORMANCE:** The Applicant must provide & maintain competent & adequate project performance & supervision during the execution phase to ensure that the completed work conforms to the approved plans & specifications & all applicable material & industry 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.

**HEAVY MACHINERY USED ON SITE:** *Tree uprooting and/or removal may be necessary to comply with Regulation 7282. However, uprooting will be minimized and will only be carried out when necessary to ensure the safety of people or protect the asset. There will not be any synthetic or biological chemicals utilized for tree stump removals, however, there may be heavy machinery used for uprooting trees, tree removal, and mulching includes specialized equipment designed for efficient and safe vegetation management.*

*Below is a description of commonly utilized heavy machinery:*

I. *Tree Removal and Uprooting*

- *Excavators with Grapple Attachments: Equipped with powerful hydraulic grapples or thumbs to grab and uproot trees, these machines are ideal for handling large trees and stumps.*
- *Bulldozers: Used to push over trees and remove roots. Bulldozers with a ripper attachment can also break up soil and roots.*
- *Skid Steers with Tree Pullers: Compact and versatile, skid steers fitted with tree puller attachments can uproot smaller trees and shrubs effectively.*
- *Backhoes: Used for digging out tree stumps and roots, particularly in areas requiring precision.*
- *Stump Grinders: Specialized machines that grind tree stumps into mulch, leaving the area ready for replanting or other uses.*

II. *Mulching*

- *Forestry Mulchers: These machines are designed to shred trees, branches, and other vegetation into mulch directly on-site. They are typically mounted on excavators, skid steers, or tractors and are suitable for clearing large areas of vegetation.*
- *Chippers: Convert cut branches, tree limbs, and smaller logs into wood chips for disposal or reuse.*

III. *Additional Equipment*

- *Cranes: Used for safely removing large trees in sections, especially in urban or constrained environments.*
- *Tree Spades: Specialized for uprooting and transplanting trees while keeping the root system intact.*
- *Tracked Feller Bunchers: Machines that cut and gather trees in a single operation, useful for logging or large-scale clearing projects.*
- *Log Loaders: Used for handling and transporting felled trees and logs.*
- *Brush Cutters: Heavy-duty cutters designed to clear dense vegetation and small trees.*

*Each piece of equipment is selected based on the size of the trees, site conditions, environmental considerations, and project goals.*

**ARBORICULTURE TECHNIQUES:** The ANSI A300 standards for arboriculture establish industry best practices for tree care and maintenance. They provide guidelines for techniques such as pruning, planting, transplanting, soil management, support systems (cabling and bracing), lightning protection, and risk assessment. These standards aim to promote tree health, safety, and structural integrity while minimizing environmental impact. They serve as a resource for professionals, property owners, and organizations to develop effective tree care specifications and ensure consistent, high-quality practices.

**ATTACHMENTS:**

Please refer the following documents.

1. *"Island-Wide Vegetation Clearance - FEMA letter dated March 24 2023.pdf"*
2. *"LUMA Vegetation Management 10ft and 12ft clearance diagram (1).pdf"*
3. *"FAASIVegetationHMPApproach\_Distribution\_03.24.2025.pdf"*
4. *"Appendix A and B - Protected Flora and Incompatible Flora Species.pdf"*
5. *"IWBCA HMP Package.pdf"*
6. *"PN956339-DR4339PR-HMCE-20250929-RGL.xlsx"*
7. *PN956339-DL3301\_01.KMZ*

## Cost

Code	Quantity	Unit	Total Cost	Section
9001	1	Lump Sum	\$3,127,104.33	Uncompleted
3510	1	Lump Sum	(\$239,848.90)	Uncompleted

CRC Gross Cost	\$2,887,255.43
Total 406 HMP Cost	\$8,566,144.83
Total Insurance Reductions	\$0.00
<hr/>	
CRC Net Cost	\$11,453,400.26
Federal Share (90.00%)	\$10,308,060.24
Non-Federal Share (10.00%)	\$1,145,340.02

## 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 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.

## Insurance

### Additional Information

10/10/2025

### GENERAL INFORMATION

Event: DR4339-PR

Project: SP 956339

Category of Work: Cat F - Utilities

Applicant: PR Electric Power Authority

Event Type: Hurricane / Hurricane Maria

Cause of Loss: Wind / Wind Driven Rain

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

**COMMERCIAL INSURANCE INFORMATION**

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

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

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

Mapfre Praico Insurance Company (1398178000644)

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

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

Policy Limits: \$300,000,000.00

RCV or ACV: Replacement Cost Value

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

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

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

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

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

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

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

**Damaged Inventory (DI) #1716284:**

**Caguas Region 4 - Feeder 3301-01**

Location Description: Single line distribution feeder project for distribution line 3301-01 (4.80/8.32 kV) in Caguas Region 4.

GPS Coordinates: [REDACTED]

Cause of Loss: Wind / Wind Driven Rain

SOV / Schedule #: Not Insured

SOV / Schedule Amount: \$0.00

Applicable Deductible Amount: \$0.00

Damage Inventory Amount: \$8,566,144.83 (CRC Gross Cost \$2,887,255.43 + HMP Cost \$5,678,889.40)

Prior Obtain and Maintain Requirement:

No prior insurance requirements were found for this facility.

Reduction(s):

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

Obtain and Maintain Requirement:

No Obtain & Maintain Requirement is being mandated for Caguas Region 4 - Feeder 3301-01 because facility does not meet the definition of building, equipment, contents, or vehicle.

**Insurance Proceeds Statement:**

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

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

**Standard Insurance Comments**

**FEMA Policy 206-086-1**

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

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

1. Before FEMA approves assistance for a property, an applicant must provide FEMA with information about any actual or anticipated insurance settlement or recovery it is entitled to for that property.

2. FEMA will reduce assistance to an applicant by the amount of its actual or anticipated insurance proceeds.

3. Applicants must take reasonable efforts to recover insurance proceeds that they are entitled to receive from their insurer(s).

...

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

a. FEMA will reduce assistance by the actual or anticipated insurance proceeds, or the amount of insurance required in the previous disaster, whichever is greater.

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

Jorge Parrilla, PA Insurance Specialist

CRC Atlantic, Guaynabo, PR

**O&M Requirements**

There are no Obtain and Maintain Requirements on **FFAST [Caguas Region 4 - Feeder 3301-01] (Vegetation)**.

**406 Mitigation**

## 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.
- Pre-Construction Phase: a. FEMA will require that an archaeologist, who meets the Secretary of the Interior (SOI) Qualification Standards (36 CFR Part 61) for archaeology, conduct a Level II Desktop Review and Background Research, as outlined in Stipulation II.D.3.b of the PSPA, for all projects that includes vegetation clearing activities not covered by Tier II Programmatic Allowances and require further Section 106 consultation, as described in the FEMA letter 2 dated March 7, 2025. In this case, the areas of potential effects (APEs) that would be subject to this level of analysis are ROW segments of unmaintained T&D lines in suburban and/or rural areas where work cannot be conducted from an existing shoulder and/or requires construction of new access roads through undisturbed land within or outside of existing ROWs. The Level II Desktop Review and Background Research results shall be documented in a Phase I Analysis Report, as described in Stipulation II.D.5 of the PSPA, to be submitted to FEMA for review prior to the initiation of any work in the areas defined above.
- 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.
- The Sub-recipient must provide documentation at close-out that proves completion of required Conservation Measures.
- Conservation measures for Puerto Rican boa (*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 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](mailto: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.

- Conservation measures for Coqui Guajon (*Eleutherodactylus cooki*): a)Inform all project personnel about the potential presence of the coqui guajon in areas where the proposed work will be conducted. A pre-construction meeting must be conducted to inform all project personnel about the requirement of avoiding harm to the species. Take (e.g., capture and relocation) of the coqui guajon is not authorized. 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 photos or illustrations of the species should be displayed at the project site. b)Be advised that the designated critical habitat is not the entire range of the species; the coqui guajon can be found in any boulder type habitat in streams, ravines, or drainages, etc., within the municipalities where the species is known to occur. Thus, the species can be detected outside of its designated critical habitat areas, it is still protected under the ESA. c)Project boundaries, buffer zones and areas to be excluded or protected must be clearly marked in the project plans and in the field, prior to any construction activity, including removal of vegetation and earth movement. d)Erosion and Sedimentation Control Best Management Practices (BMP's) must be included in the project scope of work when working within or adjacent to the coqui guajon habitat (e.g., rivers, streams, drainages, ravines, big boulder areas) to avoid or minimize erosion and sedimentation. Sediment runoff from the project can adversely affect the species and its habitat by filling the caves and crevices where the species occurs and uses to lay its eggs. As water is a very important component of the species' habitat, any stream, creek, or similar body of water with the habitat characteristics indicated above may harbor the species, hence it shall be protected to the maximum extent possible. e)All project associated with streams, rivers, bridges, culverts, etc., must follow the Post-Disaster Guidance for Repair, Replacement, and Clean-up Projects in Streams and Waterways of Puerto Rico from Hurricane Maria. The guide is available at: <https://www.fws.gov/media/guidance-repair-replacement-and-clean-structures-streams-and-waterways-puerto-rico-and-us>. f)A record of all coqui guajon detections, including date, time, location, and approximate number of individuals should be established. Also, a before and after photographic record of the project area should be established to document habitat changes.
- Conservation measures for Puerto Rican plain pigeon (*Patagioenas inornata wetmorei*), Puerto Rican broad-winged hawk (*Buteo platypterus brunnescens*), Puerto Rican sharp-shinned hawk (*Accipiter striatus venator*), Elfín-woods warbler (*Setophaga angelae*): 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 plain pigeon: April-September. - Puerto Rican broad-winged hawk: December-June. - Puerto Rican sharp-shinned hawk: December-June. - Elfín-woods warbler: March-June. 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](mailto:Caribbean_es@fws.gov). Office phone: 786-244-0081. Conservation measures for Luquillo Mountain stopper (*Eugenia haematocarpa*) and Caparosa (*Callicarpa ampla*): As a pre-consultation requirement, before initiating any work within the range of listed plant species and in areas with suitable habitat, applicants must conduct plant surveys before submitting the project. If no listed plants are found during surveys, no further action is required, and a NE determination can be made. When listed species are discovered at the project site, the conservation measures below apply to each species. For all endangered and threatened plants: 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](mailto:caribbean_es@fws.gov)
- -The Applicant shall comply with one of the following conditions including any coordination (emails, letters, documented calls) pertaining to these compliance activities must be documented and maintained in the Applicant's permanent files. - Correspondence (email, letter, documented phone conversation, etc. from/with a representative from the U.S. Army Corps of Engineers (USACE) and/or State) indicating that the activity did not require a USACE/State permit authorization (at closeout); OR; -A copy of a permit authorization or compliance letter issued by the USACE/State for the specific project and scope of work. If the

issued permit required that a compliance certification be submitted to the USACE following the completion of work, please provide a copy of that compliance certification as well; OR; -All permits or Pre-Construction Notification (PCN) (at closeout).

- 1. The Applicant shall handle, manage, and dispose of all types of hazardous waste in accordance with requirements of local, state, and federal laws, regulations, and ordinances. In addition, the Applicant shall ensure that all debris is separated and disposed of in a manner consistent with the PR DNER guidelines at a permitted site or landfill. The contractor/applicant will be responsible for the proper disposition of construction debris in authorized landfills providing the name, location, coordinates and permits of the facility to the corresponding authorities. 2. Unusable equipment, debris, white goods, scrap metal any other material shall be disposed in approved manner and location. In the event significant items are discovered during the implementation or development of the project the Applicant shall handle, manage, and dispose petroleum products, hazardous materials, and toxic waste in accordance with the requirements of the local and federal agencies. Noncompliance with these requirements may jeopardize receipt of federal funds. 3. If TDS sites: This site is for temporary debris storage (TDS). Final disposal will take place at an authorized sanitary landfill. All coordination pertaining to final disposal activities should be documented and forwarded to FEMA as part of the permanent project file. Non-compliance with these requirements may jeopardize receipt of federal funds.
- 1. Applicant must obtain any required permits from the Puerto Rico Permits Management Office (OGPe) prior to initiating work and comply with any conditions of the permit established by the Planning Board (JP) for constructions in floodplains. All coordination (emails, letters, documented phone calls) pertaining to these activities and compliance must be provided and maintained in the Applicant's permanent files. 2. Debris may not be staged, stored, or disposed of in the floodplain without obtaining a letter/permit from the state or local floodplain administrator prior to initiating work.
- 1. The applicant is responsible for proper identification of wetlands. Under EO11990 (Protection of Wetlands); the applicant is responsible for coordinating with and obtaining any required Section 404 Permit(s) from the United States Army Corps of Engineers (USACE) prior to initiating work. The applicant shall comply with all conditions of the required permit. All coordination (emails, letters, documented phone calls) pertaining to these activities and compliance must be provided and maintained in the Applicant's permanent files. 2. The Applicant shall ensure best management practices are implemented to prevent erosion and sedimentation to surrounding, nearby or adjacent wetlands. To ensure that wetlands are not adversely impacted, per the Clean Water Act and Executive Order 11990, equipment storage and staging of construction materials and machinery must be in a location that would prevent erosion and sedimentation. 3. Debris may not be staged, stored, or disposed of in wetlands without the required permits.
- 1. For new and/or temporary access roads, including opening of a hiking path for walking crews, identified as part of this project scope, the Applicant is required to submit detailed information including type of work to be completed, location (shapefile with linear GIS data) and dimensions (length, width, depth), to FEMA for EHP evaluation prior to any construction, ground disturbance activities and/or any vegetation management. 2. 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.

## EHP Additional Info

There is no additional environmental historical preservation on **FAAST [Caguas Region 4 - Feeder 3301-01] (Vegetation)**.

## Final Reviews

### Final Review

**Reviewed By** LEFRANC-GARCIA, CARLOS L.

**Reviewed On** 02/10/2026 12:57 PM PDT

#### Review Comments

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. Therefore, the total cost (PA) for this project will be \$2,887,255.43. 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 FAAS Grant. Hazard Mitigation Total Cost= \$8,566,144.83. Project has been reviewed, found eligible and reasonable. Subrecipient and its agents are responsible for complying with all grants and subgrant conditions, including any Federal, State, Local regulations applicable to the project. CLG 2/10/26

### Recipient Review

**Reviewed By** Mulero, Noel

**Reviewed On** 02/23/2026 12:56 PM PDT

#### Review Comments

Recipient review completed. Applicant must ensure to compliance with all regulatory requirements, Record of Environmental Consideration (REC) Special Conditions and PA policy. Project is ready for applicant review.

## Project Signatures

**Reviewed By** Unsigned

**Reviewed On** Unsigned

## Award Information

### Version Information

Version #	Eligibility Status	Current Location	Bundle Number	Project Amount	Cost Share	Federal Share Obligated	Date Obligated
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### 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	6/12/2026	\$10,308,060.24	90%	Accepted	4339DRPRP01081501

# Department of Homeland Security Federal Emergency Management Agency

v0

## General Info

<b>Project #</b>	956357	<b>P/W #</b>	108160	<b>Project Type</b>	Specialized
<b>Project Category</b>	F - Utilities	<b>Applicant</b>	PR Electric Power Authority (000-UA2QU-00)	<b>Event</b>	4339DR-PR (4339DR)
<b>Project Title</b>	FAASt [Mayaguez Region 5 Line 1900 (38kV) – Dos Bocas HP to San Sebastian TC] (Vegetation)			<b>Declaration Date</b>	9/20/2017
<b>Project Size</b>	Large	<b>Incident Start Date</b>	9/17/2017	<b>Incident End Date</b>	11/15/2017
<b>Activity Completion Date</b>	9/20/2027				
<b>Process Step</b>	Obligated				

## Damage Description and Dimensions

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

### Damage #1716288; Mayaguez Region 5 Transmission Line 1900 – Dos Bocas HP to San Sebastian TC

#### General Facility Information:

- **Facility Type:** Power generation, transmission, and distribution facilities
- **Facility:** Transmission Line 1900 – Dos Bocas HP to San Sebastian TC
- **Facility Description:** Transmission line 1900 is a single circuit line with total length of 22.35 miles.
- **Approx. Year Built:** 1980
- **Start GPS Latitude/Longitude:** [REDACTED]
- **End GPS Latitude/Longitude:** [REDACTED]

## Final Scope

### 1716288 Mayaguez Region 5 Transmission Line 1900 – Dos Bocas HP to San Sebastian TC

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 were 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 unintended 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 unintended 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 line 1900 (38kV) – Dos Bocas HP to San Sebastian TC (see project note #1 and #2).

FEMA 406 Hazard Mitigation (HM) team will review this actual recovery solution and issue a 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 956357 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 \$131,240.80.

D#	PA Vegetation Clearance Overlap per mile	Total miles	WTBC - PA Cost with Subrecipient Management & General Conditions	A&E - PA	Total - PA
1716288	\$15,433.57	9.21	\$142,143.18	\$(10,902.38)	\$131,240.80

**Work to be Completed (WTBC) Total: \$142,143.18**

**A&E Deduction (Global A&E FAAST 335168): -\$10,902.38**

**Project Cost: \$131,240.80**

**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 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 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 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 956357 - FAAST [Mayaguez Region 5 Line 1900 (38kV) –Dos Bocas HP to San Sebastian TC] (Vegetation) DSOW Rev 3.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: 956357 FAAST [Mayaguez Region 5 Line 1900 (38kV) – Dos Bocas HP to San Sebastian TC] (Vegetation)**

**Damage number: 1716288**

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

**Location:** Region 5 - Mayaguez, Puerto Rico

**GPS Latitude/Longitude:** [REDACTED] to [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 damaged 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).

#### **Mayaguez Region 5 Transmission Line 1900 – Dos Bocas HP to San Sebastian TC**

This is a project for 38kV transmission lines in Region 5 Mayaguez. 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 Bayamon (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 9.21 mile, with a total project cost of \$142,143.18. For further details, refer to the document "FAASTVegetationHMPApproach\_38kV Sub-Transmission\_05.15.2025.pdf".

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

**PN 956357 FAAST [Mayaguez Region 5 Line 1900 (38kV) – Dos Bocas HP to San Sebastian TC] (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 3 Bayamon 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-*“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 emphasis, that after work completed, the subrecipient can submit additional eligible vegetation clearance distance not included in this vegetation clearance percent analysis.

**FEMA Analysis:**

44,195.112	Calculated Vegetation FT:
22.35	Total Project Miles:
8.37	Vegetation Miles:
37.4%	Per Cent of Vegetation
10%	Buffer Acceptance:
9.21	Vegetation Miles with Buffer

41%	Per Cent of Vegetation with Buffer
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**(III) Hazard Mitigation Proposal (HMP) Cost:**

Vegetation Clearance Cost per Mile (Base Cost) =	\$176,173.47 /
Risk Factor approved by the DR4339-PR leadership (5%) =	<u>\$8,808.67 /</u>
Vegetation Clearance Cost per Mile (w/Soft Cost) =	<u>\$184,982.14</u>
PA Vegetation Clearance Overlap per Mile (Deduction) =	<u>(\$15,433.57 /</u>
<b>Hazard Mitigation Total Cost per Mile =</b>	<b>\$169,548.57 /</b>
Project Total Miles with Vegetation:	8.37-
Buffer Acceptance:	
Project Total Miles with Vegetation:	<u>9.21</u>
<b>Hazard Mitigation Total Cost =</b>	<b>\$1,561,54</b>

**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.<sup>3</sup>

Total Net Hazard Mitigation Cost (Base Cost) =	\$1,487,0
+ HM (Management & General Conditions Factors) =	<u>\$74,0</u>
<b>Hazard Mitigation Total Cost =</b>	<b>\$1,561,0</b>

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

Architecture and Engineering (A&E) =	\$119,0
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Remaining Vegetation Clearance Cost =	<u>\$1,441,</u>
<b>Hazard Mitigation Total Cost =</b>	<b>\$1,561,</b>

**(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 **\$1,561,542.33** (Hazard Mitigation Total Cost). The cost of this HMP combined with 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, the 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 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. *"PN956357-DR4339PR-HMP-20260203-RFP-REG.pdf"*
6. *"PN956357-TL1900-38Kv-Mayaguez.kmz"*
7. *"PN956357-DR4339PR-HMCE-IEP-20260206-RFP-REG.xlsx"*

## Cost

Code	Quantity	Unit	Total Cost	Section
9001	1	Lump Sum	\$142,143.18	Uncompleted
3510	1	Lump Sum	(\$10,902.38)	Uncompleted

CRC Gross Cost	\$131,240.80
Total 406 HMP Cost	\$1,561,542.33
Total Insurance Reductions	\$0.00
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CRC Net Cost	\$1,692,783.13
Federal Share (90.00%)	\$1,523,504.82
Non-Federal Share (10.00%)	\$169,278.31

## 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 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.

## Insurance

### Additional Information

2/9/2026

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 electric 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 [Mayaguez Region 5 Line 1900 (38kV) – Dos Bocas HP to San Sebastian TC] (Vegetation)**.

## 406 Mitigation

There is no additional mitigation information on **FAASt [Mayaguez Region 5 Line 1900 (38kV) – Dos Bocas HP to San Sebastian TC] (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.
- 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 Subrecipient or their contractor beginning to 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 mater. See further conditions in the attached Construction Management Plan (CMP).

- 1. Pre-Construction Phase: a. FEMA will require that an archaeologist, who meets the Secretary of the Interior (SOI) Qualification Standards (36 CFR Part 61) for archaeology, conduct a Level II Desktop Review and Background Research, as outlined in Stipulation II.D.3.b of the PSPA, for all projects that includes vegetation clearing activities not covered by Tier II Programmatic Allowances and require further Section 106 consultation, as described in the FEMA letter dated March 7, 2025. In this case, the areas of potential effects (APEs) that would be subject to this level of analysis are ROW segments of unmaintained T&D lines in suburban and/or rural areas where work cannot be conducted from an existing shoulder and/or requires construction of new access roads through undisturbed land within or outside of existing ROWs. The Level II Desktop Review and Background Research results shall be documented in a Phase I Analysis Report, as described in Stipulation II.D.5 of the PSPA, to be submitted to FEMA for review prior to the initiation of any work in the areas defined above. 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.
- The Sub-recipient must provide documentation at close-out that proves completion of required Conservation Measures.
- Conservation measures 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](mailto: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.
- Conditions for *Calyptronoma rivalis*, *Thelypteris verecunda*, *Goetzea elegans*, *Auerodendron pauciflorum*, *Ottoschulzia rhodoxylon* and *Cordia bellonis*: 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](mailto: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

- The below conservation measures apply to the following species: Puerto Rican parrot (*Amazona vittata*) and Puerto Rican broad-winged hawk (*Buteo platypterus brunnescens*). \* 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. 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.
- Conservation measures for the Puerto Rican harlequin butterfly (*Atlantea tulita*). 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. 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 prickly 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 Applicant shall comply with one of the following conditions including any coordination (emails, letters, documented calls) pertaining to these compliance activities must be documented and maintained in the Applicant's permanent files. Correspondence (email, letter, documented phone conversation, etc. from/with a representative from the U.S. Army Corps of Engineers (USACE) and/or State) indicating that the activity did not require a USACE/State permit authorization (at closeout); OR; a copy of a permit authorization or compliance letter issued by the USACE/State for the specific project and scope of work. If the issued permit required that a compliance certification be submitted to the USACE following the completion of work, please provide a copy of that compliance certification as well; OR; all permits or Pre-Construction Notification (PCN) (at closeout).
- 1. The Applicant shall handle, manage, and dispose of all types of hazardous waste in accordance with requirements of local, state, and federal laws, regulations, and ordinances. In addition, the Applicant shall ensure that all debris is separated and

disposed of in a manner consistent with the PR DNER guidelines at a permitted site or landfill. The contractor/applicant will be responsible for the proper disposition of construction debris in authorized landfills providing the name, location, coordinates and permits of the facility to the corresponding authorities. 2. Unusable equipment, debris, white goods, scrap metal any other material shall be disposed in approved manner and location. In the event significant items are discovered during the implementation or development of the project the Applicant shall handle, manage, and dispose petroleum products, hazardous materials, and toxic waste in accordance with the requirements of the local and federal agencies. Noncompliance with these requirements may jeopardize receipt of federal funds. 3. This site is for temporary debris storage (TDS). Final disposal will take place at an authorized sanitary landfill. All coordination pertaining to final disposal activities should be documented and forwarded to FEMA as part of the permanent project file. Non-compliance with these requirements may jeopardize receipt of federal funds.

- Applicant must obtain any required permits from the Puerto Rico Permits Management Office (OGPe) prior to initiating work and comply with any conditions of the permit established by the Planning Board (JP) for constructions in floodplains. All coordination (emails, letters, documented phone calls) pertaining to these activities and compliance must be provided and maintained in the Applicant's permanent files. Debris may not be staged, stored, or disposed of in the floodplain without obtaining a letter/permit from the state or local floodplain administrator prior to initiating work.
- The applicant is responsible for proper identification of wetlands. Under EO11990 (Protection of Wetlands); the applicant is responsible for coordinating with and obtaining any required Section 404 Permit(s) from the United States Army Corps of Engineers (USACE) prior to initiating work. The applicant shall comply with all conditions of the required permit. All coordination (emails, letters, documented phone calls) pertaining to these activities and compliance must be provided and maintained in the Applicant's permanent files. The Applicant shall ensure best management practices are implemented to prevent erosion and sedimentation to surrounding, nearby or adjacent wetlands. To ensure that wetlands are not adversely impacted, per the Clean Water Act and Executive Order 11990, equipment storage and staging of construction materials and machinery must be in a location that would prevent erosion and sedimentation. Debris may not be staged, stored, or disposed of in wetlands without the required permits.
- 1. For new and/or temporary access roads, including opening of a hiking path for walking crews, identified as part of this project scope, LUMA is required to submit detail information including type of work to be completed, location (shapefile with linear GIS data) and dimensions (length, width, depth), to FEMA for EHP evaluation prior to any construction, ground disturbance activities and/or any vegetation management 2. 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.

#### **EHP Additional Info**

There is no additional environmental historical preservation on **FAASt [Mayaguez Region 5 Line 1900 (38kV) – Dos Bocas HP to San Sebastian TC] (Vegetation)**.

## Final Reviews

### Final Review

**Reviewed By** LEFRANC-GARCIA, CARLOS L.

**Reviewed On** 04/21/2026 1:27 PM PDT

#### Review Comments

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. Therefore, the total cost (PA) for this project will be \$131,240.80. 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 FAAS Grant. Hazard Mitigation Total Cost= \$1,561,542.33. Subrecipient and its agents are responsible for complying with all grants and subgrant conditions, including any Federal, State and Local requirements applicable to the project. Reviewed, found eligible and reasonable. CLG 4/21/26

### Recipient Review

**Reviewed By** Mulero, Noel

**Reviewed On** 04/28/2026 8:38 PM PDT

#### Review Comments

Recipient review completed. Applicant must ensure to compliance with all regulatory requirements, Record of Environmental Consideration (REC) Special Conditions and PA policy. Project is ready for applicant review.

## Project Signatures

**Reviewed By** Unsigned

**Reviewed On** Unsigned

## Award Information

### Version Information

Version #	Eligibility Status	Current Location	Bundle Number	Project Amount	Cost Share	Federal Share Obligated	Date Obligated
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### 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	6/12/2026	\$1,523,504.82	90%	Accepted	4339DRPRP01081601