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

IN RE:	**CASE NO. NEPR-MI-2021-0002**
IN RE: REVIEW OF THE PUERTO RICO ELECTRIC POWER AUTHORITY'S 10-YEAR INFRASTRUCTURE PLAN-DECEMBER 2020	**SUBJECT: Motion Submitting One (1) Amended FEMA Approval of Project and Five (5) FEMA Approvals of Project, Request for Confidential Treatment, and Supporting Memorandum of Law**

MOTION SUBMITTING ONE (1) AMENDED FEMA APPROVAL OF PROJECT AND FIVE (5) FEMA APPROVALS OF PROJECT, REQUEST FOR CONFIDENTIAL TREATMENT AND SUPPORTING MEMORANDUM OF LAW

TO THE PUERTO RICO ENERGY BUREAU:

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

I. Relevant Procedural Background

1. On March 26, 2021, this Honorable Puerto Rico Energy Bureau ("Energy Bureau") issued a Resolution and Order in the instant proceeding, ordering, in pertinent part, that the Puerto Rico Electric Power Authority ("PREPA") submit to the Energy Bureau the specific transmission and distribution projects ("T&D Projects" or "Projects") to be funded with Federal Emergency Management Agency ("FEMA") funds or any other federal funds at least thirty (30) calendar days prior to submitting these Projects to the Puerto Rico Central Office for Recovery, Reconstruction and Resiliency ("COR3"), FEMA or any other federal agency ("March 26th Order"). It also directed PREPA to continue reporting to the Energy Bureau and FEMA, within the next five years, on the progress of all ongoing efforts related to the approval of the submitted Projects that have

not yet been approved by the Energy Bureau.[1] 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 April 28, 2021, the Puerto Rico Electric Power Authority (PREPA) filed a *Motion in Compliance with the Resolution and Order entered on April 22, 2021* ("April 28th Motion"), whereby it submitted forty-six (46) scopes of work ("SOWs") for T&D Projects for the Energy Bureau's review and approval prior to submitting them to COR3 and FEMA. Among the SOWs submitted by PREPA was the "Distribution – Vieques Feeders 2501-01, 2501-02, 2501-03 and Culebra Feeders 3801-01, 3801-02" T&D Project.

3. On June 8, 2021, the Energy Bureau issued a Resolution and Order ("June 8th Order") in which it determined that most of the SOWs for T&D projects submitted by PREPA in the April 28th Motion were necessary to improve the system's reliability. Therefore, it approved most of the projects presented in the April 28th Motion, including the "Distribution – Vieques Feeders 2501-01, 2501-02, 2501-03 and Culebra Feeders 3801-01, 3801-02" T&D Project. Furthermore, the Energy Bureau ordered PREPA or LUMA to seek the Energy Bureau's approval immediately should the scope of the approved project change.[2]

4. On July 8, 2021, LUMA filed a *Motion Submitting List of Projects and Twenty-Eight Scopes of Work* ("July 8th Motion"). Therein, among other considerations, LUMA submitted twenty-eight (28) SOWs for T&D Projects for the Energy Bureau's review and approval before

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

[2] On July 1, 2026, LUMA submitted an amended SOW for the "Distribution – Vieques Feeders 2501-01, 2501-02, 2501-03 and Culebra Feeders 3801-01, 3801-02" T&D Project, to reflect a change in scope based on issue for construction design and hazard mitigation approach. *See Motion Submitting Amended Scope of Work, Request for Confidentiality, and Supporting Memorandum of Law* filed by LUMA on July 1, 2026, in the present docket.

submitting them to COR3 and FEMA. Among the SOWs submitted was the "TL1900 Dos Bocas HP to San Sebastian TC" T&D Project.

5. On August 20, 2021, the Energy Bureau issued a Resolution in Order ("August 20th Order") in which, among other considerations, it approved all twenty-eight (28) T&D projects submitted by LUMA in the July 8th Motion, including the "TL1900 Dos Bocas HP to San Sebastian TC" T&D Project, and deemed them necessary to improve the system's reliability. Further, the Energy Bureau ordered LUMA to seek the Energy Bureau's approval immediately should the scope of the approved projects change.[3]

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

7. On September 22, 2021, the Energy Bureau issued a Resolution and Order ("September 22nd Order") that determined that most of the SOWs for T&D projects submitted by LUMA in the August 30th Motion were necessary to improve the system's reliability. Therefore, it approved most of the projects presented in the August 30th Motion, including the "38 kV

[3] On July 31, 2024, LUMA submitted an amended SOW for the "TL 1900 Dos Bocas HP to San Juan Sebastian TC" T&D Project, to reflect significant cost increases. *See Motion Submitting Three Amended Scopes of Work, One Scope of Work, an Updated Project List, and Request for Confidentiality and Supporting Memorandum of Law* filed by LUMA on July 31, 2024, in the present docket.

On August 22, 2024, the Energy Bureau issued a Resolution and Order ("August 22nd Order") in which it amended the previously approved SOW for the "TL1900 Dos Bocas HP to San Sebastian TC" T&D Project and continued to request a copy of the approval of COR3 and/or FEMA of the project, which shall contain the costs obligated for the project within ten (10) days of receiving such approval.

Transmission Priority Poles and Structures Replacements" SOW. 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.

8. On April 24, 2023, LUMA submitted a *Motion Submitting Scope of Work and Request for Confidentiality and Supporting Memorandum of Law* ("April 24th Motion"), whereby it submitted one (1) SOW for the Energy Bureau's review and approval prior to submitting it to COR3 and FEMA ("April 24th Motion"). LUMA submitted the SOW for the "Island-Wide Vegetation Clearing" T&D Project.

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

10. The "38 kV Transmission Priority Poles and Structures Replacements" SOW is divided into individual projects per region, which include the "FAASt * [Priority Pole Replacement Program (Line 9800)] (Transmission)"[4] T&D Projects.

11. Similarly, the "Island-Wide Vegetation Clearing" SOW was also divided into separate projects by group, which include, among others, the "FAASt [Region 4 Caguas 38Kv – Non-Sensitive]" and the "FAASt [Region 6 Ponce 38Kv – Non-Sensitive]" T&D Projects.

12. Finally, the "FAASt [Line 1900 (38kV)-Caguanas to Lares TO] (Transmission)"[5] and the "FAASt [Line 1900 (38kV)-Lares TO to San Sebastian] (Transmission)"[6] T&D Projects

[4] Also known as the "FAASt [Line 9800 Bayamon TC -Guaraguao Sect] (Transmission)" T&D Project; Project # 668592, P/W # 10891.
[5] Also known as the "FAASt TL 1900 Caguanas to Lares TO" T&D Project; Project # 756997, P/W # 108030.
[6] Also known as the "FAASt [TL 1900 Lares TO to San Sebastian]" T&D Project; Project # 756999, P/W # 108031.

are part of the 25.0 circuit miles of overhead transmission line for the "Line 1900 Dos Bocas HP to San Sebastian TC" T&D Project.

II. Submittal of One Amended FEMA Approval of Project

13. On September 22, 2022, LUMA filed a *Motion Submitting Three FEMA Approvals of Project, Request for Confidential Treatment and Supporting Memorandum of Law* ("September 22nd Motion"), whereby, in compliance with the September 22nd Order, LUMA submitted a copy of the project approval issued by FEMA on September 16, 2022, for the "FAASt [Line 9800 Bayamon TC -Guaraguao Sect] (Transmission)" T&D Project.

14. In compliance with the September 22nd Order, LUMA hereby submits a copy of the amended approval ("Version 1") for the "FAASt * [Priority Pole Replacement Program (Line 9800)] (Transmission)", [7] T&D Project, which states it was re-obligated on September 12, 2026. *See* **Exhibit 1**[8] to this Motion.

15. Version 1 of the "FAASt * [Priority Pole Replacement Program (Line 9800)] (Transmission)" T&D project was created to capture the change in scope and cost as per LUMA-provided documentation and to add new guidance (two separate transactions between 428 and 406 funding of Sub-FAASt projects. This version will be only Public Assistance 428 funds, and the next version will be only Mitigation 406 funds. *See* **Exhibit 1**, p. 7.[9]

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[7] The Project Title for the "FAASt [Line 9800 Bayamon TC -Guaraguao Sect] (Transmission)" has been renamed to "FAASt * [Priority Pole Replacement Program (Line 9800)] (Transmission)", although it has maintained its original FEMA FAASt Number 668592 and its P/W Number 10891. See **Exhibit 1**, p. 1.

[8] Please note that **Exhibit 1** has digitalization and table format issues, which are found on the documents as issued by FEMA.

[9] FEMA has recently clarified that certain projects will require multiple versions of obligations due to system limitations within Sub-FAASt transactions. Specifically, when a project includes both 406 Hazard Mitigation Proposal (HMP) and 428 Public Assistance (PA) cost modifications—with one being positive and the other negative—FEMA cannot process both changes within a single version. As communicated by FEMA:

> This project version includes request for cost modification for both 406 HMP and 428 PA costs, one with positive amount and the other negative. The cost change cannot be processed in the same version due to system limitation. Thus, two separate versions are required to capture cost change. The current version will obligate the positive funds (whether 406 HMP or 428), and the future

III. Submittal of Five FEMA Approvals of Projects

16. In compliance with the June 8th, August 20th, August 22nd, and May 5th Orders, LUMA hereby submits copies of the following FEMA Cost Approvals for T&D projects, which state they were obligated on September 12, 2026: "FAASt [Automation Feeders Vieques & Culebra] (Distribution)",[10] "FAASt [Line 1900 (38kV)-Caguanas to Lares TO] (Transmission)", "FAASt [Line 1900 (38kV)-Lares TO to San Sebastian] (Transmission)", "FAASt [Region 4 Caguas 38Kv – Non-Sensitive]",[11] and "FAASt [Region 6 Ponce 38Kv – Non-Sensitive]"[12] T&D Projects. *See* **Exhibit 2**.[13] The document contains FEMA approvals and includes the costs obligated for each project.

17. LUMA highlights **that neither the one (1) amended FEMA re-obligation nor the five (5) new FEMA obligations are to be considered final versions of these T&D projects**. LUMA expects these obligations to be versioned in the future to include the 406 costs as well as to finalize the additions and reductions of the Global A&E/E&M costs.

IV. Request for Confidential Treatment of Exhibit 1 and 2

18. LUMA is submitting herein redacted public versions of the amended FEMA approval for the "FAASt * [Priority Pole Replacement Program (Line 9800)] (Transmission)" T&D project (**Exhibit 1**) and the FEMA approvals for the "FAASt [Automation Feeders Vieques

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version will capture the negative portion. This guidance applies only to Sub-FAASt transactions; non-FAASt transactions remain unchanged.

LUMA believes that FEMA will continue releasing new versions of obligations when situations like this occur. This clarification is given to mitigate confusion when there are cost differences between the Consolidated Project List and the amounts later approved or modified by FEMA.

[10] Formerly the "Distribution – Vieques Feeders 2501-01, 2501-02, 2501-03 and Culebra Feeders 3801-01, 3801-02" T&D Project.

[11] The former FAASt number for this T&D project was 740409; the current FAASt number is 1068646.

[12] The former FAASt number for this T&D project was 740414; the current FAASt number is 1068649.

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

& Culebra] (Distribution)", the "FAASt [Line 1900 (38kV)-Caguanas to Lares TO] (Transmission)", the "FAASt [Line 1900 (38kV)-Lares TO to San Sebastian] (Tranmission)", the "FAASt [Region 4 Caguas 38Kv – Non-Sensitive]", and the "FAASt [Region 6 Ponce 38Kv – Non-Sensitive]" T&D Projects (**Exhibit 2**) (collectively, the "FEMA Approvals") protecting confidential information associated with Critical Energy Infrastructure Information ("CEII"). As explained below, portions of the FEMA Approvals 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.

V. Memorandum of Law in Support of Request for Confidentiality

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

19. The bedrock provision on the management of confidential information filed before this Energy Bureau, is Section 6.15 of Act 57-2014, known as the "Puerto Rico Energy Transformation and Relief Act." It provides, in pertinent part, that: "[i]f any person who is required to submit information to the [Energy Bureau] believes that the information to be submitted has any confidentiality privilege, such person may request the [Energy Bureau] to treat such information as such …." 22 LPRA § 1054n (2026). If the Energy Bureau determines, after appropriate evaluation, that the information should be protected, "it shall grant such protection in a manner that least affects the public interest, transparency, and the rights of the parties involved in the administrative procedure in which the allegedly confidential document is submitted." *Id.* § 1054n(a).

20. 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).

21. 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.

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

23. 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).

24. 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

25. Portions of the FEMA Approvals included in **Exhibits 1 and 2** contain 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.

26. This 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.

27. 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.

28. 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").[14]

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

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

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).[15]

25. Portions of the FEMA Approvals in **Exhibits 1 and 2** 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 potentially be helpful to a person planning an attack on the energy facilities listed as part of this FEMA approval. The information 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 **Exhibits 1 and 2** from disclosure, given the nature and scope of the details included in those portions of the Exhibits.

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 **Exhibits 1 and 2**. Given the importance of ensuring the safe and efficient operation of the

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> (F) does not constitute a waiver of any applicable privilege or protection provided under law, such as trade secret protection.

[15] 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.

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.

Document	**Name**	**Pages in which Confidential Information is Found, if applicable**	**Summary of Legal Basis for Confidentiality Protection, if applicable**	**Date Filed**
Exhibit 1	FAASt * [Priority Pole Replacement Program (Line 9800)] (Transmission)	Pages 1-2, 7-9, 11	Critical Energy Infrastructure Information, 18 C.F.R. § 388.113; 6 U.S.C. §§ 671-674.	September 22, 2026
Exhibit 2	FAASt [Automation Feeders Vieques & Culebra] (Distribution)	Pages 1-2, 4-5, 7, 10, 12, 15-17, 20	Critical Energy Infrastructure Information, 18 C.F.R. § 388.113; 6 U.S.C. §§ 671-674.	September 22, 2026
	FAASt [Line 1900 (38kV)-Caguanas to Lares TO] (Transmission)	Pages 1-2, 6, 10	Critical Energy Infrastructure Information, 18 C.F.R. § 388.113; 6 U.S.C. §§ 671-674.	September 22, 2026
	FAASt [Line 1900 (38kV)-Lares TO	Pages 1-2, 5, 8	Critical Energy Infrastructure	September 22, 2026

Document	Name	Pages in which Confidential Information is Found, if applicable	Summary of Legal Basis for Confidentiality Protection, if applicable	Date Filed
	San Sebastian] (Transmission)		Information, 18 C.F.R. § 388.113; 6 U.S.C. §§ 671-674.	
	FAASt [Region 4 Caguas 38Kv – Non-Sensitive]	Pages 1, 3	Critical Energy Infrastructure Information, 18 C.F.R. § 388.113; 6 U.S.C. §§ 671-674.	September 22, 2026
	FAASt [Region 6 Ponce 38Kv – Non-Sensitive]	Pages 1, 3	Critical Energy Infrastructure Information, 18 C.F.R. § 388.113; 6 U.S.C. §§ 671-674.	September 22, 2026

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

RESPECTFULLY SUBMITTED.

We hereby certify that we filed this Motion using the electronic filing system of this Energy Bureau. We will send an electronic copy of this Motion to PREPA via Alexis Rivera, alexis.rivera@prepa.pr.gov, and through its counsel of record, Natalia Zayas Godoy, nzayas@gmlex.net, Richard Cruz Franqui, rcruzfranqui@gmlex.net, and Mirelis Valle Cancel,

mvalle@gmlex.net, to Genera PR LLC, through its counsel of record, Jorge Fernández-Reboredo, jfernandez@ecija.com, José J. Díaz Alonso, jdiaz@ecija.com, and Ernesto R. Ramos Maldonado, eramos@ecija.com.

In Guaynabo, Puerto Rico, on this 22nd day of September 2026.

DLA Piper (Puerto Rico) LLC
B-7 Tabonuco St.
Suite 1501
Guaynabo, PR 00968
Tel. 787-945-9132
Fax 939-697-6102

/s/ Yahaira De la Rosa Algarín
Yahaira de la Rosa Algarín
RUA NÚM. 18,0061
Yahaira.delarosa@us.dlapiper.com

/s/ Emmanuel Porro González
Emmanuel Porro González
RUA NÚM. 23,704
emmanuel.porrogonzalez@us.dlapiper.com

Exhibit 1

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

Department of Homeland Security
Federal Emergency Management Agency

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General Info

Project #	668592 **P/W #** 10891	**Project Type**	Specialized
Project Category	F - Utilities	**Applicant**	PR Electric Power Authority (000-UA2QU-00)
Project Title	FAASt * [Priority Pole Replacement Program (Line 9800)] (Transmission)	**Event**	4339DR-PR (4339DR)
Project Size	Large	**Declaration Date**	9/20/2017
Activity Completion Date	9/20/2027	**Incident Start Date**	9/17/2017
		Incident End Date	11/15/2017
Process Step	Obligated		

Damage Description and Dimensions

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

Damage #661239; FAASt Line 9800 Bayamon TC - Guaraguao Sect] (Transmission)

General Facility Information:

- **Facility Type:** Power generation, transmission, and distribution facilities
- **Facility:** Line 9800 Bayamon TC - Guaraguao Sect
- **Facility Description:** Structures along the line 9800 Bayamon TC - Guaraguao Sect. includes single wooden poles and single concrete structures. Part of this line is underground, but the rest of the line and all of its structures are accessible through roads and/or situated on private properties. Some vegetation management is needed along certain portions of the line.
- **Approx. Year Built:** 1980
- **Start GPS Latitude/Longitude:** [redacted]
- **End GPS Latitude/Longitude:** [redacted]

Final Scope

661239 **FAASt Line 9800 Bayamon TC - Guaraguao Sect] (Transmission)**

Introduction

The purpose of this document is to submit for approval the detailed Scope of Work ("SOW") to COR3 and FEMA for the Transmission Priority Pole Replacement – Line 9800 Project under DR-4339-PR Public Assistance. The document provides a description of the project including scope, schedule, and cost estimates as well as Environmental & Historical Preservation ("EHP") requirements. LUMA Energy is seeking approval from COR3 and FEMA for project funding to repair, restore, or replace the eligible facilities.

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

Facilities

The facilities listed below are part of the 2.70 mile long 38 kV overhead transmission Line 9800. This line is a Near-Term rebuild priority identified by LUMA. However, these structures were identified as having System Remediation Plan (SRS) issues and were considered degraded during a High-Level Assessment (HLA). Because of risk to the public these structures will be replaced by the Transmission Priority Pole Replacement Program on an expedited basis. Later, the remainder of the line will be rebuilt, except for the structures that would already have been replaced to LUMA Codes & Standards.

Line		FID	Coordinates	Voltage Level (kV)	Construction Date
L9800	Bayamon TC - Guaraguao Sect	11298397	[redacted]	38 kV	1998

		11298405	[redacted]		
		11298410			
		11298445			
		1000414391			

Project Scope of Work

Proposed 428 Public Assistance Scope of Work:

Bayamon TC - Guaraguao Sect Structures Scope:

- Remove five 60ft wood poles and install five 70ft galvanized steel S8 poles in the same location. Cross arms, insulators and all associated hardware will also be replaced along with the new structure.

Project Estimate

The estimated costs (Class 3 Accuracy +/-30%) to complete the project are captured in the table below. The cost estimate was developed utilizing preliminary Architectural and Engineering design information and may be subject to change. LUMA has allocated 10% of the project cost for the mitigation of potential known risks.

Project Cost Estimate	428 Public Assistance
Planning	$27,756
Management	$16,229
Transmission Line Construction	$315,384
General Conditions	$47,531
Contingency	$57,951
Total Project Cost Estimate	**$464,850**
FAASt Project #668592 Total	**$420,866**
FAASt Project #335168 Total	**$43,984**

Work To Be Completed (WTBC): $464,850
A&E Deduction (Global A&E FAASt 335168) -$43,984
Project Total Cost: $420,866

For detailed cost estimate, please refers to document labeled: 668592-DR4339PR-Appendix G - Detailed Cost Estimate - Line 9800 Rev0.pdf.

Project Notes:

1. Refer to detailed SOW provided in document 668592-DR4339PR-Detailed SOW - Line 9800 Rev.0.pdf
2. For reference documents Appendix A thru J, see file labeled: 668592-Transmission Priority Pole Replacement-Line 9800-Attachment A-J.zip
3. For EHP Requirements, refer to pages 8 to 11 of the detailed SOW and reference documents: Appendix I & J.
4. Architectural and Engineering (A&E) costs are deducted given previously obligated Global A&E Project for the subject FAASt PREPA work (see project: 335158 - FAASt A&E PREPA).

406 HMP Scope

There is no feasible Hazard Mitigation opportunity identified nor requested by sub-applicant.

Cost

Code	Quantity	Unit	Total Cost	Section
3510	1	Lump Sum	($43,984.00)	Uncompleted
9001	1	Lump Sum	$464,850.00	Uncompleted
9201	1	Lump Sum	$0.00	Completed

CRC Gross Cost	$420,866.00
Total 406 HMP Cost	$0.00
Total Insurance Reductions	$0.00
CRC Net Cost	$420,866.00
Federal Share (90.00%)	$378,779.40
Non-Federal Share (10.00%)	$42,086.60

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

8/6/2026

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

Jesus M. Vela Ayala, PA Senior Insurance Specialist, CRC Atlantic, Guaynabo P.R.

5/7/2026

Does the Applicant have a Commercial Policy: Yes.

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

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

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

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

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

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

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

O&M Requirements

There are no Obtain and Maintain Requirements on **FAASt * [Priority Pole Replacement Program (Line 9800)] (Transmission)**.

406 Mitigation

There is no additional mitigation information on **FAASt * [Priority Pole Replacement Program (Line 9800)] (Transmission)**.

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.
- Endangered Species Act (ESA) The below Conservation Measures are to be used in concert with the Puerto Rico and US Virgin Islands ESA Compliance Determination Matrix and shall serve as required project conditions to avoid and reduce adverse effects to threatened and endangered species when applied to FEMA grant projects. Reptiles Puerto Rican and Virgins Island Boas 1. Inform all personnel about the potential presence of the PR boa and the VI boa in areas where the proposed work will be conducted. Photographs of the PR and VI Boa are to be prominently displayed at the site. The recipient must ensure that project personnel is able to correctly identify a PR or VI boa. For information on PR boa, please visit: https://ecos.fws.gov/ecp/species/6628. 2. Prior to any construction activity, including removal of vegetation and earth movement, the boundaries of the project area must be delineated, buffer zones, and areas to be excluded and protected, should be clearly marked in the project plan and in the field to avoid further habitat degradation into forested areas. Once areas are clearly marked, and prior to any construction activity, including site preparation, project personnel able to correctly identify a PR or VI boa must survey the areas to be cleared to ensure that no boas are present within the work area. Vehicle and equipment operation must remain on designated access roads/paths and within rights-of way. 3. If a PR boa is found within any of the working or construction areas, activities should stop in the area where the boa was found. Do not capture the boa. If boas need to be moved out of harm's way, project personnel designated by the recipient shall immediately contact the Puerto Rico Department of Natural and Environmental Resources (PRDNER) Rangers for safe capture and relocation of the animal (PRDNER phone #s: 787-724-5700, 787-230-5550, 787-771-1124). If immediate relocation is not an option, project-related activities at this 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. 4. 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 boa (PRDNER phone #s: 787-724-5700, 787-230-5550, 787-771-1124). If not possible, the animal should be left alone until it leaves the vehicle on its own. 5. 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 PR boas are, found within debris piles, do not capture the animal and let it move on its own or call PRDNER Rangers for safe capture and relocation of the animal. If debris piles will be left on site, we recommend they be placed in areas that will not be disturbed in the future. 6. For all boa sightings (dead or alive),

personnel designated by the recipient must record the time and date of the sighting and the specific location where the boa was found. Data should also include a photo of the animal dead or alive, and site GPS coordinates, and comments on how the animal was detected and its behavior. 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. All boa-sighting reports should be sent to the USFWS Caribbean Ecological Services Field Office, Marelisa Rivera - Deputy Field Supervisor, 787- 851-7297 extension 206, 787-510-5207, marelisa_rivera@fws.gov. The Applicant must provide documentation at close-out that proves completion of required Conservation Measures

- Resource Conservation and Recovery Act, aka Solid Waste Disposal Act (RCRA) 1. The Applicant shall handle, manage, and dispose of all types of hazardous waste in accordance with requirements of local, state, and federal laws, regulations, and ordinances. In addition, the Applicant shall ensure that all debris is separated and disposed of in a manner consistent with the PR DNER guidelines at a permitted site or landfill. The contractor/applicant will be responsible for the proper disposition of construction debris in authorized landfills providing the name, location, coordinates and permits of the facility to the corresponding authorities. 2. If transformers: The applicant is responsible to ensure damaged transformers are handled, managed and disposed of in accordance with all federal and state laws and requirements. Downed electrical equipment may contain toxic and hazardous materials, such as polychlorinated biphenyls (PCBs), and may spill these materials if a rupture occurs. Applicant is responsible for screening transformers that do or may contain PCBs and the area where any related spill occurred. The applicant is then responsible to handle, manage, dispose of, or recycle damaged equipment and contaminated soil as appropriate. Where possible, temporary measures should be implemented to prevent, treat, or contain further releases or mitigate the migration of PCBs into the environment. If damaged equipment or material storage containers must be stored temporarily, containers should be placed on hardened surface areas, such as a concrete or an asphalt for no more than 90 days. Excavated contaminated material should be disposed of in accordance with federal and state laws and requirements. 3. Unusable equipment, debris, white goods, scrap metal any other material shall be disposed in approved manner and location. In the event significant items are discovered during the implementation or development of the project the Applicant shall handle, manage and dispose petroleum products, hazardous materials and toxic waste in accordance to the requirements of the local and federal agencies. Noncompliance with these requirements may jeopardize receipt of federal funds. 1.

EHP Additional Info

There is no additional environmental historical preservation on **FAASt * [Priority Pole Replacement Program (Line 9800)] (Transmission)**.

Final Reviews

Final Review

Reviewed By MARTINEZ SANTIAGO, ISRAEL **Reviewed On** 08/26/2022 11:00 AM PDT

Review Comments

FEMA Final Completed. Project ready for Recipient Review.

Recipient Review

Reviewed By Salgado, Gabriel **Reviewed On** 08/26/2022 12:28 PM PDT

Review Comments

Recipient review completed. Project is ready for applicant review.

Project Signatures

Reviewed By Nieves, Ezequiel **Reviewed On** 09/14/2022 4:04 PM PDT

General Info

Project #	668592 **P/W #** 10891	**Project Type**	Specialized
Project Category	F - Utilities	**Applicant**	PR Electric Power Authority (000-UA2QU-00)
Project Title	FAASt * [Priority Pole Replacement Program (Line 9800)] (Transmission)	**Event**	4339DR-PR (4339DR)
Project Size	Large	**Declaration Date**	9/20/2017
Activity Completion Date	9/20/2027	**Incident Start Date**	9/17/2017
Process Step	Obligated	**Incident End Date**	11/15/2017

Damage Description and Dimensions

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

Damage #661239; FAASt Line 9800 Bayamon TC - Guaraguao Sect] (Transmission)

General Facility Information:

- **Facility Type:** Power generation, transmission, and distribution facilities
- **Facility:** Line 9800 Bayamon TC - Guaraguao Sect
- **Facility Description:** Structures along the line 9800 Bayamon TC - Guaraguao Sect. includes single wooden poles and single concrete structures. Part of this line is underground, but the rest of the line and all of its structures are accessible through roads and/or situated on private properties. Some vegetation management is needed along certain portions of the line.
- **Approx. Year Built:** 1980
- **Start GPS Latitude/Longitude:** [redacted]
- **End GPS Latitude/Longitude:** [redacted]

Final Scope

661239 **FAASt Line 9800 Bayamon TC - Guaraguao Sect] (Transmission)**

********** **VERSION 1** **********

Version 1 has been created to capture change in scope and cost as per Applicant provided documentation and add new guidance (two separate transactions between the 428 and 406 funding of Sub-FAAST projects. This version will be only PA 428 and next version will be only Mitigation 406).

Version 0 will be fully de-obligated to reclassify 428 (Public Assistance) costs from the previous version, which will be added to 406 (Mitigation) costs in next version.

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

INTRODUCTION

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

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

This document contains the detailed SOW for FEMA PA Project 136271 – **Transmission Priority Pole Replacement Program Line 9800** under DR-4339-PR Public Assistance. The document provides a detailed description of the project, scope of Public Assistance "PA" construction activities to be completed, common EHP review information, proposed hazard mitigation measures, and project cost estimates. LUMA is seeking approval from COR3 and FEMA for Public Assistance "PA" funding for the scope described in this document.

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

PROJECT DESCRIPTION

LUMA determined that the five (5) poles identified in Section 7.0 of this DSOW were degraded during a high-level assessment. These five poles are part of the 2.70 circuit miles of overhead transmission for 38kV Line 9800. This project will replace the five degraded poles through the Transmission Priority Pole Replacement Program on an expedited basis.

FACILITIES LIST

The following table identifies the start and end GPS coordinates of the 2.7 mile long 9800 segments from Bayamon TC to Guaraguao Sect.

Line Segment	Line Number	GPS Start	GPS End	Voltage (
Bayamon TC – Guaraguao Sect.	9800	[redacted]	[redacted]	38

The following table identifies the location of each pole to be replaced in this project.

Pole	FID	Lat	Long
1	11298397	[redacted]	
2	11298405		
3	11298410		
4	11298445		
5	1000414391		

PROJECT AREA MAP WITH BOUNDARIES OF CONSTRUCTION

For Figure 1 : TL9800 TC Map Pole Location pictures please see document labeled: *668592-DR4339PR DSOW Rev 1T pole 9800-6-03-04 11_36-1.pdf*

428 SCOPE OF WORK

The proposed type of work for this project:

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

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

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

___Recipient's approval letter included, see **Appendix** _____.

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

__Subrecipient's request letter included, see **Appendix** ____.

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

The obligated scope includes replacing transmission poles to reduce service interruptions to the transmission grid that could be caused by disaster-related damage. Project 668592 is necessary to maintain the continuity of Transmission Line 9800 - BAYAMON TC – GUARAGO SECT (TLine 9800) and mitigate the loss of service and potential damage from future storms or disasters.

- 5 structure replacements
- Bayamon TC – Guaragao Sect Structures Scope:
    - Remove five 60ft wood poles and install five 70ft galvanized steel S8 poles in the same location. Cross arms, insulators, and all associated hardware will also be replaced with the new structure.

This amendment updates the 428 scope of work, changing the specified pole from a 70-foot S8 tapered galvanized steel pole to a 70-foot round galvanized steel pole compliant with current codes and standards.

FID	Latitude	Longitude	Obligated Scope of Work	Amended 428 Scope of Work
11298397	[redacted]	[redacted]	▪ Remove and dispose of 60ft wood pole ▪ Remove and dispose of crossarms, insulators and pole hardware ▪ Install 70ft S8 galvanized 12-sided tapered steel pole ▪ Install new crossarms, insulators and pole hardware with new structure	▪ Remove and dispose of 60ft wood pole ▪ Remove and dispose of crossarms, insulators and pole hardware ▪ Replace with 70ft galvanized round steel pole ▪ Replace with new crossarms, insulators and pole hardware with new structure

For more information, refer to the amendment request letter of this project.

DESCRIPTION OF PROPOSED WORK TO BE PERFORMED

1. Poles and components will be replaced per the design methodology and Project Design Criteria.
2. Bayamon TC – Guaraguao Sect. Structures Scopes:
   - Remove five 60ft wood poles and replace with five 70ft galvanized steel (round) poles in the same location. Cross arms, insulators and all associated hardware will also be replaced along with the new structure.

CODES & STANDARDS

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

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

406 HAZARD MITIGATION PROPOSAL

Refer to document: *668592-DR4339PR DSOW Rev 1T pole 9800-6-03-04 11_36-1.pdf*

406 HAZARD MITIGATION OPPORTUNITY

Refer to document: *668592-DR4339PR DSOW Rev 1T pole 9800-6-03-04 11_36-1.pdf*

406 SCOPE OF WORK

Refer to document: *668592-DR4339PR DSOW Rev 1T pole 9800-6-03-04 11_36-1.pdf*

COMMON EHP REVIEW INFORMATION

Refer to document: *668592-DR4339PR DSOW Rev 1T pole 9800-6-03-04 11_36-1.pdf*

PROJECT COST ESTIMATE (PCE)

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

COST ESTIMATE			
Cost Element	**428**	**406**	**PROJECT TOTAL**
PLANNING	**$ 30,814.73**	**$ 619.24**	**$ 31,433.97**

MANAGEMENT	**$ 21,692.18**	**$ 435.89**	**$ 22,128.07**
Transmission Priority Pole Replacements TL 9800, FAAST#: 668592	**$ 362,697.97**	**$ 7,308.08**	**$ 370,006.05**
COST TOTALS	**$ 434,172.06**	**$ 8,744.36**	**$ 442,916.42**
DEDUCTIONS	**TOTAL INSURANCE PROCEEDS RECEIVED**		**$ -**
	DE-OBLIGATION TO FAASt IF APPLICABLE?		**$ -**
FAASt ALLOCATIONS	FAAST PROJECT # 668592 - 428		$ 399,437.09
	FAAST PROJECT # 668592 - 406 HM		$ 8,744.36
	FAAST PROJECT # 668592 TOTAL:		**$ 408,181.45**
	FAASt A&E # 335168 - 428		$ 34,734.97
	FAASt A&E # 335168 - 406 HM		$ 698.02
	FAASt A&E # 335168 TOTAL		**$ 35,432.99**
	FAASt E&M #673691 - 428		$ -
	FAASt E&M #673691 - 406 HM		$ -
	FAASt E&M #673691 TOTAL		**$ -**

Refer to Appendix E - Detailed Cost Estimate

Work to be Completed (WTBC): $434,172.06

A&E Deduction (Global A&E FAASt 335168): - $34,734.97

Project Total: $399,437.09

VERSION SUMMARY OF KEY CHANGES:

V0: $420,866.00 **(WTBC, A&E Deduction)**

Change Requested: - $21,428.91

V1: $399,437.09

ATTACHMENTS/APPENDICES

The following attachments and appendices are provided with this DSOW:

Item	Document Description or Filename
A	Approved Supplier List
B	General Arrangement
C	LUMA Waste Management Plan
D	Engineering Plans
E	LUMA Wildlife, Avian and Historical Protection Procedure #335
F	Consent to Federal Funding Letter - FEMA COR3
G	Detailed Cost Estimate - Line 9800 Feb-18-2026
H	PAPPG Appendix J - Cost E?ective Hazard Mitigation Measures
I	Line 9800 FEMA - EHP Checklist
J	Line 9800 Environmental Maps
K	Hazard Mitigation Narrative

Project Notes:

1. Refer to detailed SOW provided in document labeled: "668592-DR4339PR DSOW Rev 1T pole 9800-6-03-04 11_36-1.pdf"

2. For cost estimate detailed information please refer to document: "668592 DR4339PR-LPCE T-Pole Priority Replacement TL-9800 Rev Feb-18-2026 (FEMA)(1).xlsx".

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

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

5. 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 in the table above. The A&E project was obligated to track and account for costs associated with individual FAASt projects.

6. This version includes both 406 HMP and 428 PA costs, with one positive amount and the other negative. They cannot be processed in the same version, so two separate versions are required. Version 1 will obligate 428 funds, and Version 2 (amendment) will obligate 406/HM funds.

406 HMP Scope

Project number: 668592; FAASt [Transmission Priority Pole Replacements – Line 9800] (Transmission)

Damage: 661239; FAASt [Line 9800 Bayamon TC - Guaraguao Sect.]

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

Location: Bayamon, Puerto Rico

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

Hazard Mitigation Narrative

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

The Method of Repair (MOR) included the replacement of the damaged critical distribution pole (wood), cross-arms, insulators, guy wires, and all associated hardware needed for the new structure. The facilities listed below are part of the 2.7 circuit miles of 38kV Overhead Transmission Line 9800 from Bayamon TC to Guaraguao Sect. segment. The Subrecipient determined that nine (5) poles were degraded during a high-level assessment. Given that, this project will replace the nine (5) degraded poles through the Transmission Priority Pole Replacement Program on an expedited basis.

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

Hazard Mitigation Proposal (HMP) Scope of Work:

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

Mitigation Measures *(Replacement)*

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

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

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

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Hazard Mitigation Proposal (HMP) Cost:

Total Net Hazard Mitigation Cost (Base Cost) = $7,014.90

+ HM (Subrecipient A&E, Management & General Conditions) = $ 1,729.46

Hazard Mitigation Total Cost = **$ 8,744.36**

Hazard Mitigation Proposal (HMP) Cost Distribution:

Equipment and Materials (E&M) = $ 0.0

Architecture and Engineering (A&E) = $ 698.02

Construction Cost = $8,046.34

Hazard Mitigation Total Cost = **$8,744.36**

-

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 **$8,744.36 (Hazard Mitigation Total Cost)**. The cost of this HMP combined will all other proposals (both PA and HMGP) does not exceed the maximum potential benefit and is therefore deemed cost effective per FEMA Public Assistance Program and Policy Guide (PAPPG) V3.1 April 2018, Chapter 2, VII., Section C, BCA Rule. This Hazard Mitigation Proposal meets eligible repair and restoration cost-effective requirements.

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

Cost

Code	Quantity	Unit	Total Cost	Section
3510	1	Lump Sum	($43,984.00)	Uncompleted
9001	1	Lump Sum	$464,850.00	Uncompleted
9201	1	Lump Sum	$0.00	Completed
9001	1	Lump Sum	($464,850.00)	Uncompleted
9001	1	Lump Sum	$434,172.06	Uncompleted
3510	1	Lump Sum	($34,734.97)	Uncompleted
3510	1	Lump Sum	$43,984.00	Uncompleted

CRC Gross Cost	$399,437.09
Total 406 HMP Cost	$0.00
Total Insurance Reductions	$0.00
CRC Net Cost	$399,437.09
Federal Share (90.00%)	$359,493.39
Non-Federal Share (10.00%)	$39,943.70

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

8/6/2026

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

Jesus M. Vela Ayala, PA Senior Insurance Specialist, CRC Atlantic, Guaynabo P.R.

5/7/2026

Does the Applicant have a Commercial Policy: Yes.

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

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

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

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

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

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

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

O&M Requirements

There are no Obtain and Maintain Requirements on **FAASt * [Priority Pole Replacement Program (Line 9800)] (Transmission)**.

406 Mitigation

There is no additional mitigation information on **FAASt * [Priority Pole Replacement Program (Line 9800)] (Transmission)**.

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.
- (ESA) Conditions: The below Conservation Measures are to be used in concert with the Puerto Rico and US Virgin Islands ESA Compliance Determination Matrix and shall serve as required project conditions to avoid and reduce adverse effects to threatened and endangered species when applied to FEMA grant projects. Reptiles Puerto Rican and Virgins Island Boas 1. Inform all personnel about the potential presence of the PR boa and the VI boa in areas where the proposed work will be conducted. Photographs of the PR and VI Boa are to be prominently displayed at the site. The recipient must ensure that project personnel is able to correctly identify a PR or VI boa. For information on PR boa, please visit: https://ecos.fws.gov/ecp/species/6628. 2. Prior to any construction activity, including removal of vegetation and earth movement, the boundaries of the project area must be delineated, buffer zones, and areas to be excluded and protected, should be clearly marked in the project plan and in the field to avoid further habitat degradation into forested areas. Once areas are clearly marked, and prior to any construction activity, including site preparation, project personnel able to correctly identify a PR or VI boa must survey the areas to be cleared to ensure that no boas are present within the work area. Vehicle and equipment operation must remain on designated access roads/paths and within rights-of way. 3. If a PR boa is found within any of the working or construction areas, activities should stop in the area where the boa was found. Do not capture the boa. If boas need to be moved out of harm's way, project personnel designated by the recipient shall immediately contact the Puerto Rico Department of Natural and Environmental Resources (PRDNER) Rangers for safe capture and relocation of the animal (PRDNER phone #s: 787-724-5700, 787-230-5550, 787-771-1124). If immediate relocation is not an option, project-related activities at this 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. 4. 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 boa (PRDNER phone #s: 787-724-5700, 787-230-5550, 787-771-1124). If not possible, the animal should be left alone until it leaves the vehicle on its own. 5. 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 PR boas are, found within debris piles, do not capture the animal and let it move on its own or call PRDNER Rangers for safe capture and relocation of the animal. If debris piles will be left on site, we recommend they be placed in areas that will not be disturbed in the future.

- 6. For all boa sightings (dead or alive), personnel designated by the recipient must record the time and date of the sighting and the specific location where the boa was found. Data should also include a photo of the animal dead or alive, and site GPS coordinates, and comments on how the animal was detected and its behavior. 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. All boa-sighting reports should be sent to the USFWS Caribbean Ecological Services Field Office, Marelisa Rivera - Deputy Field Supervisor, 787-851-7297 extension 206, 787-510-5207, marelisa_rivera@fws.gov. The Applicant must provide documentation at close-out that proves completion of required Conservation Measures.
- (RCRA) Conditions: * 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 transformers: The applicant is responsible to ensure damaged transformers are handled, managed and disposed of in accordance with all federal and state laws and requirements. Downed electrical equipment may contain toxic and hazardous materials, such as polychlorinated biphenyls (PCBs), and may spill these materials if a rupture occurs. Applicant is responsible for screening transformers that do or may contain PCBs and the area where any related spill occurred. The applicant is then responsible to handle, manage, dispose of, or recycle damaged equipment and contaminated soil as appropriate. Where possible, temporary measures should be implemented to prevent, treat, or contain further releases or mitigate the migration of PCBs into the environment. If damaged equipment or material storage containers must be stored temporarily, containers should be placed on hardened surface areas, such as a concrete or an asphalt for no more than 90 days. Excavated contaminated material should be disposed of in accordance with federal and state laws and requirements. * Unusable equipment, debris, white goods, scrap metal any other material shall be disposed in approved manner and location. In the event significant items are discovered during the implementation or development of the project the Applicant shall handle, manage and dispose petroleum products, hazardous materials and toxic waste in accordance to the requirements of the local and federal agencies. Noncompliance with these requirements may jeopardize receipt of federal funds.
- ***DISREGARD PREVIOUS CONDITIONS***
- ***DISREGARD PREVIOUS CONDITIONS***
- If ground disturbing activities occur during construction, the applicant will monitor ground disturbance, and if any previously unidentified historic properties, including archeological resources, are discovered, the applicant will immediately cease construction in that area and notify the Recipient (if applicable) and FEMA. Should any unanticipated effects to previously identified historic properties, including archaeological resources, be identified during construction activities, the applicant will immediately cease construction in that area and notify the Recipient (if applicable) and FEMA.

EHP Additional Info

There is no additional environmental historical preservation on **FAASt * [Priority Pole Replacement Program (Line 9800)] (Transmission)**.

Final Reviews

Final Review

Reviewed By LEFRANC-GARCIA, CARLOS L. **Reviewed On** 08/17/2026 8:15 PM PDT

Review Comments

Reviewed,found eligible and reasonable. CLG 08/17/26

Recipient Review

Reviewed By Mulero, Noel **Reviewed On** 08/20/2026 10:55 PM PDT

Review Comments

Recipient review completed. Since this version include both 406 HMP and 428 PA costs, one with positive amount and the other negative, we'll process first the positive funds and in a later version we'll de-obligate the negative portion. This project does not apply to the Department of Energy's executive order. This means that FEMA is the lead agency for environmental matters. Project is ready for applicant review.

Project Signatures

Reviewed By Unsigned **Reviewed On** Unsigned

Fixed Cost Offer

As a Public Assistance (PA) Subrecipient PR Electric Power Authority (000-UA2QU-00), in accordance with Section 428 of the Robert T. Stafford Disaster Relief and Emergency Assistance Act, the Applicant agrees to accept a permanent work subaward based on a Fixed Cost Offer in the amount of $399,437.09 for subaward number 10891 under Disaster # 4339. The Applicant accepts responsibility for all costs above the Fixed Cost Offer.

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

Award Information

EMMIE Imported Version Information

Version #	Eligibility Status	Current Location	Bundle Number	Project Amount	Cost Share	Federal Share Obligated	Date Obligated
0	Eligible	Awarded	PA-02-PR-4339-PW-10891(12473)	$420,866.00	90%	$378,779.40	9/15/2022

Drawdown History

EMMIE Drawdown Status As of Date	IFMIS Obligation #	Expenditure Number	Expended Date	Expended Amount
1/30/2024	4339DRPRP00108911	2017311M-01292024	1/26/2024	$94,694.85
7/27/2026	4339DRPRP00108911	2017311M-07232026	7/22/2026	$98,000.55
7/29/2026	4339DRPRP00108911	2017311M-07282026	7/27/2026	($98,000.55)
8/18/2026	4339DRPRP00108911	2017311M-08172026	8/14/2026	$89,070.81

Obligation History

Version #	Date Obligated	Obligated Cost	Cost Share	IFMIS Status	IFMIS Obligation #
0	9/15/2022	$378,779.40	90%	Accepted	4339DRPRP00108911
1	9/12/2026	($19,286.01)	90%	Accepted	4339DRPRP00108911

Exhibit 2

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

Department of Homeland Security
Federal Emergency Management Agency

v0

General Info

Project #	165226 **P/W #** 107206	**Project Type**	Specialized
Project Category	F - Utilities	**Applicant**	PR Electric Power Authority (000-UA2QU-00)
Project Title	FAASt [Automation Feeders Vieques & Culebra] (Distribution)	**Event**	4339DR-PR (4339DR)
Project Size	Large	**Declaration Date**	9/20/2017
Activity Completion Date	9/20/2027	**Incident Start Date**	9/17/2017
		Incident End Date	11/15/2017
Process Step	Obligated		

Damage Description and Dimensions

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

Damage #425142; FAASt - [Feeder 2501-01, 2501-02, 2501-03, 3801-01, 3801-02 (Vieques and Culebra)] (Distribution)

General Facility Information:

- **Facility Type:** Power generation, transmission, and distribution facilities
- **Facility:** Feeder 2501-01 Vieques
- **Facility Description:** The facility included: poles and structures (including their foundations), framing and insulators, load break switches (manual and automated), capacitor banks, voltage regulators, transformers (including lightning arresters and fuse cut-outs), conductors, guy wires, anchoring, grounding assemblies, underground cable, underground cable systems, and fault interrupting equipment (fuses, reclosers, and sectionalizers).
- **Approx. Year Built:** 1960
- **Start GPS Latitude/Longitude:** [redacted]
- **End GPS Latitude/Longitude:** [redacted]

Final Scope

425142

FAASt - [Feeder 2501-01, 2501-02, 2501-03, 3801-01, 3801-02 (Vieques and Culebra)] (Distribution)

INTRODUCTION:

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

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

FACILITIES:

The facilities listed below are part of the Vieques 2501-01, 2501-02, 2501-03 and Culebra 3801-01, 3801-02 feeders' system and are a subset of the scope included in the San Juan Region Feeders Project in the PREPA 10-Year Infrastructure Plan. These interconnected and inter-functional distribution feeders (sites) are part of the electrical distribution system. These feeders are located on the islands of Vieques and Culebra, Puerto

Rico. The feeders originate from the Vieques Substation (2501) or Culebra Substation (3801) (start) and serve customers along a route to various locations (end). GPS Coordinates for the start and end point of each electrical feeder backbone (BB) project are noted in the tables below. For the Vieques Feeder 2501-01 the backbone splits on two backbone segments identified as BB-1 and BB-2. For more detail, please refer *to Appendix C – Maps and Pictures*.

Vieques 2501 Feeders Coordinates

Feeder Number	GPS Start	GPS End	Construction Date
2501-01 BB-1	[redacted]		More than 20 years
2501-01 BB-2			More than 20 years
2501-02			More than 20 years
2501-03			More than 20 years

Culebra 3801 Feeders Coordinates

Feeder Number	GPS Start	GPS End	Construction Date
3801-01	[redacted]		More than 20 years
3801-02			More than 20 years

FEEDER No.	MUNICIPALITY	VOLTAGE (kV)	Customer Count	BACKBONE LENGTH (miles)
2501-01 BB1	Vieques	4.16	1,324	6.06
2501-01 BB2	Vieques	4.16	515	2.35
2501-02	Vieques	4.16	1,778	6.40
2501-03	Vieques	4.16	1,376	2.44
3801-01	Culebra	4.16	293	2.10
3801-02	Culebra	4.16	1,215	4.04
Total			**6,501**	**23.39**

The reconstruction design will cover a total of 23.39 miles of overhead distribution lines on the feeder's backbone (BB) and 0.83 miles of underground for critical load. Please note that a section of 3801-02 from (P202) to (P218) has been de-scoped.

PROJECT SCOPE OF WORK:

This project is part of the proposed initiatives that are designed to meet immediate energy needs and provide long-term sustainability in the islands of Vieques and Culebra. Specifically, the Vieques and Culebra feeders that are proposed in this project will connect to the existing Vieques substation (which will be restored and upgraded to meet codes and standards under FEMA project 165225 Vieques 2501 Substation Repairs and New Vieques 2502 Substation at Project 751655 Vieques Microgrid) and the existing Culebra Substation (which will be restored and upgraded to meet codes and standards under FEMA Project 165209 Culebra Substation 3801 and New Culebra 3802 Substation at Project 751656 Culebra Microgrid). Moreover, the "Proposed 406 Hazard Mitigation" scope of work section of this DSOW explains how specific hazard mitigation measures of this project integrate with the proposed Vieques and Culebra microgrids (refer to FEMA projects 751655 and 751656) to provide reliability and resiliency.

The foregoing will ensure reliable power delivery and contribute to improving redundancy and reliability in the distribution network to the residents of Vieques and Culebra.

This project is part of the

Below includes a breakdown of the scope of work for the **"Proposed 428 Public Assistance Scope of Work"** and the **"Proposed 406 Hazard Mitigation Scope of Work"**, followed by descriptions of each work type specific to the Scope of Work for this group.

For specific details on the proposed reconstruction for each feeder please refer to ***Appendix I - 3801 IFC Proposed Culebra Drawings***; ***Appendix J - 2501 IFC Proposed Design Vieques***, ***Appendix K - IFC Culebra 3801 Underground Proposed Design*** and ***Appendix L - IFC Vieques 2501 Underground Proposed Design.***

PROPOSED 428 PUBLIC ASSISTANCE SCOPE OF WORK

For a detailed description on the scope of work by feeder please refer to the tables shown below: Feeder 2501-01 Scope of Work

Pole Replacement 2501-01			
Feeder	**Poles to Be Removed**	**§ 428 Pole of the Fixed Cost Estimate (FCE)** (refer below to Proposed Section 406 Hazard Mitigation Scope of Work, Poles and Hardware HM section of this DSOW for description and quantities of poles that are proposed as §406)	**Quantity (Ea**
2501-01	35ft. Concrete	Poles to be replaced by electrical utility pole, 45ft round galvanized Steel	3
2501-01	45ft. Steel	Poles to be replaced by electrical utility pole, 45ft round galvanized Steel	1
2501-01	35ft. Wood	Poles to be replaced by electrical utility pole, 50ft round galvanized Steel	1
2501-01	40ft. Wood	Poles to be replaced by electrical utility pole, 50ft round galvanized Steel	133
2501-01	40ft. Wood	Poles to be replaced by electrical utility pole, 60ft round galvanized Steel	1
2501-01	40ft. Concrete	Poles to be replaced by electrical utility pole, 50ft round galvanized Steel	12
2501-01	40ft. Concrete	Poles to be replaced by electrical utility pole, 60ft round galvanized Steel	1
2501-01	40ft. Steel	Poles to be replaced by electrical utility pole, 50ft round galvanized Steel	52
2501-01	45ft. Concrete	Poles to be replaced by electrical utility pole, 50ft round galvanized Steel	3
2501-01	45ft. Concrete	Poles to be replaced by electrical utility pole, 60ft round galvanized Steel	1
2501-01	45ft. Steel	Poles to be replaced by electrical utility pole, 50ft round galvanized Steel	21
2501-01	45ft. Steel	Poles to be replaced by electrical utility pole, 60ft round galvanized Steel	1
2501-01	50ft. Wood	Poles to be replaced by electrical utility pole, 50ft round galvanized Steel	2
2501-01	50ft. Concrete	Poles to be replaced by electrical utility pole, 50ft round galvanized Steel	1
Total			**233**

New Poles 2501-01		
Feeder	**New Pole to be Added**	**Quantity**
2501-01	Poles to be installed, electrical utility pole, 50ft round galvanized Steel	4
Total		**4**

Pole to be Removed 2501-01		
Feeder	**Pole to be Removed**	**Quantity**

2501-01 BB-1	30ft Wood	2
2501-01 BB-1	35ft Concrete	3
2501-01 BB-1	35ft Steel	1
2501-01 BB-1	40 ft Wood	1
2501-01 BB-2	30 ft Wood	3
2501-01 BB-2	35 ft Wood	2
2501-01 BB-2	35 ft Steel	1
2501-01 LAT-1	35 ft Steel	1
2501-01 LAT-1	40 ft Concrete	1
	Total	**15**

Poles to Remain 2501-01		
Feeder	**Poles to Remain**	**Quantity**
2501-01	30 ft Steel	1
2501-01	45 ft Concrete	69
Total		**70**

Steel Galvanized Transformers 2501-01	**Interconnection Voltage**	**Quantity**
37.5 KVA	2.4 kV	3
50 KVA	2.4 kV	11
37.5 KVA	4.16 kV	2
50 KVA	4.16 kV	19
Total		**35**

Capacitors Banks 2501-01	**Pole Id**	**Coordinates**	**Capacity (kVAR)**
Capacitor Banks - 3Ø Capacity	P003	18.142562, -65.445067	150
Capacitor Banks - 3Ø Capacity	P306	18.137852, -65.457379	150
Total			**2**

Reclosers 2501-01				
Pole ID	**Pole FID**	**Description**	**1 kVA Transformer**	**Coordinates**
P312	17025850	Three-Phase Automatic Recloser	1	[redacted]
Total Three Phase Automatic Reclosers			**1**	
P014-09	20018865	Fuse Cutout – 3Ph	-	
P025	20018913	Fuse Cutout – 3Ph	-	
P030	20019934	Fuse Cutout – 3Ph	-	
P034	20019971	Fuse Cutout – 3Ph	-	
P370-01	17027696	Fuse Cutout – 3Ph	-	
P022	20018910	Fuse Cutout – 2Ph	-	

P025	20018913	Fuse Cutout – 2Ph	- projects 751655	[redacted]
Total Fuse Cutout			**-**	**7**
Total			**1**	**8**

provide reliability and

Concrete Base Description 2501-01	Diameter (in.)	Length (ft.)	Precast Concrete Foundation Quantity	Cubic Yards
Precast Concrete Base for 50' Pole	40	14.5	50	168.2

*Precast Concrete Base Volume Formula / 50' or 60'-S8.5 = {[(p*1.66^2*14.5) - (p*1.1^2 *9.8)] / 27} = 3.35CY

Note: FEMA 428 PA FCE considered 20 concrete cubic yards per mile. Feeder 2501-01 include 8.41 miles x 20 CY per mile = **168.2 CY (428 PA)**. To comply with a design that withstands sustained winds of 160mph caused by hurricane conditions, additional cubic yards are considered as 406 Hazard Mitigation (HM).

Conductor Description 2501-01		
556.5 ACSR Conductor	**652.4 AAAC Conductor**	**1/0 Cu Conductor**
5.30 wire miles (w.miles)	29.08 wire miles (w.miles)	3.96 wire miles (w. miles)

Note: As discussed with FEMA on 12/16/2025 meeting, conductor 556.5 AAAC is not mechanically and electrically compatible with neither 556.5 ACSR nor 652.4 AAAC. As a HM initiative, for feeder segments located more than 1 mile from seashore, 428 PA will install a 556.5 ACSR conductor. For segments located one mile or less from the seashore line, 428 will install 652.4 AAAC. 406 HM will replace 556.5 ACSR conductors of segments located further than one mile from the seashore line and upgrade it with a 652.4 AAAC conductor (of the same gauge).

Guy Wires 2501-01	
Feeder	**1/2" Guy wires Quantity**
2501-01	53

For detailed information on Feeder 2501-01 please refer to Appendix R- IFC Proposed Pole Schedule 2501-01

Fiber Optic* 2501-01	
Fiber Optic Description	Replacement Quantity
Armored 96 SMF (Existing 48 SMF to be upgraded with an armored 96 SMF)	5.48 M.L.F.
96 SMF (Existing 48 SMF to be upgraded with a 96 SMF)	0.73 M.L.F.
Armored 48 SMF	33.24 M.L.F.
12 SMF	4.26 C.L.F.

*Fiber Optic loop = 51,536 ft (Include 11,660 ft 48 SMF from 406 HM).

SMF = Single Mode Fiber; M.L.F = Thousand Linear Feet; C.L.F = Hundred Linear Feet.

Note: As agreed regarding the transmission system, 406 HM will fund the installation of the additional 48-strand fiber optic cable (same size as the existing one) for the full operation of the Vieques and Culebra Microgrids (Reclosers and PMU's). However, the subrecipient, as a final recovery solution and using 428 PA funds, will increase the size of the cable from 48 to 96 SMF to gain additional capacity for operational improvements (other technology to support system observability, cameras, etc.).

Pole Replacement 2501-02

Feeder	Poles to Be Removed	§ 428 Pole of the Fixed Cost Estimate (FCE) (refer below to Proposed Section 406 Hazard Mitigation Scope of Work, Poles and Hardware HM section of this DSOW for description and quantities of poles that areproposed as §406)	Quantity (Ea.)
2501-02	30 ft Wood	Poles to be replaced by electrical utility pole, 40ft round galvanized Steel	2
2501-02	30 ft Concrete	Poles to be replaced by electrical utility pole, 40ft round galvanized Steel	1
2501-02	35 ft Steel	Poles to be replaced by electrical utility pole, 40ft round galvanized Steel	1
2501-02	40 ft Wood	Poles to be replaced by electrical utility pole, 50ft round galvanized Steel	26
2501-02	40 ft Concrete	Poles to be replaced by electrical utility pole, 50ft round galvanized Steel	90
2501-02	40 ft Concrete	Poles to be replaced by electrical utility pole, 55ft round galvanized Steel	4
2501-02	40 ft Concrete	Poles to be replaced by electrical utility pole, 60ft round galvanized Steel	3
2501-02	40 ft Steel	Poles to be replaced by electrical utility pole, 50ft round galvanized Steel	4
2501-02	45 ft Wood	Poles to be replaced by electrical utility pole, 50ft round galvanized Steel	2
2501-02	45 ft Concrete	Poles to be replaced by electrical utility pole, 50ft round galvanized Steel	4
2501-02	45 ft Concrete	Poles to be replaced by electrical utility pole, 55ft round galvanized Steel	1
2501-02	45 ft Concrete	Poles to be replaced by electrical utility pole, 60ft round galvanized Steel	5
2501-02	45 ft Steel	Poles to be replaced by electrical utility pole, 50ft round galvanized Steel	36
2501-02	50 ft Wood	Poles to be replaced by electrical utility pole, 50ft round galvanized Steel	1
Total			**180**

New Poles 2501-02		
Feeder	**New Pole to be Added**	**Quantity**
2501-02	Poles to be installed, electrical utility pole, 40ft round galvanized Steel	1
2501-02	Poles to be installed, electrical utility pole, 50ft round galvanized Steel	3
Total		**4**

Pole to Remove 2501-02

Feeder	Pole to Remove	Quantity
2501-02	30 ft Wood	2
2501-02	30 ft Steel	1
2501-02	40 ft Concrete	1
2501-02	40 ft Steel	1
2501-02	45 ft Wood	2
Total		**7**

Pole to Remain 2501-02		
Feeder	**Pole to Remain**	**Quantity**
2501-02	45 ft Concrete	15
Total		**15**

Steel Galvanized Transformers 2501-02	Interconnection Voltage	Quantity
37.5 kVA	2.4 kV	4
50 kVA	2.4 kV	8
37.5 kVA	4.16 kV	2
50 kVA	4.16 kV	9
Total		**23**

Capacitors Banks 2501-02	Pole Id	Coordinates	Capacity (kVAR)
Capacitor Banks - 3Ø Capacity	P502	[redacted]	150
Total			**1**

Reclosers 2501-02				
Pole ID	**Pole FID**	**Description**	**1kVA Transformer**	**Coordinates**
P474	17026900	Three-Phase Automatic Recloser	1	[redacted]
Total Three-Phase Automatic Reclosers			**1**	**1**
P434-01	19682183	Fuse Cutout – 3Ph	-	[redacted]
P468	19681021	Fuse Cutout – 3Ph	-	
P441-01	1001727924	Fuse Cutout – 2Ph	-	
Total Fuse Cutout			**-**	**3**
Total			**1**	**4**

Concrete Base Description 2501-02	Diameter (in.)	Length (ft.)	Precast Concrete Foundation Quantity	Cubic Yards
Precast Concrete Base for 50' Pole	40	14.5	38	128

*Precast Concrete Base Volume Formula / 50' or 60'-S8.5 = {[(p*1.66^2*14.5) - (p*1.1^2 *9.8)] / 27} = 3.35CY

Note: FEMA 428 PA FCE considered 20 concrete cubic yards per mile. Feeder 2501-02 include 20 CY/miles x 6.40 miles = **128 CY (428 PA)**. To comply with a design that withstands sustained winds of 160mph caused by hurricane conditions, additional cubic yards are considered as 406 Hazard Mitigation (HM).

Conductor Description 2501-02		
556 ACSR Conductor	652.4 AAAC Conductor	1/0 Cu Conductor
5.7 wire miles (w.miles)	21.08 wire miles (w.miles)	2.39 wire miles (w. miles)

Note: As discussed with FEMA on 12/16/2025 meeting, conductor 556.5 AAAC is not mechanically and electrically compatible with either 556.5 ACSR nor 652.4 AAAC. As a HM initiative, for feeder segments located more than 1 mile from seashore, 428 PA will install a 556.5 ACSR conductor. For segments located one mile or less from the seashore line, 428 will install 652.4 AAAC. 406 HM will replace 556.5 ACSR conductors of segments located further than one mile from the seashore line and upgrade it with a 652.4 AAAC conductor (of the same gauge).

Guy Wires 2501-02	
Feeder	1/2" Guy wires Quantity
2501-02	51

For detailed information on Feeder 2501-02 please refer to Appendix S - IFC Proposed Pole Schedule 2501-02

Fiber Optic* 2501-02	
Fiber Optic Description	Replacement Quantity
Armored 144 SMF (Existing underground 48 SMF to be upgraded with a 144 SMF)	0.97 M.L.F.
144 SMF (Existing underground 48 SMF to be upgraded with a 144 SMF)	0.60 M.L.F.
96 SMF (Existing 48 SMF to be upgraded with a 96 SMF)	13.91 M.L.F.
96 SMF (New 48 SMF (406 HM) to be upgraded with a 96 SMF)	24.55 M.L.F.
12 SMF	50.04 C.L.F.

*Fiber Optic loop = 45,034 ft. (Include 24,550 ft 48 SMF from 406 HM).

SMF = Single Model Fiber; M.L.F = Thousand Linear Feet; C.L.F = Hundred Linear Feet.

Note: As agreed for the transmission system, 406 HM will fund the installation of the additional 48-strand fiber optic cable (same size as the existing one) for the full operation of the Vieques and Culebra Microgrids (Reclosers and PMU's Connections). However, the subrecipient, as a final recovery solution and using 428 PA funds, will increase the size of the cable from 48 to 96 SMF and/or 144 SMF to gain additional capacity for operational improvements (other technology to support system observability, cameras, etc.).

Pole Replacement 2501-03			
Feeder	Poles to Be Removed	§ 428 Pole of the Fixed Cost Estimate (FCE) (Refer below to Proposed Section 406 Hazard Mitigation Scope of Work, Poles and Hardware HM section of this DSOW for description quantities of poles that are proposed as §406)	Quantity (Ea
2501-03	35 ft Steel	Poles to be replaced by electrical utility pole, 40ft round galvanized Steel	1

2501-03	35 ft Wood	Poles to be replaced by electrical utility pole, 50ft round galvanized Steel	1
2501-03	35 ft Concrete	Poles to be replaced by electrical utility pole, 50ft round galvanized Steel	1
2501-03	40 ft Wood	Poles to be replaced by electrical utility pole, 50ft round galvanized Steel	17
2501-03	40 ft Concrete	Poles to be replaced by electrical utility pole, 50ft round galvanized Steel	28
2501-03	40' Steel	Poles to be replaced by electrical utility pole, 50ft round galvanized Steel	6
2501-03	40 ft Steel	Poles to be replaced by electrical utility pole, 55ft round galvanized Steel	1
2501-03	45 ft Wood	Poles to be replaced by electrical utility pole, 50ft round galvanized Steel	7
2501-03	45 ft Concrete	Poles to be replaced by electrical utility pole, 50ft round galvanized Steel	4
2501-03	45 ft Concrete	Poles to be replaced by electrical utility pole, 60ft round galvanized Steel	1
2501-03	45 ft Steel	Poles to be replaced by electrical utility pole, 50ft round galvanized Steel	18
2501-03	45' Steel	Poles to be replaced by electrical utility pole, 55ft round galvanized Steel	1
2501-03	50 ft Wood	Poles to be replaced by electrical utility pole, 50ft round galvanized Steel	1
Total			**87**

New Poles 2501-03		
Feeder	**New Pole to be Added**	**Quantity**
2501-03	Poles to be installed, electrical utility pole, 50ft round galvanized Steel	7
Total		**7**

Pole to be Removed 2501-03		
Feeder	**Pole to be Removed**	**Quantity**
2501-03	30 ft Wood	3
2501-03	35 ft Steel	1
2501-03	40 ft Steel	1
2501-03	45 ft Steel	4
2501-03	45 ft Concrete	1
2501-03	50 ft Concrete	2
Total		**12**

Pole to Remain 2501-03

Feeder	Pole to Remain	Quantity
2501-03	45 ft Concrete	2
Total		**2**

Steel Galvanized Transformers 2501-03	Interconnection Voltage	Quantity
50 kVA	2.4 kV	5
37.5 kVA	4.16kV	1
50 kVA	4.16kV	22
75 kVA	4.16kV	1
Total		**29**

Reclosers 2501-03				
Pole ID	**Pole FID**	**Description**	**1kVA Transformer**	**Coordinates**
P620	17792194	Three-Phase Automatic Recloser	1	[redacted]
Total Three Phase Automatic Reclosers			**1**	
P637	17794372	Fuse Cutout – 3Ph	-	
P648	19682110	Fuse Cutout – 3Ph	-	
P635-01	17794041	Fuse Cutout – 2Ph	-	
Total Fuse Cutout			**-**	**3**
Total			**1**	**4**

Concrete Base Description 2501-03	Diameter (in.)	Length (ft.)	Precast Concrete Foundation Quantity	Cubic Yards
Precast Concrete Base for 50' Pole	40	14.5	14	48.8

*Precast Concrete Base Volume Formula / 50' or 60'-S8.5 = {[(p*1.66^2*14.5) - (p*1.1^2 *9.8)] / 27} = 3.35CY

Note: FEMA 428 PA FCE considered 20 concrete cubic yards per mile. Feeder 2501-03 includes 20 CY/miles x 2.44 miles = **48.8 CY (428 PA)**. To comply with a design that withstands sustained winds of 160mph caused by hurricane conditions, additional cubic yards are considered as 406 Hazard Mitigation (HM).

Conductor Description 2501-03			
556 ACSR Conductor	**652.4 AAAC Conductor**	**652.4 AAAC with cover**	**1/0 Cu Conductor**
-	8.74 wire miles (w.miles)	0.97 wire miles (w.miles)	2.41 wire miles (w.miles)

Guy Wires 2501-03	
Feeder	**1/2" Guy wires Quantity**
2501-03	37

For detail information on Feeder 2501-03 please refer to Appendix T- IFC Proposed Pole Schedule 2501-03

Fiber Optic* 2501-03

Fiber Optic Description	Replacement Quantity
48 SMF	12.93 M.L.F.
12 SMF	21.75 C.L.F.

*Fiber Optic loop = 15,735 ft (Include 630 ft 48 SMF from 406 HM).

SMF = Single Model Fiber; M.L.F = Thousand Linear Feet; C.L.F = Hundred Linear Feet.

Note: As agreed for the transmission system, 406 HM will fund the installation of the additional 48-strand fiber optic cable (same size as the existing one) for the full operation of the Vieques and Culebra Microgrids (Reclosers and PMU's Connections).

Pole Replacement 3801-01			
Feeder	**Poles to Be Removed**	**§ 428 Pole of the Fixed Cost Estimate (FCE)** (refer below to Proposed Section 406 Hazard Mitigation Scope of Work, Poles and Hardware HM section of this DSOW for description and quantities of poles that are proposed as §406)	**Quantity (Ea.)**
3801-01	30 ft Wood	Poles to be replaced by electrical utility pole, 40ft round galvanized Steel	3
3801-01	35 ft Steel	Poles to be replaced by electrical utility pole, 40ft round galvanized Steel	1
3801-01	35 ft Wood	Poles to be replaced by electrical utility pole, 50ft round galvanized Steel	1
3801-01	40 ft Steel	Poles to be replaced by electrical utility pole, 50ft round galvanized Steel	12
3801-01	40 ft Wood	Poles to be replaced by electrical utility pole, 50ft round galvanized Steel	23
3801-01	40 ft Concrete	Poles to be replaced by electrical utility pole, 50ft round galvanized Steel	5
3801-01	40 ft Concrete	Poles to be replaced by electrical utility pole, 60ft round galvanized Steel	2
3801-01	45 ft Steel	Poles to be replaced by electrical utility pole, 50ft round galvanized Steel	11
3801-01	45 ft Wood	Poles to be replaced by electrical utility pole, 50ft round galvanized Steel	5
3801-01	45 ft Wood	Poles to be replaced by electrical utility pole, 85ft round galvanized Steel	1
3801-01	45' Concrete	Poles to be replaced by electrical utility pole, 50ft round galvanized Steel	5
3801-01	70 ft Wood	Poles to be replaced by electrical utility pole, 50ft round galvanized Steel	1
Total			**70**

New Poles 3801-01

Feeder	New Pole to be Added	Quantity
3801-01	Poles to be installed, electrical utility pole, 50ft round galvanized Steel	14
Total		**14**

Pole to be Removed 3801-01		
Feeder	**Pole to be Removed**	**Quantity**
3801-01	30 ft Wood	1
3801-01	35 ft Steel	1
3801-01	45 ft Concrete	1
Total		**3**

Pole to Remain 3801-01		
Feeder	**Pole to Remain**	**Quantity**
3801-01	45 ft Concrete	3
3801-01	50 ft Concrete	1
Total		**4**

Steel Galvanized Transformers 3801-01	Interconnection Voltage	Quantity
37.5 kVA	2.4 kV	2
50 kVA	2.4 kV	4
37.5 kVA	4.16 kV	6
50 kVA	4.16 kV	6
Total		**18**

Capacitors Banks 3801-01	Pole Id	Coordinates	Capacity (kVAR)
Capacitor Banks - 3Ø Capacity	P118	[redacted]	150
Total			**1**

Reclosers 3801-01			
Pole ID	**Pole FID**	**Description**	**Coordinates**
P111	17800823	Fuse Cutout – 3 Ph	[redacted]
P139.1	New	Fuse Cutout – 3 Ph	[redacted]
Total Fuse Cutout			**2**

Concrete Base Description 3801-01	Diameter (in.)	Length (ft.)	Precast Concrete Foundation Quantity	Cubic Yards
Precast Concrete Base for 50 ft Pole	40	14.5	12	42

*Precast Concrete Base Volume Formula / 50' or 60'-S8.5 = {[(p*1.66^2*14.5) – (p*1.1^2 *9.8)] / 27} = 3.35CY

Note: FEMA 428 PAFCE considered 20 concrete cubic yards per mile. Feeder 3801-01 include 20 CY/miles x 2.10 miles = **42 CY (428 PA)**. To comply with a design that withstands sustained winds of 160mph caused by hurricane conditions, additional cubic yards are being considered as 406 Hazard Mitigation (HM).

Conductor Description 3801-01
1/0 CU Conductor
9.59 wire miles (w.miles)

Guy Wires 3801-01	
Feeder	**1/2" Guy wires Quantity**
3801-01	38

For detail information on Feeder 3801-01 please refer to Appendix U – IFC Proposed Pole Schedule 3801-01

Fiber Optic* 3801-01	
Fiber Optic Description	Replacement Quantity
Armored 48 SMF	0.25 M.L.F.
48 SMF	0.80 M.L.F.
12 SMF	10.20 C.L.F.

*Fiber Optic loop = 14,470 ft (Include 12,400 ft 48 SMF from 406 HM).

SMF = Single Model Fiber; M.L.F = Thousand Linear Feet; C.L.F = Hundred Linear Feet.

Note: As agreed for the transmission system, 406 HM will fund the installation of the additional 48-strand fiber optic cable (same size as the existing one) for the full operation of the Vieques and Culebra Microgrids (Reclosers and PMU's connections).

Pole Replacement 3801-02			
		§ 428 Pole of the Fixed Cost Estimate (FCE) (refer below to Proposed Section 406 Hazard Mitigation Scope of Work, Poles and Hardware HM section of this DSOW for description and quantities of poles that are proposed as §406)	
Feeder	**Poles to Be Removed**		**Quantity (Ea**
3801-02	30 ft Wood	Poles to be replaced by electrical utility pole, 40ft round galvanized Steel	2
3801-02	30 ft Wood	Poles to be replaced by electrical utility pole, 50ft round galvanized Steel	1
3801-02	35 ft Concrete	Poles to be replaced by electrical utility pole, 50ft round galvanized Steel	1
3801-02	35 ft Wood	Poles to be replaced by electrical utility pole, 50ft round galvanized Steel	4
3801-02	40 ft Concrete	Poles to be replaced by electrical utility pole, 50ft round galvanized Steel	97
3801-02	40 ft Concrete	Poles to be replaced by electrical utility pole, 55ft round galvanized Steel	1
3801-02	40 ft Steel	Poles to be replaced by electrical utility pole, 50ft round galvanized Steel	5

3801-02	40 ft Wood	Poles to be replaced by electrical utility pole, 50ft round galvanized Steel	2
3801-02	45 ft Concrete	Poles to be replaced by electrical utility pole, 50ft round galvanized Steel	19
3801-02	45 ft Steel	Poles to be replaced by electrical utility pole, 50ft round galvanized Steel	7
3801-02	45 ft Wood	Poles to be replaced by electrical utility pole, 50ft round galvanized Steel	3
Total			**142**

New Poles 3801-02		
Feeder	**New Pole to be Added**	**Quantity**
3801-02	Poles to be installed, electrical utility pole, 40ft round galvanized Steel	1
3801-02	Poles to be installed, electrical utility pole, 50ft round galvanized Steel	13
Total		**14**

Pole to be Removed 3801-02		
Feeder	**Pole to be Removed**	**Quantity**
3801-02	35 ft Wood	1
3801-02	35 ft Steel	3
Total		**4**

Pole to Remain 3801-02		
Feeder	**Pole to Remain**	**Quantity**
3801-02	40 ft Concrete	1
3801-02	45 ft Concrete	23
3801-02	50 ft Concrete	2
Total		**26**

Steel Galvanized Transformers 3801-02	**Interconnection Voltage**	**Quantity**
37.5 kVA	2.4 kV	6
50 kVA	2.4 kV	8
37.5 kVA	4.16 kV	6
50 kVA	4.16 kV	1
Total		**21**

Capacitors Banks 3801-02	**Pole Id**	**Coordinates**	**Capacity (kVAR)**

Capacitor Banks - 3Ø Capacity	P231	[redacted]	150
Total			**1**

Reclosers 3801-02				
Pole ID	**Pole FID**	**Description**	**1 kVA Transformer**	**Coordinates**
P220	17796397	Three-Phase Automatic Recloser	1	[redacted]
Total Three Phase Automatic Reclosers			**1**	**1**
P235	17797175	Fuse Cutout – 3Ph	-	[redacted]
P291	17798234	Fuse Cutout – 3Ph	-	
P292	17798356	Fuse Cutout – 3Ph	-	
P313	17798793	Fuse Cutout – 3Ph	-	
P334	17799049	Fuse Cutout – 3Ph	-	
Total Fuse Cutout			**-**	**5**
Total			**1**	**6**

Concrete Base Description 3801-02	**Diameter (in.)**	**Length (ft.)**	**Precast Concrete Foundation Quantity**	**Cubic Yards**
Precast Concrete Base for 50' Pole	40	14.5	24	80.8

*Precast Concrete Base Volume Formula / 50' or 60'-S8.5 = {[(p*1.66^2*14.5) - (p*1.1^2 *9.8)] / 27} = 3.35CY

Note: FEMA 428 PA FCE considered 20 concrete cubic yards per mile. Feeder 3801-02 includes 20 CY/miles x 4.04 miles = **80.8 CY (428 PA)**. To comply with a design that withstands sustained winds of 160mph caused by hurricane conditions, additional cubic yards are considered as 406 Hazard Mitigation (HM).

Conductor Description 3801-02	
652.4 AAAC	**1/0 CU**
7.91 wire miles (w.miles)	12.6 wire miles (w.miles)

Guy Wires 3801-02	
Feeder	**1/2" Guy wires Quantity**
3801-02	47

For detailed information on Feeder 3801-02 please refer to Appendix V - IFC Proposed Pole Schedule 3801-02

Fiber Optic* 3801-02	
Fiber Optic Description	Replacement Quantity
Armored 96 SMF	2.95 M.L.F.
96 SMF (Existing 48 SMF to be upgraded with a 96 SMF)	10.94 M.L.F.
96 SMF (New 48 SMF (406 HM) to be upgraded with a 96 SMF)	12.98 M.L.F.
12 SMF	6.44 C.L.F.

*Fiber Optic loop = 27,514 ft. (Include 12,980 ft 48 SMF from 406 HM).

SMF = Single Model Fiber; M.L.F = Thousand Linear Feet; C.L.F = Hundred Linear Feet.

Note: As agreed for the transmission system, 406 HM will fund the installation of the additional 48-strand fiber optic cable (same size as the existing one) for the full operation of the Vieques and Culebra Microgrids (Reclosers and PMU's connections). However, the subrecipient, as a final recovery solution and using 428 PA funds, will increase the size of the cable from 48 to 96 SMF to gain additional capacity for operational improvements (other technology to support system observability, cameras, etc.).

DISTRIBUTION LINE REPLACEMENT:

- Installation of additional steel poles to comply with structure loading cases along the feeder backbones. For some cases where additional poles are installed, it could be necessary to relocate the adjacent poles to comply with structure loading cases.
- Replacement of existing transformers with new stainless-steel units with their respective capacity.
- Transformers will be replaced with 37.5KVA, 50KVA and 75KVA are the Current Consensus Based Code and Standard replacement.
- Replacement of existing conductors per LUMA specification.
- Replacement of existing poles with streetlighting including a new luminaire.
- Replacement of existing capacitor banks.
- Replacement of all distribution equipment including disconnect switches, fuse cutout, surge arrester, crossarms, pole insulator, suspension insulators, service drop, secondary lines, tap conductor (first span), etc. in compliance with LUMA Overhead Electrical Distribution System Manual included on the Applicant Event Profile in Grants Portal.
- Installation of communication cables in all backbone. Also, the installation along the backbone of an additional underbuilt communication cable for interconnection with the pole breakers or any other LUMA equipment.
- Retirement and disposal of the existing distribution lines facilities with their related components.
- Soil boring or testing to ensure conditions are suitable for installation of structures/poles or underground cable systems.
- All the work to be completed will be in the current utility easement or easement to be constituted, due to feeder relocation.

POLE REPLACEMENT:

- Remove existing poles, including hardware and install new poles, with hardware, in the same location.
- All pole installations are to replace on the 10 feet range, new locations are included in this scope of work. Depths of the poles to be installed are provided.
- Remove the existing foundations and replace them with a new concrete foundation base. Refer to Appendix H - Staging Areas, Access Rd – Vegetation Management & Ground Distr, underground disturbance calculation data. The maximum auger width used is 48".
- New guy wire/ anchors are to be installed in compliance with LUMA Overhead Electrical Distribution System Manual included on the Applicant Event Profile in Grants Portal, at the point on the pole closet to the center of the load from the conductors, and within the easement.
- Vegetation clearance will be performed solely to the extent that it allows crews to conduct work and will be limited to a 10 ft radius surrounding the surface of the pole, but not to exceed the width of the easement. This is for the exclusive purpose of gaining access to the pole to conduct repairs. The costs related to vegetation clearance procedures are covered in project FAASt #727691 (Vegetation). The vegetation removal process will be managed in accordance with federal and state regulations.
- This scope of work will not affect water or sewer utility services.

DETAIL DESCRIPTION FOR PLANNED FIELD WORK SCOPE NOTES:

A) Trenching/Underground (Underground Circuit)

- Install new trenching within our existing 10' electrical easement or public domain. The trench's dimensions are described by LUMA, which states the typical trench width is 22 inches and the typical trench depth is 48 inches.

Feeder	Municipality	Propose	Location Start	Location End	Under Gr
2501-03	Vieques	New construction required to [redacted]			1049
		comply with right			
		of way clearance			

3801-02	Culebra	Underground near to the airport approach landing area	[redacted]		1,325

For additional information, please refer to Appendix K & L Under Ground Design and Attachment H – Staging Area, Access Rd – Vegetation Management & Ground Distr.

B) Material Disposal

- Polychlorinated biphenyl (PCBs), oil from the transformer and breakers, sealants, and other chemical wastes typical of a construction site are considered hazardous waste and will be disposed of by the contractor in approved facilities as per applicable local regulations.
- The type of debris in the process of removal are luminaires, pole arms, photocells, metal scrap, wiring, concrete, steel, and wood poles, etc. The debris will be separated and taken to an approved waste disposal facility in compliance with applicable local regulations.
- Photocells are considered universal waste and will be disposed of by the contractor in authorized facilities in compliance with applicable federal and local laws and regulations. Material amounts will be provided by a certified management contractor performing a site evaluation calculation for asbestos, lead paint, and roof material.
- Material amounts will be provided by a certified management contractor performing a site evaluation calculation for asbestos, lead paint, and roof material as needed.

C) Transformers will be contained and returned to LUMA (Technica de Vieques, [redacted]) (Technica de Culebra [redacted]) in compliance with applicable federal and local regulations. The removal of the transformer will require testing of the existing oil for PCB levels, drain oil, and delivery to the approved waste disposal site.

D) Access Roads

- Poles are near the roads and are site accessible. The construction of access roads is not required for this scope of work

E) Staging Area

- Staging area requirements in Vieques and Culebra islands were considered for both the new equipment to be installed and the equipment that will be retired. Also, an area for the administrative offices, and construction heavy equipment storage is considered as shown in *Appendix H – Staging Area, Access Rd – Vegetation Management & Ground Distr.*

Staging Area	Municipality	Feder	Coordinates	Description	Parcel Number/Owner
1	Vieques	2501-01 2501-02 2501-03	[redacted]	BO PUERTO FERRO, 00765, Vieques Puerto Rico Proposed Temporary Staging Area: 5,891 m2	457-000-007-10 / ALMACEN MORALES INC.
2	Vieques	2501-01 2501-02 2501-03		BO LUJAN , CARR 997 KM.HM 2.4, PR, Puerto Rico, 00000, Vieques Proposed Temporary Staging: 4,336 m²	462-000-003-02 / Municipio de Vieques
3	Culebra	3801-01 3801-02		BO PLAYA SARDINAS, 00775, Culebra Puerto Rico Proposed Temporary Staging Area: 4,918 m2	476-000-001-16 / CARMEN GEORGINA GONZALEZ MARTINEZ
4	Culebra	3801-01 3801-02		BO LA ROMANA , ., PR, Puerto Rico, 00000, Culebra Proposed Temporary Staging Area: 5,445 m²	476-000-003-01 / Casellas Marquez Juan

F) Fill, gravel, sand, etc.:

- Fill, Gravel, and Sand materials will be obtained from an approved supplier as referenced in LUMA Vendor Directory List included on the Applicant Event Profile in Grants Portal.

G) List of Equipment to be used:

- Skid Steer, Excavator, Dump trucks, Manlifts, 120-Ton Motor Crane, Boom Trucks 45-ton Crane, Zoom Boom, Air compressor,

Truck Digger, Water truck, Pump Truck, Concrete Vibrator, Oil Tanker, Filtering Machine and Flatbed platform.

- Vegetation will be removed utilizing machete, chainsaw, electric pruner, telescopic pole pruner, bucket truck, and/or chipper.

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

H) Water Quality

- The proposed action will result in minor, short-term and negligible, impacts to water quality. The erosion and sedimentation control measures will be installed to protect any water body, as required by applicable state and federal regulations.

I) Erosion Control

- Install any required temporary erosion control and protection measures to mitigate erosion or environmental risk as required by local and federal regulatory agencies prior to construction activities.

J) Cultural Resources

- The proposed action would comply with Section 106 and the requirements of the Project Specific Programmatic Agreement. In the event that unexpected cultural resources are discovered at any time within the project area, work shall cease in the immediate vicinity of such discoveries and notify the agencies.

K) Endangered Species

- The project would comply with Section 7 of the Endangered Species Act.

L) Best Management Practices (BMPs)

- Best Management Practices (BMPs) and notification conditions and reporting requirements will be implemented.

M) Specific List of Permits Required:

- DTOP Endorsements & Municipality Notifications
  - Excavation and Demolition Notification in Department of Transportation and Public Works Agency - (DTOP)
- LUMA will provide proof of all permits.

PROJECT ESTIMATE:

The estimated costs (Class 3 Accuracy +/-30%) to complete the project are captured in the table below. The cost estimate was developed utilizing preliminary Architectural and Engineering design information and may be subject to change. LUMA has allocated 10% of the project cost for the mitigation of potential known risks. For more detail, please refer to *Appendix F LUMA LPCE Rev 7.*

COST ESTIMATE			
Cost Element	**428**	**406**	**PROJECT TOTAL**
PLANNING	**$ 6,178,920.06**	**$ 982,554.26**	**$ 7,161,474.32**
(A&E) Permit t ing and Assessment s	$ 428,983.27	$ 68,215.69	$ 497,198.96
(A&E) Environmental Documentation & Management	$ 1,738,214.14	$ 276,405.86	$ 2,014,620.00
(A&E) Engineering Services & Design	$ 4,011,722.65	$ 637,932.71	$ 4,649,655.36
MANAGEMENT	**$ 2,700,743.41**	**$ 429,464.51**	**$ 3,130,207.92**
(A&E) Design Dev elopment Project Management A&E	$ 113,516.50	$ 18,051.07	$ 131,567.57
(A&E) - Design Lodging & Per Diem A&E	$ 11,663.62	$ 1,854.71	$ 13,518.33
Project Management	$ 643,260.18	$ 102,289.40	$ 745,549.58
Construction Management	$ 1,009,035.57	$ 160,453.96	$ 1,169,489.53
Contracting, Procurement & Contract Administration	$ 418,749.76	$ 66,588.39	$ 485,338.15
Projects Controls (Scheduling, Est imat ing, Support, Cost Cont rol, Risk, Document Cont rol & Report ing)	$ 504,517.78	$ 80,226.98	$ 584,744.76
Vieques and Culebra Distribution Feeders - 2501-01, 2501-02, 2501-03, 3801-01, 3801-02, FAAST #: 165226	**$ 52,237,909.23**	**$ 8,307,929.18**	**$ 60,545,838.41**
Vieques and Culebra Distribution Feeders - 2501-01, 2501-02, 2501-03, 3801-01, 3801-02, FAAST #: 165226, material, labor and equipment.	$ 43,296,150.59	$ 6,925,967.10	$ 50,222,117.69
Start Up/Commissioning	$ 649,974.65	$ 103,357.11	$ 753,331.76
Const ruct ion Trespass	$ 251,110.58	$ -	$ 251,110.58
Transport at ion Expenses	$ 216,658.21	$ 34,452.37	$ 251,110.58
Securit y (Field 24 hr)	$ 389,984.79	$ 62,014.26	$ 451,999.05
Insurance	$ 875,299.19	$ 139,187.58	$ 1,014,486.77
Contingency	$ 5,045,177.86	$ 802,269.82	$ 5,847,447.68

Escalat ion	$ 1,513,553.36	$ 240,680.94	$ 1,754,234.30
GENERAL CONDITIONS	**$ 2,604,363.11**	**$ 414,138.39**	**$ 3,018,501.50**
Sales Tax	$ 437,780.95	$ 69,614.67	$ 507,395.62
Municipal Const ruct ion Tax	$ 2,166,582.16	$ 344,523.72	$ 2,511,105.88
COST TOTALS	**$ 63,721,935.81**	**$ 10,134,086.34**	**$ 73,856,022.15**
DEDUCTIONS	**TOTAL INSURANCE PROCEEDS RECEIVED**		**$ -**
	DE-OBLIGATION TO FAASt IF APPLICABLE?		**$ -**
	FAAST PROJECT #: 165226 - 428		$ 54,042,602.21
	FAAST PROJECT #: 165226 - 406 HM		$ 10,134,086.34
	FAAST PROJECT #: 165226 TOTAL:		**$ 64,176,688.55**
	FAASt A&E # 335168 - 428		$ 6,304,100.18
	FAASt A&E # 335168 - 406 HM		$ 1,002,460.04
	FAASt A&E # 335168 TOTAL		**$ 7,306,560.22**
	FAASt E&M #673691 - 428		$ 3,375,233.42
	FAASt E&M #673691 - 406 HM		$ 1,607,111.87
	FAASt E&M #673691 TOTAL		**$ 4,982,345.29**
FAASt ALLOCATIONS			

Work to be Completed (WTBC): $63,721,935.81

A&E Deduction (Global A&E FAASt 335168): -$6,304,100.18

E&M Deduction (673691) 428: -$3,375,233.42

Project Total Cost: $54,042,602.21

Project Cost Estimate Notes:

1. Refer to detailed SOW provided in document labeled: “165226-DR4339PR-Automation Feeders Vieques & Culebra-Detailed Scope of Work Rev. 7.pdf”
2. Refer to detailed Cost Estimate provided in document labeled: “165226-DR4339PR-Automation Feeders Vieques & Culebra-APPENDIX F - LUMA LPCE_Rev. 7.xlsx”
3. A&E cost included in this project will be reduced from this project and obligated under the FAASt Project #335168, A&E, as shown in the table above. The A&E project was obligated to track and account for costs associated with individual FAASt projects.
4. Equipment and material costs included in this project will be reduced from this project and obligated under FAASt Project #673691, Equipment and Materials, as shown in the table above. Only the base cost of equipment and/or material will be reduced from this project (not labor). All costs associated with Planning, Management, General Conditions, and Contingencies will remain in this project.
5. This project is part of Donor FAASt 136271 – MEPA078 Puerto Rico Electrical Power Authority (PREPA) Island Wide FAASt Project.
6. Attachments:

a. APPENDIX AA - BA82-Conductor-Price-Sheet

b. APPENDIX AB - REF-15 ABB PMU Quote

c. APPENDIX B - Initial SOW A

d. PPENDIX C - Maps and Pictures

e. APPENDIX F - LUMA LPCE_Rev. 7

f. APPENDIX G - IFC Proposed KMZ 3801-02

g. APPENDIX H – Staging Area, Access Rd – Vegetation Management & Ground Distr.

h. APPENDIX I - 3801 IFC Proposed Culebra Drawings

i. APPENDIX J - 2501 IFC Proposed Design Vieques

j. APPENDIX K - IFC Culebra 3801 Underground Proposed Design

k. APPENDIX L - IFC Vieques 2501 Underground Proposed Design

l. APPENDIX M - 2501-01 Project Consideration

m. APPENDIX N – IFC Proposed kmz 2501-01

n. APPENDIX O – IFC Proposed kmz 2501-02

o. APPENDIX P - IFC Proposed KMZ 2501-03

p. APPENDIX Q - IFC Proposed KMZ 3801-01

q. APPENDIX R - IFC Proposed Pole Schedule 2501-01

r. APPENDIX S - IFC Proposed Pole Schedule 2501-02

s. APPENDIX T - IFC Proposed Pole Schedule 2501-03

t. APPENDIX U - IFC Proposed Pole Schedule 3801-01

u. APPENDIX V - IFC Proposed Pole Schedule 3801-02

v. APPENDIX W - 2501-02 Project Consideration

w. APPENDIX X - 2501-03 Project Consideration

x. APPENDIX Y - 3801-01 Project Consideration

y. APPENDIX Z - 3801-02 Project Consideration

406 HMP Scope

Project number: 165226; FAASt [Automation Feeders Vieques & Culebra] (Distribution)

Damage: 425142; FAASt [Feeder 2501-01, 2501-02, 2501-03, 3801-01, 3801-02 (Vieques and Culebra)] (Distribution)]

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

Location: Vieques and Culebra, Puerto Rico

GPS Latitude/Longitude: 1. Feeder 2501-01: Start: [redacted]; End: [redacted]. 2. Feeder 2501-02: Start: [redacted]; End: [redacted]. 3. Feeder 2501-03: Start: [redacted]; End: [redacted] 4. Feeder 3801-01: Start: [redacted]; End: [redacted]. 5. Feeder 3801-02: Start: [redacted] - [redacted]; End: [redacted]

Hazard Mitigation Narrative

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

Project Overview:

This project is part of the distribution-level initiatives of the Master Plan for Vieques and Culebra, designed to meet the immediate energy needs and provide long-term sustainability to both islands. These interconnected and inter-functional distribution feeders (Vieques 2501-01, 2501-02, 2501-03 and Culebra 3801-01, 3801-02) are part of the electrical distribution system and are located on the islands of Vieques and Culebra, Puerto Rico. The feeders originate at the Vieques Substation (2501) or Culebra Substation (3801) and serve customers along their routes to various locations. The reconstruction design covers a total of 23.39 miles of overhead distribution lines along the feeder backbone (BB) and 0.83 miles of underground lines for critical loads.

The project involves the installation of hardened poles and advanced technology equipment (specifically automatic reclosers and phasor management units (PMU's)) to reduce physical damage and service interruptions to the distribution grid that could be caused by a natural disaster. The implementation of reclosers and PMU's is essential for the Energy Management System ("EMS") and its associates components to operate at their full capabilities and mitigate loss of service and physical damage from future hurricanes. This project will assist the EMS in maintaining the continuity of the distribution power grid on Vieques and Culebra.

The objective of this project is to strengthen the electrical infrastructure and install real-time monitoring system to mitigate cascading effects and physical damage to critical components, protect federal investments, and reduce outage times to facilities. Key components of this project include: (1) pole hardening, (2) concrete foundations, (3) three-phase and single-phase (trip-server) reclosers, (4) PMU's/Line Sensors, and (5) undergrounding and redundancy systems for critical facilities (Hospitals, Airport, etc.).

Mitigation Approach:

The mitigation strategy to reduce or eliminate service interruption (outage), cascading effects and physical damage to critical components to the Vieques 2501-01, 2501-02, 2501-03 and Culebra 3801-01, 3801-02 feeders is accomplished through: replacing round galvanized steel poles with a 12-sided galvanized steel poles; replacing fuse cutouts and manual disconnect switches with a single-phase (trip-saver) and three-phase reclosers; installing phasor management units (PMU's) and line sensors (including 1kVA transformers to power the equipment); strengthening concrete foundations; replacing overhead aluminum conductor steel reinforced (ACSR) with all aluminum alloy conductor (AAAC) and galvanized steel transformer with stainless transformers on feeder segments located more than one (1) mile from seashore; completing the fiber-optic distribution system; and undergrounding critical facilities lines.

Hazard Mitigation Proposal (HMP) Scope of Work:

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

Mitigation Measures *(Replacement)*

a) Poles:

- To avoid damage in a future event, the Subrecipient proposes as a mitigation measure, increase the strength of the poles by replacing it with a 12-sided, tapered shaft distribution pole to mitigate future damage to the structure due to high wind. The above mitigation measures will protect and make the affected infrastructure more resistant, stronger, and resilient to similar hazards.

1. Feeder 2501-01:
   - Replace four (4) 45ft round galvanized steel poles with four (4) 45ft S-5.7 12-sided galvanized steel pole, tapered shaft distribution poles.
   - Replace two hundred twenty-nine (229) 50ft round galvanized steel poles with two hundred twenty-nine (229) 50ft S-8.5 12-sided galvanized steel pole, tapered shaft distribution poles.
   - Replace four (4) 60ft round galvanized steel poles with four (4) 60ft S-10 12-sided galvanized steel pole, tapered shaft distribution poles.
2. Feeder 2501-02:
   - Replace five (5) 40ft round galvanized steel poles with five (5) 40ft S-5.7 12-sided galvanized steel pole, tapered shaft distribution poles.
   - Replace one hundred sixty-six (166) 50ft round galvanized steel poles with one hundred sixty-six (166) 50ft S-8.5 12-sided galvanized steel pole, tapered shaft distribution poles.
   - Replace five (5) 55ft round galvanized steel poles with five (5) 55ft S-8.5 12-sided galvanized steel pole, tapered shaft distribution poles.
   - Replace eight (8) 60ft round galvanized steel poles with four (4) 60ft S8.5 and four (4) 60ft S-10 12-sided galvanized steel pole, tapered shaft distribution poles.
3. Feeder 2501-03:
   - Replace one (1) 40ft round galvanized steel poles with one (1) 40ft S-5.7 12-sided galvanized steel pole, tapered shaft distribution poles.
   - Replace ninety (90) 50ft round galvanized steel poles with ninety (90) 50ft S-8.5 12-sided galvanized steel pole, tapered shaft distribution poles.
   - Replace two (2) 55ft round galvanized steel poles with two (2) 55ft S-8.5 12-sided galvanized steel pole, tapered shaft distribution poles.
   - Replace one (1) 60ft round galvanized steel poles with one (1) 60ft S-8.5 12-sided galvanized steel pole, tapered shaft distribution poles.
4. Feeder 3801-01:
   - Replace four (4) 40ft round galvanized steel poles with four (4) 40ft S-5.7 12-sided galvanized steel pole, tapered shaft distribution poles.
   - Replace seventy-seven (77) 50ft round galvanized steel poles with seventy-seven (77) 50ft S-8.5 12-sided galvanized steel pole, tapered shaft distribution poles.
   - Replace two (2) 60ft round galvanized steel poles with two (2) 60ft S-10 12-sided galvanized steel pole, tapered shaft distribution poles.
   - Replace one (1) 85ft round galvanized steel poles with one (1) 85ft S-35 12-sided galvanized steel pole, tapered shaft distribution poles.
5. Feeder 3801-02:
   - Replace three (3) 40ft round galvanized steel poles with three (3) 40ft S-5.7 12-sided galvanized steel pole, tapered shaft distribution poles.
   - Replace one hundred fifty-two (152) 50ft round galvanized steel poles with one hundred fifty-two (152) 50ft S-8.5 12-sided galvanized steel pole, tapered shaft distribution poles.
   - Replace one (1) 55ft round galvanized steel poles with one (1) 55ft S-8.5 12-sided galvanized steel pole, tapered shaft distribution poles.

b) Single-Phase Reclosers (Trip-Savers):

- To avoid damage in a future event, the Subrecipient proposes as a mitigation measure, replacing the single-phase fuse cutouts with single-phase (trip-savers) reclosers. The trip-saver is a single protection device with one switch that can open to interrupt fault currents and automatically reclose to restore power. The trip-saver performs the same functions as a three-phase recloser, but it does not have the ability to communicate with the EMS. The device isolate system faults, preserves power service, and prevents cascading failures across the network.

1. Feeder 2501-01:
   - Replace nineteen (19) fuse cutouts with nineteen (19) single-phase recloser (trip-savers).
2. Feeder 2501-02:
   - Replace eight (8) fuse cutouts with eight (8) single-phase recloser (trip-savers).
3. Feeder 2501-03:
   - Replace eight (8) fuse cutouts with eight (8) single-phase recloser (trip-savers).
4. Feeder 3801-01:
   - Replace six (6) fuse cutouts with six (6) single-phase recloser (trip-savers).
5. Feeder 3801-02:
   - Replace fifteen (15) fuse cutouts with fifteen (15) single-phase recloser (trip-savers).

c) Overhead Line Conductor:

- To avoid damage in a future event, the Subrecipient proposes as a mitigation measure, replacing the 556.5 Aluminum Conductor Steel Reinforced (ACSR) with 652.4 All Aluminum Alloy Conductor (AAAC). The AAAC conductor is considerably lighter than ACSR of equivalent capacity, which reduces mechanical stress on poles and towers, allowing for the optimization of new structure designs or the extension of the service life of existing ones, which also increased resistance to corrosion and

environmental deterioration. Note: For feeders located more than one (1) mile from seashore, 428 PA will install a 556.5 ACSR conductor, and 406 HM will replace it with a 652.4 AAAC conductor (of the same gauge), as it is mechanically and electrically compatible with 556.5 ACSR (within the one-mile zone, is required by C&S).

1. Feeder 2501-01:
   - Replace five-point three (5.3) W. Miles of 556.5 ACSR with five-point three (5.3) W. Miles of 652.4 AAAC conductor.
2. Feeder 2501-02:
   - Replace five-point seven (5.7) W. Miles of 556.5 ACSR with five-point seven (5.7) W. Miles of 652.4 AAAC conductor.
3. Feeder 2501-03:
   - None.
4. Feeder 3801-01:
   - None.
5. Feeder 3801-02:
   - None.

d) Stainless Steel (SS) Transformer:

- To avoid damage in a future event, the Subrecipient proposes as a mitigation measure, replacing transformer material from galvanized steel to high-strength stainless steel transformers at locations situated more than one (1) mile from the seashore (within the one-mile zone, is required by C&S). Stainless steel transformers protect life and property and prevent physical damage to PREPA's infrastructure from catastrophic failures caused when corroded transformers fail during a disaster. Stainless steel also withstands the impact of debris better than galvanized steel. By upgrading to this material, the Subrecipient will significantly reduce the chances of electrical malfunctions, insulation breakdowns, transformer failures during future hurricanes and the resulting risk to public and private property and life. This proactive mitigation measure not only ensures a more resilient power grid during and after the next hurricane but also decreases the need for frequent replacements and maintenance, which helps avoid future damage from similar storms and enhances the long-term reliability of Puerto Rico's electrical infrastructure.

1. Feeder 2501-01:
   - Replace four (4) 37.5kVA galvanized steel transformers with four (4) 37.5kVA stainless steel transformers.
   - Replace three (3) 50kVA galvanized steel transformer with three (3) 50kVA stainless steel transformers.
2. Feeder 2501-02:
   - Replace seven (7) 50kVA galvanized steel transformer with seven (7) 50kVA stainless steel transformers.
3. Feeder 2501-03:
   - None.
4. Feeder 3801-01:
   - None.
5. Feeder 3801-02:
   - None.

Mitigation Measures *(Supplementary)*

e) Three-Phase Reclosers:

- To avoid damage during future events, the Subrecipient proposes as a mitigation measure, the installation of three-phase automatic reclosers to isolate system faults, preserve power service, and prevent cascading failures across the network. These devices will maintain the continuity of electrical service and prevent physical damage by pre-empting or minimizing outages. The three-phase reclosers are communication-ready to enable remote control and visualization that can be operated remotely and transmit data to the operations center, enabling operators to prioritize restoration activities, reduce customer outage times, and minimize the risk of cascading infrastructure damage. Installing three-phase reclosers and associated equipment is essential for the EMS (Energy Management System) and its components to operate at full capacity, as well as for preventing loss of service and potential damage from future disasters. A three-phase recloser is a protective device used on three-phase distribution feeders subject to high fault currents. It is a single unit containing three switches capable of opening to interrupt fault currents and closing automatically to restore power.

1. Feeder 2501-01:
   - Install two (2) three-phase automatic reclosers.
2. Feeder 2501-02:
   - Install five (5) three-phase automatic reclosers.
3. Feeder 2501-03:
   - None.
4. Feeder 3801-01:
   - Install one (1) three-phase automatic reclosers.
5. Feeder 3801-02:
   - Install one (1) three-phase automatic reclosers.

f) Phasor Measurements Units (PMU's) and Line Sensors:

- To avoid damage during future events, the Subrecipient proposes as a mitigation measure, the installation of PMU's and line sensors to provide improved situational awareness, faster reaction time, wide-area monitoring, improved control and protection, model validation, and forensic analysis capability. The PMU is an electronic device capable of calculating voltage and current magnitudes and phase angles (phasors), frequency, and power quantities. It then streams this information at a high reporting rate to the microgrid controller and/or to a central location, providing real-time situational awareness for network operators. Operators can monitor the networks and assets' status and take timely corrective actions to minimize outages. PMU data also expedites system recovery by providing voltage phase angles, which is critical information for generation integration and line reclosing. Line sensors are interfacing devices required to measure voltage and current values of medium voltage networks, and they feed digital measurement units like PMUs.

1. Feeder 2501-01:

- Install six (6) PMU's and eighteen (18) line sensors.

2. Feeder 2501-02:
   - Install five (5) PMU's and fifteen (15) line sensors.
3. Feeder 2501-03:
   - Install five (5) PMU's and fifteen (15) line sensors.
4. Feeder 3801-01:
   - Install two (2) PMU's and six (6) line sensors.
5. Feeder 3801-02:
   - Install three (3) PMU's and nine (9) line sensors.

g) 1kVA Stainless Steel (SS) Transformer:

- To enable the operation of three-phase reclosers and PMU's, it is essential to connect a 120/240V AC voltage source. In areas where this voltage is accessible, the recloser and PMU will be linked to the existing secondary line, ensuring that these facilities possess the capability to handle the load produced by the recloser and PMU. In instances where the necessary infrastructure to supply voltage to the recloser and PMU is absent; 1 kVA distribution transformers will be installed. The 1kVA Stainless-Steel transformer supplies low-voltage power to operate the control system of the three-phase reclosers and PMU's, which includes protection, automation, and communication functionalities. This ensures that the intelligent features of the recloser and PMU operate reliably, even in the event of a medium-voltage power interruption.

1. Feeder 2501-01:
   - Install eight (8) 1kVA SS transformers: two (2) for reclosers and six (6) for PMU's.
2. Feeder 2501-02:
   - Install ten (10) 1kVA SS transformers: five (5) for reclosers and five (5) for PMU's.
3. Feeder 2501-03:
   - Install five (5) 1kVA SS transformers for PMU's.
4. Feeder 3801-01:
   - Install three (3) 1kVA SS transformers: one (1) for reclosers and two (2) for PMU's.
5. Feeder 3801-02:
   - Install four (4) 1kVA SS transformers: one (1) for reclosers and three (3) for PMU's.

h) Concrete Base Foundations:

- To avoid damage during future events, the Subrecipient proposes as a mitigation measure, installing a concrete base on every fifth pole with a double dead-end construction standard configuration. The mitigation strategy will support the utility pole to increase the wind tolerance to 160mph and reduce soil instability, thereby improving the structures resilience against potential flooding and the associated hydrostatic and hydrodynamic forces. The dimensions for the concrete foundation will vary based on the size and classification of the pole that will be installed (50' or 60' S8.5, S10, or S13). Note: FEMA 428 PA FCE considered 20 concrete cubic yards per mile. To comply with a design that withstands sustained winds of 160mph caused by hurricane conditions, additional cubic yards are considered as 406 Hazard Mitigation (HM).

1. Feeder 2501-01:
   - New design establishes two hundred one (201) concrete bases for a total of six hundred eighty-one-point sixty-three (681.63) CY. FEMA 428 PA FCE considered one hundred sixty-eight-point two (168.2) CY for a total of five hundred thirteen-point forty-three (**513.43) CY** to be covered as 406 HM.
     - Precast Concrete Base Foundations for 50' or 60'-S8.5 = {[(p*1.66^2*14.5) - (p*1.1^2 *9.8)] / 27} = 3.35CY x 198ea concrete bases = 663.3 CY
     - Precast Concrete Base Foundation for 60'-S10 = {[(p*2^2*16) - (p*1.1^2 *9.8)] / 27} = 6.11CY x 3ea concrete base = 18.33 CY.
2. Feeder 2501-02:
   - New design establishes ninety-nine (99) concrete bases for a total of three hundred thirty-nine-point ninety-three (339.93) CY. FEMA 428 PA FCE considered one hundred twenty-eight (128) CY for a total of two hundred eleven-point ninety-three **(211.93) CY** to be covered as 406 HM.
     - Precast Concrete Base Foundations for 50' or 60'-S8.5 = {[(p*1.66^2*14.5) - (p*1.1^2 *9.8)] / 27} = 3.35CY x 96ea concrete bases = 321.6 CY
     - Precast Concrete Base Foundation for 60'-S10 = {[(p*2^2*16) - (p*1.1^2 *9.8)] / 27} = 6.11CY x 3ea concrete base = 18.33 CY.
3. Feeder 2501-03:
   - New design establishes sixty-nine (69) concrete bases for a total of two hundred thirty-one-point fifteen (231.15) CY. FEMA 428 PA FCE considered forty-eight-point eight (48.8) CY for a total of one hundred eighty-two-point thirty-five **(182.35) CY** to be covered as 406 HM.
     - Precast Concrete Base Foundations for 50' or 60'-S8.5 = {[(p*1.66^2*14.5) - (p*1.1^2 *9.8)] / 27} = 3.35CY x 69ea concrete bases = 231.15 CY.
4. Feeder 3801-01:
   - New design establishes fifty-eight (58) concrete bases for a total of two hundred six-point forty-seven (206.47) CY. FEMA 428 PA FCE considered forty-two (42) CY for a total of one hundred sixty-four-point forty-seven **(164.47) CY** to be covered as 406 HM.
     - Precast Concrete Base Foundations for 50' or 60'-S8.5 = {[(p*1.66^2*14.5) - (p*1.1^2 *9.8)] / 27} = 3.35CY x 55ea concrete bases = 184.25 CY
     - Precast Concrete Base Foundation for 60'-S10 = {[(p*2^2*16) - (p*1.1^2 *9.8)] / 27} = 6.11CY x 2ea concrete base = 12.22 CY.
     - Cast in Place Concrete Base Foundation for 88'-S35 = {[(p*2.5^2*20) - (p*1.6^2 *15.2)] / 27} = 10 CY x 1ea concrete base = 10 CY.
5. Feeder 3801-02:
   - New design establishes ninety-seven (97) concrete bases for a total of three hundred twenty-four-point ninety-five (324.95) CY. FEMA 428 PA FCE considered forty-eight-point eight (80.8) CY for a total of two hundred forty-four-point fifteen **(244.15) CY** to be covered as 406 HM.
     - Precast Concrete Base Foundations for 50' or 60'-S8.5 = {[(p*1.66^2*14.5) - (p*1.1^2 *9.8)] / 27} = 3.35CY x 97ea concrete bases = 324.95CY.

i) Overhead Fiber Optic Conductor:

- To avoid damage during future events, the Subrecipient proposes as a mitigation measure, the installation of fiber optic loop on the distribution system for Vieques & Culebra (V&C) in the areas where it did not previously exist to support the reclosers and PMU's (located up or downstream). PMU's gather real-time data on voltage, current, and disturbances that inform system operators to act and prevent future physical damage. One way that operators can act using PMU data is through remote operation of reclosers. The reclosers form an integral part of the Microgrid and must be connected directly to the Microgrid fiber optic loop. The Microgrid controllers will open and close the reclosers to connect and disconnect from the grid and effectively control the loading of the Microgrid under island conditions or special operation

mode predicted by the Microgrid controller program algorithms. Note: 406 HM will fund the installation of the additional 48-strand fiber optic cable (same size as the existing one) for the full operation of the Vieques and Culebra Microgrids (Reclosers and PMU's Connections). However, the Subrecipient, as a final recovery solution and using 428 PA funds, will increase the size of the cable from 48 to 96 SMF and/or 144 SMF to gain additional capacity for operational improvements (other technology to support system observability, cameras, etc.).

1. Feeder 2501-01:
   - Install eleven-point sixty-six (11.66) M.L.F (approx. 11,660 LF) of 48 SMF (single model fiber) conductor.
2. Feeder 2501-02:
   - Install twenty-four-point fifty-five (24.55) M.L.F (approx. 24,500 LF) of 48 SMF (single model fiber) conductor.
3. Feeder 2501-03:
   - Install zero-point sixty-three (0.63) M.L.F (approx. 630 LF) of 48 SMF (single model fiber) conductor.
4. Feeder 3801-01:
   - Install twelve-point forty (12.40) M.L.F (approx. 12,400 LF) of 48 SMF (single model fiber) conductor.
5. Feeder 3801-02:
   - Install twelve-point ninety-eight (12.98) M.L.F (approx. 12,980 LF) of 48 SMF (single model fiber) conductor.

j) Critical Loads Undergrounding:

- To avoid damage during future events, the Subrecipient proposes as a mitigation measure, the implementation of underground segments to create redundancy and feed critical loads such as the Vieques Airport and the hospitals in Vieques and Culebra. This underground system will prevent power outages caused by hurricane-force winds and windblown debris and will create redundancy for Vieques and Culebra hospitals. This HM measure will provide more resilience to the system that feeds current critical loads by providing consistent service and reducing the time it'll take to restore power to these essential structures in case of a hurricane affecting the area.

1. Feeder 2501-01 (Vieques Airport):
   - As a mitigation strategy, 406 HM will fund the installation of three hundred fifty (350) LF of underground system that includes the following:
     - An exclusive underground segment service to the Vieques Airport critical load will be constructed starting at the overhead feeder backbone pole (P085) to its substation. The cable size will be #2 KCMIL-15kV, CU.

2. Feeder 2501-02 (Vieques Hospital):
   - As a mitigation strategy, 406 HM will fund the installation of two thousand five hundred twelve (2,512) LF of underground system that includes the following:
     - An exclusive underground segment service to the Vieques Hospital critical load starting at pole P399, up to an existing pull box in the Vieques Hospital facilities.
     - This construction requires two manholes (12ft. x 9ft. x 8ft.), five manholes (10ft. x 7ft x 8ft.), and two, 4-way switches. The exclusive underground segment circuit and the riser from pole P417 enters manhole MH-02-07 to a new vacuum switch. From this switch, it goes to the Vieques Hospital existing pull box to interconnect with the new facilities. The cable size will be #750 KCMIL-15kV, CU.
     - The proposed design includes a new backup feeder (2501-03) interconnection underground line tie from the overhead feeder backbone P606 ([redacted]), a new riser will be constructed from the new underground line service to the existing overhead feeder backbone on P606.

3. Feeder 3801-01 (Culebra Hospital):
   - As a mitigation strategy, 406 HM will fund the installation of one thousand five hundred sixty (1,560) LF of underground system that includes the following:
     - An exclusive underground segment service to Culebra CDT Hospital critical load starting at pole P101, up to a new Manhole MH-01-04 to feed the existing 150KVA transclosure type substation of the Culebra CDT Hospital facilities.
     - This construction requires two manholes (12ft. x 9ft. x 8ft.), four manholes (10ft. x 7ft x 8ft.), one primary load-break, 4-ways junction box, and two, 4-way switches. The new exclusive underground segment circuit from Culebra Substation 3801 and the new underground segment from the existing manhole MH-03-E, enters manhole MH-01-04 to a new vacuum switch. The cable size will be 750KCMIL-15kV, CU.
     - From this vacuum switch, it goes to MH-01-05 to interconnect with the existing 150kVA Culebra CDT Hospital transclosure type substation.
     - The proposed design includes a new underground tie between feeders 3801-01 and 3801-02 with a new 4-way switch. The riser for feeder 3801-01 is located on P101 and for feeder 3801-02 is located in P201.

Hazard Mitigation Proposal (HMP) Cost:

Total Net Hazard Mitigation Cost (Base Cost) =	$ 8,023,738.36
+ HM (Subrecipient A&E, Management & General Conditions) =	$ 2,110,347.98
Hazard Mitigation Total Cost =	**$10,134,086.34**

Hazard Mitigation Proposal (HMP) Cost Distribution:

Equipment and Materials (E&M) =	$ 1,607,111.87
Architecture and Engineering (A&E) =	$1,002,460.04
Construction Cost =	$7,524,514.43

Hazard Mitigation Total Cost = **$10,134,086.34**

HMP Cost-Effectiveness Calculations:

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

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

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

The cost of the Hazard Mitigation Proposal (HMP) described herein is **$10,134,086.34 (Hazard Mitigation Total Cost)**. The cost of this HMP combined will all other proposals (both PA and HMGP) does not exceed the maximum potential benefit and is therefore deemed cost effective per FEMA Public Assistance Program and Policy Guide (PAPPG) V3.1 April 2018, Chapter 2, VII., Section C, BCA Rule. This Hazard Mitigation Proposal meets eligible repair and restoration cost-effective requirements.

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

Cost

Code	Quantity	Unit	Total Cost	Section
9001	1	Lump Sum	$63,721,935.81	Uncompleted
3510	1	Lump Sum	($6,304,100.18)	Uncompleted
9001	1	Lump Sum	($3,375,233.42)	Uncompleted
9201	1	Lump Sum	$0.00	Uncompleted

CRC Gross Cost	$54,042,602.21
Total 406 HMP Cost	$0.00
Total Insurance Reductions	$0.00
CRC Net Cost	$54,042,602.21
Federal Share (90.00%)	$48,638,341.99
Non-Federal Share (10.00%)	$5,404,260.22

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

7/23/2026

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

Gregory Berrios Torres, PA Insurance Specialist,

CRC Atlantic, Guaynabo, P.R.

7/16/2026

Does the Applicant have a Commercial Policy: Yes.

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

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

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

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

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

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

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

O&M Requirements

There are no Obtain and Maintain Requirements on **FAASt [Automation Feeders Vieques & Culebra] (Distribution)**.

406 Mitigation

There is no additional mitigation information on **FAASt [Automation Feeders Vieques & Culebra] (Distribution)**.

Environmental Historical Preservation

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

EHP Conditions

- Any change to the approved scope of work will require re-evaluation for compliance with NEPA and other Laws and Executive Orders.
- This review does not address all federal, state and local requirements. Acceptance of federal funding requires recipient to comply with all federal, state and local laws. Failure to obtain all appropriate federal, state and local environmental permits and clearances may jeopardize funding.
- If ground disturbing activities occur during construction, applicant will monitor ground disturbance and if any potential archaeological resources are discovered, will immediately cease construction in that area and notify the State and FEMA.
- On May 16, 2025, the Secretary of the U.S. Department of Energy (DOE) issued Order 202-25-2 (Order), pursuant to the authority vested in him by section 202(c) of the Federal Power Act (FPA), 16 U.S.C. § 824a(c), and section 301(b) of the Department of Energy Organization Act, 42 U.S.C. § 7151(b). The Order sought to expedite repair and maintenance efforts to the electrical grid of Puerto Rico by directing the Puerto Rico Electric Power Authority (PREPA) to perform vegetation management, including vegetation clearing to reestablish a right-of-way, for particular transmission and distribution facilities in the Territory as specified in the Order. The Order required PREPA to identify certain parameters by which the directed work would be performed, and required that all work be performed, to the maximum extent practicable, in a manner consistent with all applicable Federal, State, or local environmental laws or regulations and minimize any adverse environmental impacts. However, pursuant to Section 202(c)(3) of the FPA, to the extent any omission or action taken by PREPA that was necessary to comply with the Order, including any omission or action taken to voluntarily comply with the Order, caused PREPA to not comply with any Federal, State, or local environmental law or regulation, including any environmental conditions in this REC's "Standard Conditions," such omission or action shall not be considered a violation of such environmental law or regulation, or subject PREPA to any requirement, civil or criminal liability, or citizen suit under such environmental law or regulation. On August 15, 2025, DOE reissued the Order to direct PREPA to also perform asset management, including component refurbishment and replacement. To renew/reissue the Order, DOE was required to consult with the primary Federal agency with expertise in the environmental interest protected by such law or regulation and include in the Order conditions necessary to minimize any adverse environmental impacts to the extent practicable. Pursuant to Section 202(c)(4)(B) of the FPA, DOE provided the relevant agencies the opportunity to submit conditions for worked performed under the Order, to be included in the

Order. According to DOE, no conditions were submitted by the agencies for inclusion in the Order. On November 12, 2025, DOE reissued the Order to direct PREPA to also perform asset management, including component refurbishment and replacement. DOE and FEMA have agreed that DOE is the lead agency for activities that fall under the prior and any future DOE 202(c) orders issued under the Federal Power Act to resolve the current and related emergencies in Puerto Rico. FEMA has requested that DOE provide FEMA with all documentation relating to their EHP compliance. FEMA will review and incorporate all available information and data for this project pertaining to applicable environmental laws and regulations into this REC when it is received from DOE. On February 10, 2026, and again on May 7, 2026, DOE reissued the Order to direct PREPA to perform vegetation management, including vegetation clearing to re-establish the right-of-way, and asset management, including component refurbishment and replacement, to ensure operational availability of the transmission and distribution facilities.

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

EHP Additional Info

There is no additional environmental historical preservation on **FAASt [Automation Feeders Vieques & Culebra] (Distribution)**.

Final Reviews

Final Review

Reviewed By Diaz Rodriguez, Sheila M. **Reviewed On** 08/28/2026 5:04 PM PDT

Review Comments

Project reviewed and ready to continue

Recipient Review

Reviewed By Mulero, Noel **Reviewed On** 09/08/2026 2:42 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. This project applies to the Department of Energy's executive order. This means that DOE is the lead agency for environmental matters. Project is ready for applicant review.

Project Signatures

Reviewed By Unsigned **Reviewed On** Unsigned

Award Information

EMMIE Imported Version Information

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

Drawdown History

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

Obligation History

Version #	Date Obligated	Obligated Cost	Cost Share	IFMIS Status	IFMIS Obligation #
0	9/12/2026	$48,638,341.99	90%	Accepted	4339DRPRP01072061

Department of Homeland Security
Federal Emergency Management Agency

v0

General Info

Project #	756997 **P/W #** 108030	**Project Type**	Specialized
Project Category	F - Utilities	**Applicant**	PR Electric Power Authority (000-UA2QU-00)
Project Title	FAASt [Line 1900 (38kV)-Caguanas to Lares TO] (Transmission)	**Event**	4339DR-PR (4339DR)
Project Size	Large	**Declaration Date**	9/20/2017
Activity Completion Date	9/20/2027	**Incident Start Date**	9/17/2017
		Incident End Date	11/15/2017
Process Step	Obligated		

Damage Description and Dimensions

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

Damage #448522; FAASt TL 1900 Caguanas to Lares TO

General Facility Information:

- **Facility Type:** Power generation, transmission, and distribution facilities
- **Facility:** TL 1900 Caguanas to Lares TO
- **Facility Description:** The facilities are part of the 25.0 circuit miles of overhead transmission line for 38kV line 1900 from Dos Bocas HP to San Sebastian TC. The specific facilities included in this proposed project are structures (including their foundations), framing and insulators, load break switches (manual and automated), conductors, guy wires, anchoring, grounding assemblies, and any other associated components. Most of the construction along this line segment consists of wood monopole guyed structures with some interspersed self-supporting steel and concrete monopoles. This line primarily traverses forested and urban areas between Dos Bocas HP substation and San Sebastian TC substation.
- **Approx. Year Built:** 1980
- **Start GPS Latitude/Longitude:** [redacted]
- **End GPS Latitude/Longitude:** [redacted]

Final Scope

448522 **FAASt TL 1900 Caguanas to Lares TO**

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 SOW for FEMA PA Project No. 756997, Line 1900 Caguanas to Lares under DR-4339-PR Public Assistance. The document provides a detailed description of the project, scope of PA construction activities to be completed, common Environmental Planning and Historic Preservation ("EHP") review information, proposed hazard mitigation measures, and project cost estimates. LUMA is seeking approval from COR3 and FEMA for PA funding to repair,

restore, or replace the eligible facilities.

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

PROJECT DESCRIPTION

The proposed project will remove and replace eighty (80) existing structures and install two (2) new additional galvanized steel poles in the Transmission Line 1900 design, including their foundations, framing, insulators, load break switches (manual and automated), conductors, guy wires, anchoring, grounding assemblies, and other associated components. The poles to be replaced are of varying build, including wood guyed structures, interspersed self-supporting steel poles, and concrete monopoles. LUMA will also conduct necessary vegetation removals at the project sites along the line. Please refer to 756997-**Appendix E** Structure List TL-1900 Segment 2 List_06-05-2026 for specific details regarding each of the 82 poles.

FACILITIES

FACILITIES LIST – BUILDINGS AND SUBSTATIONS

Not Applicable.

FACILITIES LIST – OTHER FACILITIES

The facility is a 8.35-mile, 38-kilovolt ("kV") transmission line that is currently supported by 82 structures with underbuilt distribution and third-party attachments. The type of poles supporting the line varies along its length and include wood poles, steel monopoles, and concrete poles. The following table identifies the GPS start and end locations of this project. A list of the poles to be replaced can be found in 756997-**Appendix E** Structure List TL-1900 Segment 2 List_06-25-2026

Project Location	Line Number	GPS Start	GPS End	Volta (kV)
Caguanas to Lares	1900	[redacted]	[redacted], -[redacted]	38kV

PROJECT AREA MAP WITH BOUNDARIES OF CONSTRUCTION

Please see the attached maps identified as in 756997 **Appendix A** (TL-1900 38kV Aerial Map 6.1.2026), 756997-**Appendix E** Structure List TL-1900 Segment 2 List_06-25-2026 and 756997 **Appendix F** (TL1900 Seg-2 Structures, Borings and Access Roads 6.5.2026.kmz).

§ 428 SCOPE OF WORK

The proposed type of work for this project:

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

[] Improved Project: Restores the pre-disaster function of the facilities and incorporates improvements or changes to its pre-

disaster design not required by codes or standards.

[] Subrecipient request letter included, see Appendix ___.

[] Recipient approval letter included, see Appendix ___.

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

[] Subrecipient request letter included, see Appendix ___.

[] Recipient approval letter included, see Appendix ___.

DESCRIPTION OF PROPOSED § 428 WORK TO BE PERFORMED

The work to be performed for Line 1900 from Caguanas to Lares consists of removing and replacing eighty (80) transmission poles on the existing line and installing two (2) additional galvanized steel poles. This includes the replacement of the existing conductors and hardware, structures, guy anchoring, foundations, and Overhead Ground Wire ("OHGW").

The proposed project includes the repair and restoration of disaster-damaged components to the approved codes and standards detailed in **Section 9.2**. The following infrastructure is addressed in this SOW.

Transmission Line

The existing 38-kV line runs from Caguanas to Lares, spanning a length of 8.35 miles. Eighty (80) structures (wood, concrete and steel poles), including foundations, guying, insulators, and associated attachment hardware will be removed and replaced across the entire alignment. Two additional poles will be added as well. The line will remain along its existing route and within the existing easements. Please refer to: (1) 756997-**Appendix E** Structure List TL-1900 Segment 2 List_06-05-2026 and (2) 756997 **Appendix F** (TL1900 Seg-2 Structures, Borings and Access Roads 6.5.2026.kmz).

A. Eighty (80) existing structures will be removed and replaced and two (2) new will be installed with new steel round poles. Removal includes the following scope of work:

1. Remove:
   a. 10 existing concrete poles,
   b. 61 wood structures, and
   c. 9 steel structures.

   For more information on the structures to be removed, refer to columns E through I of Appendix E.

2. Replace eighty (80) and install two (2) new galvanized round steel poles.

B. Other repairs, reinforcement, and replacement of pole components include:

1. Install 82 enhanced hardware packages.
2. Remove and replace 80 existing insulators with polymer insulators and add 2 new insulators.

C. Optical Ground Wire (OPGW): Replace the 96 strands Optical Ground Wire (OPGW) with a new 49,000 linear feet of 144 strands OPGW. Note: Replacement of existing OHGW with a new 96-strand OPGW (delta between OHGW and 96-strand OPGW) will be performed as 406 hazard mitigation

D. Conductor: Remove the existing conductor 3/0 aluminum conductor steel reinforced ("ACSR") and replace with 40 wire miles of 556 parakeet ACSR.

E. Install 59 guy anchors and hardware

CODES & STANDARDS

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

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

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

3. FEMA Recovery Interim Policy FP-104-009-11 Version 2.1, Consensus-Based Codes, Specifications, and Standards for Public Assistance. LUMA's latest Design Criteria Document (DCD) 4751-001-V04, Functional Specifications Revision 3 dated (July 8, 2022), which aggregates the design considerations of most of the consensus-based codes, specifications, and standards listed in FEMA Recovery Interim Policy 104-009-11 Version 3.1 (Dec. 20, 2019).

§ 406 HAZARD MITIGATION PROPOSAL

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

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

§ 406 HAZARD MITIGATION OPPORTUNITY

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

LUMA has included § 406 hazard mitigation measures in its preliminary design that meet these new higher standards described in **Section 9.2** above. These standards increase the resiliency of transmission structures in higher risk exposed areas and lessen the risk of future, similar damages that interfere with the work of critical facilities and endanger human life and property.

§ 406 SCOPE OF WORK

For this project, LUMA proposes the following § 406 hazard mitigation measures designed to increase the system’s resilience:

A. Replace eighty-two (82) galvanized steel round poles of 145mph windspeed resistance ASCE/SEI 48-19 with eighty-two 82ea new (12-sided) tapered shaft galvanized steel poles to increase the strength of the pole by increasing the wind tolerance by design to 160mph. This mitigation measure will protect and make the affected infrastructure more resistant, stronger, and resilient to future natural hazards. Refer to Appendix E,
specifically to columns P to X.

- 2ea 65’ SS M5281 steel galvanized Poles,
- 2 ea 75’ SS M3178 steel galvanized Poles,
- 1 ea 70’ GS-S8 steel galvanized Poles,
- 13 ea 75’ SS-M7184 steel galvanized Poles,
- 16 ea 90’ SS-M10740 steel galvanized Poles,
- 1 ea 88’ S20 steel galvanized Poles,
- 41 ea 88’ GS-S35 steel galvanized Poles,
- 4 ea 73’ GS-S35 steel galvanized Poles
- 1 ea 73’ GS-S13 steel galvanized Poles
- 1 ea 73 GS-S21 steel galvanized Poles

B. Install concrete foundations (and necessary bolts):

Concrete Base Description	Diameter (ft-in.)	Length (ft.)	Volume per Foundation (CY)	Total Volu (CY)
Cast in place foundations	5’	21	15.3	520.20
Total Str (34)				520.20

1. Concrete break tests ensure the concrete complies with the design standard needed to withstand 160 mph winds.
2. Install concrete foundations: all structures will require a total of 520.20 cubic yards (“cy”) of concrete.

C. Install 87 additional guy wires and strengthen to sustain additional loads, enhancing structure stability: (For quantities please reference 756997 **Appendix B** LPCE Tline 1900 (Seg. 2) Caguanas to Lares 2026-07-01 (with 406).

D. Remove existing OHGW and replace with 49,000 linear feet of new 96-strand OPGW. Thenew OPGW will be

installed for all the new steel poles that will be replaced for this segment

Note: The replacement of existing OHGW with a new 96-strand OPGW allows for remote monitoring and operation of the substations, providing real-time information forthings such as Flood, fire, or component failure for a faster and more reliable grid restoration to minimize loss of power service after a major weather event. It will also reduce response time and help to prevent the harm associated with prolonged outages that occurred following Hurricane María. LUMA is proposing that only the cost differential between installing new 96-strand OPGW over the cost of installing new OHGW be funded with § 406 hazard mitigation funding.

COMMON EHP REVIEW INFORMATION

The checked items apply to the proposed scope of work in this Project followed by the description of the scope extent and location of the selected activity.

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

Ground disturbance will occur for the following: foundations for new poles (refer to Section 10.2(B) above) and the installation of temporary construction matting at all structures in the easement.

1. **Structures:** A matting will cover an area of 50 feet (“ft”) by 50 ft around the structures being removed and replaced by poles.
2. **Access Roads:** A 16-ft wide area in existing access roads.

Refer to 756997 **Appendix F** (TL1900 Seg-2 Structures, Borings and Access Roads 6.5.2026.kmz), and 756997-**Appendix E** Structure List TL-1900 Segment 2 List_06-05-2026

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

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

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

1. Vegetation Clearing along this line is to be performed pursuant to FAASt projectnumber 728827, Arecibo Region 2 Group A High Density.
2. The recovery work described in this project requires vegetation clearing of a 50 ft by 50 ft area around structures to be removed and replaced and not duplicated with FAASt project number 728827, Arecibo Region 2 Group A High Density.
3. See 756997 **Appendix D** - TL-1900 Route to Structure Access for locations.

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

1. **Construction Debris:** The types of debris that will be removed from the site during the demolition process are insulated and bare aluminum and copper cables, PVC (polyvinyl chloride) conduits, concrete, metal scrap, construction waste, wood. The debris will be separated and taken to a waste disposal facility; however, the exact waste disposal facility is not known at this time.
2. **Hazardous Materials:** PCBs (polychlorinated biphenyls), oil from the transformers and breakers, sealants, and chemical wastes will be handled and disposed of at an authorized waste disposal facility.
3. **Poles:** Pole disposal will be performed per applicable local and federal regulations.
4. Information on GPS location of temporary debris storage sites, final debris disposal location, and final debris disposal method are not yet available.

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

1. **Access Road:** A 16-ft wide area for the existing access roads is required for this scope of work. All work for this program will be performed within the current easement. Poles are near the roads and are accessible with the need for a new access. More details in relation to access roads will be provided at later stage. Please refer to **Appendix D** 756997 (TL 1900 Route to Structure Access) and 756997 for a description of the existing roads and proposed access roads to be utilized for this project.

2. **Staging Area:** Materials will be stored and dispatched from the assigned Subrecipient's Regional Warehouse. For this project, the assigned warehouse is the Utuado District Warehouse, located at Carr. 10 km 56.5, Bo Salto Arriba Utuado, [redacted]. More details in relation to staging areas will be provided at a later stage.
For staging area map image see ument labeled: "756997-DR4339PR-Detailed SOW-TL 1900 Caguanas to Lares-Rev.6_June 29.2026_signed.pdf"

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

1. Fill, gravel, and sand materials will be obtained from a preferred vendor.

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

The following items are generally intended for buildings:

[] **Facility is over 45 years old**. If checked, provide a thorough description of materials to be used and method of repair, including cleaning methods. If substitute materials will be used in the restoration, specify whether they match the original color, texture, and design of the damaged facility.

[] **Known renovations to the facility**. If checked, provide dates of any previous major renovations to the interior or exterior of the facility.

[] Photos of all sides of the facility are provided.

PROJECT COST ESTIMATE (PCE)

The estimated costs (compliant with Class 3 Accuracy +/-30%) to complete the project are summarized in the table(s) below. The cost estimate(s) was developed utilizing preliminary Architectural and Engineering design information. Below are two cost estimates, one for construction and one for telecommunications. The total of the Line Rebuild amounts to **$45,907,069.38.** For a more detailed cost estimate refer to appendix/appendices identified below.

1. **Construction Costs:** The estimate for construction costs is $39,899,255.83. Please refer to 756997 **Appendix B** LPCE Tline 1900 (Seg. 2) Caguanas to Lares 2026-07-01 (with 406).

COST ESTIMATE			
Cost Element	428	406	PROJECT
PLANNING	$2,221,230.24	$346,395.04	$2,5
MANAGEMENT	$1,477,515.30	$230,414.60	$1,7
LPCE Tline 1900 Caguanas - Lares FEMA Presentation Estimate (Seg. 2)	$29,247,600.42	$4,561,086.80	$33,8
GENERAL CONDITIONS	$1,570,152.30	$244,861.13	$1,8
COST TOTALS	$34,516,498.26	$5,382,757.57	$39,

DEDUCTIONS	TOTAL INSURANCE PROCEEDS RECEIVED	$-
	DE-OBLIGATION TO FAASt IF APPLICABLE	$-
FAASt ALLOCATIONS	FAAST PROJECT #756997 - 428	$31,(
	FAAST PROJECT #756997 - 406 HM	$5,3
	FAAST PROJECT #756997 TOTAL:	**$36,4**
	FAASt A&E # 335168 - 428	$2,2
	FAASt A&E # 335168 - 406 HM	$3
	FAASt A&E # 335168 TOTAL	**$2,6**
	FAASt E&M #673691 - 428	$1,1
	FAASt E&M #673691 - 406 HM	$
	FAASt E&M #673691 TOTAL	**$1,2**

2. **Telecommunication Estimate:** The estimate for telecommunications costs is $6,007,813.55. Please refer to 756997 **Appendix C -**LPCE TLine 1900 (Seg 2) Caguanas to Lares Telecom Rev 2026-06-01 (with 406).

COST ESTIMATE			
Cost Element	**428**	**406**	**PROJECT TOTAL**
PLANNING	**$ 373,662.53**	**$ 133,012.89**	**$ 506,675.42**
MANAGEMENT	**$ 193,682.79**	**$ 68,945.35**	**$ 262,628.14**
TLine 1900 Caguanas to Lares (Seg. 2)	**$ 3,676,316.74**	**$ 1,308,660.87**	**$ 4,984,977.61**
GENERAL CONDITIONS	**$ 186,974.84**	**$ 66,557.54**	**$ 253,532.38**
COST TOTALS	**$ 4,430,636.90**	**$ 1,577,176.65**	**$ 6,007,813.55**
DEDUCTIONS	**TOTAL INSURANCE PROCEEDS RECEIVED**		**$ -**

	DE-OBLIGATION TO FAASt IF APPLICABLE	**$ -**
FAASt ALLOCATIONS	FAAST PROJECT #756997 - 428	$ 4,039,249.63
	FAAST PROJECT #756997 - 406 HM	$ 1,577,176.65
	FAAST PROJECT #756997 TOTAL:	**$ 5,616,426.28**
	FAASt A&E # 335168 - 428	$ 391,387.27
	FAASt A&E # 335168 - 406 HM	$ 139,322.37
	FAASt A&E # 335168 TOTAL	**$ 530,709.64**
	FAASt E&M #673691 - 428	$ -
	FAASt E&M #673691 - 406 HM	$ 6,720.00
	FAASt E&M #673691 TOTAL	**$ 6,720.00**

Cost estimate section:

Project Cost Summary, 428 Version 0:

Work to be Completed (WTBC): $38,947,135.16

A&E Deduction (Global A&E FAASt 335168): -$2,686,190.09

E&M Deduction (Global E&M FAASt 673691): -$1,191,989.07

Project Total: $35,068,956.00

Project Cost Estimate Notes:

1. Refer to detailed SOW provided in document labeled: “756997-DR4339PR-Detailed SOW-TL 1900 Caguanas to Lares-Rev.6_June 29.2026_signed.pdf”

2. Refer to detailed Cost Estimate provided in document labeled: “756997 DR4339PR Appendix C- LPCE TLine 1900 (Seg 2) Caguanas to Lares Telecom Rev 2026-06-01 (with 406)(1).xlsx” & “756997 Appendix B - LPCE Tline 1900 (Seg. 2) Caguanas to Lares Rev 2026-07-01 (with 406).xlsx”

3. A&E costs 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 cost associated with individual FAASt projects.

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

5. Lodging and Per Diem is part of both costs estimates and will not have duplicity as we expect work to be done by separate crews represented in both cost estimates.

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

ATTACHMENTS

The following attachments are provided with this DSOW:

Appendix No.	Document Description or Filename
A	756997-Appendix A - TL-1900 38kV Aerial Map 6.1.2026
B	756997-Appendix B-LPCE Tline 1900 (Seg. 2) Caguanas to Lares 2026-07-01 (with 406)
C	756997 Appendix C- LPCE TLine 1900 (Seg 2) Caguanas to Lares Telecom Rev 2026-06-01 (with 406)
D	756997 Appendix D– TL-1900 Route of Structure Access
E	756997-Appendix E Structure List TL-1900 Segment 2 List_06-05-2026
F	756997- Appendix F (TL1900 Seg-2 Structures, Borings and Access Roads 6.5.2026.kmz)
G	756997-DR4339PR-Appendix G-TL1900 HMP Narrative July.2.2026

406 HMP Scope

Project number: 756997; FAASt [Line 1900 (38kV)-Caguanas to Lares TO] (Transmission)

Damage: 448522; FAASt [TL 1900 Caguanas to Lares TO]

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

Location: Utuado, Puerto Rico

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

Hazard Mitigation Narrative

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

Project Overview:

The work to be performed on the Transmission Line 1900, from Caguanas to Lares TO, consists of the removal and replacement of eighty (80) structures (wood, concrete and steel poles) and install two (2) new additional galvanized steel poles that currently support the transmission line. This includes replacing the existing conductors and hardware, structures, guy anchor, foundations, and the overhead ground wire ("OHGW"). The existing 38kV line runs from Caguanas to Lares TO, spanning a length of 8.35 miles, and will remain along its existing route and within the existing easements.

Mitigation Approach:

In order to minimize the damages in a future event, the Subrecipient proposes as a mitigation measure, increase the structural strength of the poles by replacing round galvanized steel poles with 12-sided galvanized steel poles, installing concrete foundation for the self-support poles, installing additional guy wires, and replacing the overhead ground wire (OHGW) with optical ground wire (OPGW). The implementation of these mitigation measures will protect and make the affected infrastructure more resistant, stronger, and resilient to similar hazards.

Hazard Mitigation Proposal (HMP) Scope of Work:

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

Mitigation Measures *(Replacement)*

A. Poles (82 ea):

o To avoid damage in a future event, the Subrecipient proposes as a mitigation measure, increase the strength of the poles by replacing it with a 12-sided, tapered shaft transmission pole and/or self-support poles to mitigate future damage to the structure due to high wind. The above mitigation measures will protect and make the affected infrastructure more resistant, stronger, and resilient to similar hazards.

1. Replace two (2) 65ft round galvanized steel poles with two (2) 65ft 12-sided galvanized steel poles, 65'-SS-M5281 (self-support).

2. Replace two (2) 75ft round galvanized steel poles with two (2) 75ft 12-sided galvanized steel poles, 75'-SS-M3178 (self-support).

3. Replace one (1) 70ft round galvanized steel pole with one (1) 70ft 12-sided galvanized steel pole, 70'-GS-S8 (guy-supported).

4. Replace thirteen (13) 75ft round galvanized steel poles with thirteen (13) 75ft 12-sided galvanized steel poles, 75'-SS-M7184 (self-support).

5. Replace sixteen (16) 90ft round galvanized steel poles with sixteen (16) 90ft 12-sided galvanized steel poles, 90'-SS-M10740 (self-support).

6. Replace one (1) 88ft round galvanized steel pole with one (1) 88ft 12-sided galvanized steel pole, 88'-S20 (guy-supported).

7. Replace forty-one (41) 88ft round galvanized steel poles with forty-one (41) 88ft 12-sided galvanized steel poles, 88'-GS-S35 (guy-supported).

8. Replace four (4) 73ft round galvanized steel poles with four (4) 73ft 12-sided galvanized steel poles, 73'-GS-S35 (guy-supported).

9. Replace one (1) 73ft round galvanized steel pole with one (1) 73ft 12-sided galvanized steel pole, 73'-GS-S13 (guy-supported).

10. Replace one (1) 73ft round galvanized steel pole with one (1) 73ft 12-sided galvanized steel pole, 73'-GS-S21 (guy-supported).

B. Overhead Optical Ground Wire (OPGW) (49,000 LF):

o To avoid damage in a future event, the Subrecipient proposes as a mitigation measure, replacing the Overhead Ground Wire (OHGW) with a 96-fiber

strand Optical Ground Wire (OPGW). OPGW will not be duplicated in the IT/OT scope of work (SOW) and will serve as 406 HM. Adding this mitigation measure allows for remote monitoring and operation of the substations and provides real-time information for things such as flood, fire, or component failure for a faster and more reliable grid restoration to minimize loss of power service after a major weather event. These capabilities will reduce response time and help to prevent those issues from further similar damage to the infrastructure. Note: Replacement of existing OHGW with a new 96-strand OPGW (delta between OHGW and 96-strand OPGW) will be performed as 406 HM. However, for operational purposes and with 428 PA funding, the Subrecipient will increase the OPGW from 96 strands to 144 strands.

1. Remove forty-nine thousand (49,000) linear feet of existing OHGW and replace with forty-nine thousand (49,000) linear feet of new 96-strand OPGW.

Mitigation Measures *(Supplementary)*

C. Concrete Base Foundations (520.20 CY):

o To avoid damage in a future event, the Subrecipient proposes as a mitigation measure, the installation of thirty-four (34) concrete base foundation for the new self-supporting galvanized steel poles (65'-SS-M5281, 75' SS M3178, 75'-SS-M7184 and 90'-SS-M10740). The mitigation strategy will reinforce the utility pole to increase their wind tolerance to 160mph and reduce soil instability, thereby improving the structure's resilience against potential flooding and the associated hydrostatic and hydrodynamic forces.

1. Precast Concrete Base Foundations: [3.14 x (5/2) ^2 x 21) / 27] = 15.3CY x 34ea concrete bases = 520.20 CY.

D. Guy Wires/Anchoring (87ea):

o To avoid damage in a future event, the Subrecipient proposes as a mitigation measure, the installation of additional guys wires and anchors to provide lateral support to the poles. The above mitigation measures will protect and make the affected infrastructure more resistant, stronger, and resilient to similar hazards.

1. Total guy wires to be installed along this project are one hundred and forty-six (146).

2. Total 406 HM (Delta) = 146EA – 59EA (FCE 428 PA) = 87EA.

Hazard Mitigation Proposal (HMP) Cost:

Total Net Hazard Mitigation Cost (Base Cost) =	$ 5,515,711.79
+ HM (Subrecipient A&E, Management & General Conditions) =	$ 1,444,222.43
Hazard Mitigation Total Cost =	**$ 6,959,934.22**

Hazard Mitigation Proposal (HMP) Cost Distribution:

Equipment and Materials (E&M) =	$ 44,935.52
Architecture and Engineering (A&E) =	$ 497,190.85
Construction Cost =	$ 6,417,807.85
Hazard Mitigation Total Cost =	**$ 6,959,934.22**

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 **$6,959,934.22 (Hazard Mitigation Total Cost)**. The cost of this HMP combined will all other proposals (both PA and HMGP) does not exceed the maximum potential benefit and is therefore deemed cost effective per FEMA Public Assistance Program and Policy Guide (PAPPG) V3.1 April 2018, Chapter 2, VII., Section C, BCA Rule. This Hazard Mitigation Proposal meets eligible repair and restoration cost-effective requirements.

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

Cost

Code	Quantity	Unit	Total Cost	Section
9001	1	Lump Sum	$38,947,135.16	Uncompleted
3510	1	Lump Sum	($2,686,190.09)	Uncompleted
9001	1	Lump Sum	($1,191,989.07)	Uncompleted

CRC Gross Cost	$35,068,956.00
Total 406 HMP Cost	$0.00
Total Insurance Reductions	$0.00
CRC Net Cost	$35,068,956.00
Federal Share (90.00%)	$31,562,060.40
Non-Federal Share (10.00%)	$3,506,895.60

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

7/29/2026

Does the Applicant have a Commercial Policy: Yes.

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

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

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

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

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

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

Jorge Parrilla, PA Insurance Specialist

CRC Atlantic, Guaynabo, PR

O&M Requirements

There are no Obtain and Maintain Requirements on **FAASt [Line 1900 (38kV)-Caguanas to Lares TO] (Transmission)**.

406 Mitigation

There is no additional mitigation information on **FAASt [Line 1900 (38kV)-Caguanas to Lares TO] (Transmission)**.

Environmental Historical Preservation

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

EHP Conditions

- Any change to the approved scope of work will require re-evaluation for compliance with NEPA and other Laws and Executive Orders.
- This review does not address all federal, state and local requirements. Acceptance of federal funding requires recipient to comply with all federal, state and local laws. Failure to obtain all appropriate federal, state and local environmental permits and clearances may jeopardize funding.
- If ground disturbing activities occur during construction, applicant will monitor ground disturbance and if any potential archaeological resources are discovered, will immediately cease construction in that area and notify the State and FEMA.
- On May 16, 2025, the Secretary of the U.S. Department of Energy (DOE) issued Order 202-25-2 (Order), pursuant to the authority vested in him by section 202(c) of the Federal Power Act (FPA), 16 U.S.C. § 824a(c), and section 301(b) of the Department of Energy Organization Act, 42 U.S.C. § 7151(b). The Order sought to expedite repair and maintenance efforts to the electrical grid of Puerto Rico by directing the Puerto Rico Electric Power Authority (PREPA) to perform vegetation management, including vegetation clearing to reestablish a right-of-way, for particular transmission and distribution facilities in the Territory as specified in the Order. The Order required PREPA to identify certain parameters by which the directed work would be performed, and required that all work be performed, to the maximum extent practicable, in a manner consistent with all applicable Federal, State, or local environmental laws or regulations and minimize any adverse environmental impacts. However, pursuant to Section 202(c)(3) of the

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

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

EHP Additional Info

There is no additional environmental historical preservation on **FAASt [Line 1900 (38kV)-Caguanas to Lares TO] (Transmission)**.

Final Reviews

Final Review

Reviewed By Diaz Rodriguez, Sheila M. **Reviewed On** 08/28/2026 5:07 PM PDT

Review Comments

Project reviewed and ready to continue the process

Recipient Review

Reviewed By Mulero, Noel **Reviewed On** 09/08/2026 3:16 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. This project applies to the Department of Energy's executive order. This means that DOE is the lead agency for environmental matters. Project is ready for applicant review.

Project Signatures

Reviewed By Unsigned **Reviewed On** Unsigned

Date Downloaded: 9/14/26 6:34am PDT

Award Information

EMMIE Imported Version Information

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

Drawdown History

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

Obligation History

Version #	Date Obligated	Obligated Cost	Cost Share	IFMIS Status	IFMIS Obligation #
0	9/12/2026	$31,562,060.40	90%	Accepted	4339DRPRP01080301

Department of Homeland Security
Federal Emergency Management Agency

v0

General Info

Project #	756999 **P/W #** 108031	**Project Type**	Specialized
Project Category	F - Utilities	**Applicant**	PR Electric Power Authority (000-UA2QU-00)
Project Title	FAASt [Line 1900 (38kV)-Lares TO to San Sebastian] (Transmission)	**Event**	4339DR-PR (4339DR)
Project Size	Large	**Declaration Date**	9/20/2017
Activity Completion Date	9/20/2027	**Incident Start Date**	9/17/2017
		Incident End Date	11/15/2017
Process Step	Obligated		

Damage Description and Dimensions

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

Damage #930992; FAASt [TL 1900 Lares TO to San Sebastian]

General Facility Information:

- **Facility Type:** Power generation, transmission, and distribution facilities
- **Facility:** TL 1900 Lares TO to San Sebastian
- **Facility Description:** The facilities are part of the 25.0 circuit miles of overhead transmission line for 38kV line 1900 from Dos Bocas HP to San Sebastian TC. The specific facilities included in this proposed project are structures (including their foundations), framing and insulators, load break switches (manual and automated), conductors, guy wires, anchoring, grounding assemblies, and any other associated components. Most of the construction along this line segment consists of wood monopole guyed structures with some interspersed self-supporting steel and concrete monopoles. This line primarily traverses forested and urban areas between Dos Bocas HP substation and San Sebastian TC substation.
- **Approx. Year Built:** 1980
- **Start GPS Latitude/Longitude:** [redacted]
- **End GPS Latitude/Longitude:** [redacted]

Final Scope

930992 **FAASt [TL 1900 Lares TO to San Sebastian]**

5.0 INTRODUCTION

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

According to the SOP, FEMA "anticipates that [SOW] submissions might include preliminary designs, including drawings and cost estimates. FEMA also recognizes that, generally, architects and/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 SOW for FEMA PA Project No. 756999, Line 1900 Lares to San Sebastian under DR-4339-PR Public Assistance. The document provides a detailed description of the project, scope of PA construction activities to be completed, common Environmental Planning and Historic Preservation ("EHP") review information, proposed hazard mitigation measures, and project cost estimates. LUMA is seeking approval from COR3 and FEMA for PA funding to repair, restore, or replace the eligible facilities.

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

6.0 PROJECT DESCRIPTION

The proposed project will remove and replace one hundred-thirteen (113) of the existing structures along Transmission Line 1900, including their foundations, framing, insulators, load break switches (manual and automated), conductors, guy wires, anchoring, grounding assemblies, and other associated components. The poles to be replaced are of varying build, including wood guyed structures, interspersed self-supporting steel poles, and concrete monopoles. LUMA will also conduct necessary vegetation removals at the project sites along the line. 756999-**Appendix E** 756999 Structure List TL 1900 Segment 3 04-24-2026 for specific details regarding each of the 113 poles.

7.0 FACILITIES

7.1 FACILITIES LIST – BUILDINGS AND SUBSTATIONS

Not Applicable.

7.2 FACILITIES LIST – OTHER FACILITIES

The facility is a 8.84-mile, 38-kilovolt ("kV") transmission line that is currently supported by 113 structures with underbuilt distribution and third-party attachments. The types of poles

supporting the line varies along its length and include wood poles, steel monopoles, steel lattice towers, and concrete poles. The following table identifies the GPS start and end locations of this project. A list of the poles to be replaced can be found in 756999 **Appendix E** Structure List TL 1900 Segment 3 04-24-2026.

Project Location	**Line Number**	**GPS Start**	**GPS End**	**Volta (kV**
Lares to San Sebastian	1900	[redacted]	[redacted], [redacted]	38kV

8.0 PROJECT AREA MAP WITH OUNDARIES OF CONSTRUCTION

Please see the attached maps included in 756999 **Appendix A** (TL-1900 38kV Aerial Map 6.1.2026), 756999**Appendix E** Structure List TL 1900 Segment 3 04-24-2026, and 756999**Appendix F** (TL1900 Seg-3 Structures, Borings and Access Roads 6.5.2026 KMZ).

9.0 § 428 SCOPE OF WORK

The proposed type of work for this project:

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

[] Improved Project: Restores the pre-disaster function of the facilities and incorporates improvements or changes to its pre-

disaster design not required by codes or standards.

[] Subrecipient request letter included, see Appendix __.

[] Recipient approval letter included, see Appendix __.

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

[] Subrecipient request letter included, see Appendix __.

[] Recipient approval letter included, see Appendix __.

9.1 DESCRIPTION OF PROPOSED § 428 WORK TO BE PERFORMED

The work to be performed for Line 1900 from Lares to San Sebastian consists of removing and replacing one hundred-thirteen (113) structures (wood, concrete and steel poles) currently supporting the transmission line. This includes replacement of the existing conductors and hardware, structures, guy anchoring, foundations, and overhead ground wire ("OHGW").

The proposed project includes the repair and restoration of disaster-damaged components to the approved codes and standards detailed in **Section 9.2** below. The following infrastructure is addressed in this SOW:

9.1.1. Transmission Line

The existing 38-kV line runs from Lares to San Sebastian, spanning a length of 8.84 miles. One hundred-thirteen (113) (Wood, concrete and steel poles), including foundations, guying, insulators, and associated attachment hardware will be removed and replaced across the entire line. The line will remain along its existing route and within the existing easements. Please refer to (1) 756999 **Appendix E** Structure List TL 1900 Segment 3 04-24-2026 for a list of structures and (2) 756999 **Appendix F** (TL1900 Seg-3 Structures, Borings and Access Roads 6.5.2026 KMZ).

A. one hundred thirteen (113) existing structures will be removed and replaced with new steel round poles. Removal includes the following scope of work:

1. Remove

a. 39 existing concrete poles,

b. 62 wood structures, and

c. 12 steel structures.

For more information on the structures to be removed, refer to columns E through I of Appendix E.

2. Replace with one hundred thirteen (113) new steel round galvanized poles

B. Other repairs, replacement of pole components include:

1. Install 113 enhanced hardware packages.

2. Remove and replace 113 existing insulators with polymer insulators.

C. Optical Ground Wire (OPGW): Upgrade the 96 strands Optical Ground Wire (OPGW) with a with new 52,000 linear of 144 strands OPGW. Note: Replacement of existing OHGW with a new 96 strands OPGW (delta between OHGW and 96-strand OPGW) will be performed as 406 hazard mitigation.

D. Conductor: Remove the existing conductor 3/0 aluminum conductor steel reinforced ("ACSR") and replace with 42.12 wire miles of 556 parakeet ACSR.

E. Guy Wires: Install 62 anchors and hardware.

9.2 CODES & STANDARDS

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

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

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

3. FEMA Recovery Interim Policy FP-104-009-11 Version 2.1, Consensus-Based Codes,

Specifications, and Standards for Public Assistance.
LUMA's latest Design Criteria Document (DCD) 4751-001-V04, Functional Specifications Revision 3 (Jul. 8, 2022), which aggregates the design considerations of most of the consensus-based codes, specifications, and standards listed in FEMA Recovery Interim Policy 104-009-11 Version 2.1 (Dec. 20, 2019).

10.0 § 406 HAZARD MITIGATION PROPOSAL

For details, please refer to the labeled document: 756999-DR4339PR-Detailed SOW-TL 1900 Lares to San Sebastian_Rev 6_June 30 2026_signed.pdf

11.0 COMMON EHP REVIEW INFORMATION

The checked items apply to the proposed scope of work in this Project followed by the description of the scope extent and location of the selected activity.

[X] Ground disturbance inside of existing footprint.

Ground disturbance will occur for the following: foundations for new poles (refer to Section 10.2(B) above) and the installation of temporary construction matting at all structures in the easement.

1. **Structures:** A matting will cover an area of 50 ft by 50 ft around the structures being removed and replaced by poles.

2. **Access Roads:** A 16-ft wide area for access roads.

Refer to 756999 **Appendix F** (TL1900 Seg-3 Structures, Borings and Access Roads 6.5.2026 KMZ) and 756999 **Appendix E** Structure List TL 1900 Segment 3_04-24-2026.

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

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

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

1. Vegetation Clearing along this line is to be performed pursuant to FAASt project number 728827, Arecibo Region2 Group A High Density.
2. The recovery work described in this project requires vegetation clearing of a 50 ft by 50 ft area around structures to be removed and replaced and not duplicated with FAASt project number 728827, Arecibo Region 2 Group A High Density.

3. See 756999 **Appendix D** (TL-1900 – Route of Structure Access) for locations.

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

1. **Construction Debris:** The types of debris that will be removed from the site during the demolition process are insulated and bare aluminum and copper cables, PVC (polyvinyl chloride) conduits, concrete, metal scrap, construction waste, wood. The debris will be separated and taken to a waste disposal facility; however, the exact waste disposal facility is not known at this time.
2. **Hazardous Materials:** PCBs (polychlorinated biphenyls), oil from the transformers and breakers, sealants, and chemical wastes will be handled and disposed of at an authorized waste disposal facility.

3. **Poles:** Pole disposal will be performed per applicable local and federal regulations.

4. Information on GPS location of temporary debris storage sites, final debris disposal

location, and final debris disposal method are not yet available.

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

1. **Access Road:** A 16-ft wide area for the access roads is required for this scope of work. All work for this program will be performed within the current easement. Poles are near the roads and are accessible with the need for new access. More details in relation to access roads will be provided at a later stage. Please refer to 756999 **Appendix D** (TL – 1900 Route to Structure Access) for a description of the existing roads and proposed access roads to be utilized for this project.

Staging Area: Materials will be stored and dispatched from the assigned Subrecipient's Regional Warehouse. For this project, the assigned warehouse is the Utuado District Warehouse, located at Carr. 10 km 56.5, Bo Salto Arriba Utuado, [redacted].

More details in relation to staging areas will be provided at a later stage.

For photo, please refer to the labeled document: 756999-DR4339PR-Detailed SOW-TL 1900 Lares to San Sebastian_Rev 6_June 30 2026_signed.pdf

[X] **Fill material**. If the project includes the use of fill material, provide the source of the fill

material including the provider's name and address (if known).

1. Fill, gravel, and sand materials will be obtained from a preferred vendor.

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

The following items are generally intended for buildings:

[] **Facility is over 45 years old**. If checked, provide a thorough description of materials to be used and method of repair, including cleaning methods. If substitute materials will be used in the restoration, specify whether they match the original color, texture, and design of the damaged facility.

[] **Known renovations to the facility**. If checked, provide dates of any previous major renovations to the interior or exterior of the facility.

[] Photos of all sides of the facility are provided.

12.0 PROJECT COST ESTIMATE (PCE)

The estimated costs (compliant with Class 3 Accuracy +/-30%) to complete the project are summarized in the table(s) below. The cost estimate(s) was developed utilizing preliminary Architectural and Engineering ("A&E") design information. Below are two cost estimates, one for construction and one telecommunications. The total of the Line Rebuild amounts to **$44,322,108.51.** For a more detailed cost estimate refer to appendix/appendices identified below.

Construction Costs: The estimate for construction costs is $39,207,861.45. Please refer to 756999-Appendix B - LPCE Tline 1900 (Seg. 3) Lares to San Sebastian Rev 2026-07-01.

COST ESTIMATE			
Cost Element	**428**	**406**	**PROJECT TOTAL**

PLANNING	**$ 2,020,600.11**	**$ 511,991.53**	**$ 2,532,591.64**
MANAGEMENT	**$ 1,338,688.36**	**$ 339,204.70**	**$ 1,677,893.06**
LPCE Tline 1900 Lares - San Sebastian FEMA Presentation Estimate (Seg. 3)	**$ 26,466,401.35**	**$ 6,706,212.66**	**$ 33,172,614.01**
GENERAL CONDITIONS	**$ 1,455,866.67**	**$ 368,896.07**	**$ 1,824,762.74**
COST TOTALS	**$ 31,281,556.49**	**$ 7,926,304.96**	**$ 39,207,861.45**
DEDUCTIONS	**TOTAL INSURANCE PROCEEDS RECEIVED**		**$ -**
	DE-OBLIGATION TO FAASt IF APPLICABLE		**$ -**
FAASt ALLOCATIONS	FAAST PROJECT #756999 - 428		$ 26,353,645.02
	FAAST PROJECT #756999 - 406 HM		$ 7,926,304.96
	FAAST PROJECT #756999 TOTAL:		**$ 34,279,949.98**
	FAASt A&E # 335168 - 428		$ 2,087,441.50
	FAASt A&E # 335168 - 406 HM		$ 528,928.19
	FAASt A&E # 335168 TOTAL		**$ 2,616,369.69**
	FAASt E&M #673691 - 428		$ 2,840,469.97
	FAASt E&M #673691 - 406 HM		$ 50,581.99
	FAASt E&M #673691 TOTAL		**$ 2,891,051.96**

Telecommunication Estimate: The estimate for telecommunications costs is $5,114,247.06. Please refer to 756999 Appendix C LPCE TLine 1900 (Seg 3) Lares to San Sebastian Telecom Estimate Rev 2026-06-03 (with 406).

COST ESTIMATE

Cost Element	428	406	PROJECT TOT
PLANNING	$305,413.63	$148,941.57	$454,
MANAGEMENT	$150,846.73	$73,563.63	$224,
TLine 1900 Lares to San Sebastian (Seg. 3)	$2,830,846.12	$1,380,523.41	$4,211,369.53
GENERAL CONDITIONS	$150,646.14	$73,465.83	$224,
COST TOTALS	$3,437,752.62	$1,676,494.44	$5,114
DEDUCTIONS	TOTAL INSURANCE PROCEEDS RECEIVED		$-
	DE-OBLIGATION TO FAASt IF APPLICABLE		$-
FAASt ALLOCATIONS	FAAST PROJECT #756999 - 428		$3,117,267.84
	FAAST PROJECT #756999 - 406 HM		$1,676,494.44
	FAAST PROJECT #756999 TOTAL:		$4,793,762.28
	FAASt A&E # 335168 - 428		$320,
	FAASt A&E # 335168 - 406 HM		$156,
	FAASt A&E # 335168 TOTAL		$476,
	FAASt E&M #673691 - 428		$-
	FAASt E&M #673691 - 406 HM		$6,
	FAASt E&M #673691 TOTAL		$6,

Cost estimate section:

Project Cost Summary, 428 Version 0:

Work to be Completed (WTBC): $ 34,719,309.11

A&E Deduction (Global A&E FAASt 335168): -$2,407,926.28

E&M Deduction (Global E&M FAASt 673691): -$2,840,469.97

Project Total: $29,470,912.86

Project Cost Estimate Notes:

1. Refer to detailed SOW provided in document labeled: “756999-DR4339PR-Detailed SOW-TL 1900 Lares to San Sebastian_Rev 6_June 30 2026_signed.pdf”

2. Refer to detailed Cost Estimate provided in document labeled: “756999-Appendix B - LPCE Tline 1900 (Seg. 3) Lares to San Sebastian Rev 2026-07-01.xlsx” & “756999-DR4339PR-Appendix C LPCE TLine 1900 (Seg 3) Lares to San Sebastian Telecom Estimate Rev 2026-06-03 (with 406).xlsx”

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

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

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

6. For Attachments refer to:

· 756999-Appendix A TL-1900 38kV Aerial Map 6.1.2026

· 756999-Appendix B - LPCE Tline 1900 (Seg. 3) Lares to San Sebastian Rev 2026-07-01

· 756999 Appendix C LPCE TLine 1900 (Seg 3) Lares to San Sebastian Telecom Estimate Rev 2026-06-03 (with 406)

· 756999 Appendix D – TL-1900 Route of Structure Access

· 756999-Appendix E – Structure List TL-1900 Segment 3 04-24-2026

· 756999-Appendix F-TL1900 Seg-3 Structures, Borings and Access Roads 6.5.2026

406 HMP Scope

Project number: 756999; FAASt [Line 1900 (38kV)-Lares TO to San Sebastian] (Transmission)

Damage: 930992; FAASt [TL 1900 Lares to San Sebastian] (Transmission)]

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

Location: Utuado, Puerto Rico

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

Hazard Mitigation Narrative

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

Project Overview:

The work to be performed on the Transmission Line 1900, from Lares to San Sebastian, consists of the removal and replacement of one hundred-thirteen (113) structures (wood, concrete and steel poles) that currently support the transmission line. This includes replacing the existing conductors and hardware, structures, guy anchor, foundations, and the overhead ground wire ("OHGW"). The existing 38kV line runs from Lares to San Sebastian, spanning a length of 8.84 miles, and will remain along its existing route and within the existing easements.

Mitigation Approach:

In order to minimize the damages in a future event, the Subrecipient proposes as a mitigation measure, increase the structural strength of the poles by replacing round galvanized steel poles with 12-sided galvanized steel poles, installing concrete foundation for the self-support poles, installing additional guy wires, and replacing the overhead ground wire (OHGW) with optical ground wire (OPGW). The implementation of these mitigation measures will protect and make the affected infrastructure more resistant, stronger, and resilient to similar hazards.

Hazard Mitigation Proposal (HMP) Scope of Work:

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

Mitigation Measures *(Replacement)*

A. Poles (113ea):

o To avoid damage in a future event, the Subrecipient proposes as a mitigation measure, increase the strength of the poles by replacing it with a 12-sided, tapered shaft transmission pole and/or self-support poles to mitigate future damage to the structure due to high wind. The above mitigation measures will protect and make the affected infrastructure more resistant, stronger, and resilient to similar hazards.

1. Replace ten (10) 65ft round galvanized steel poles with ten (10) 65ft 12-sided galvanized steel pole, 65'-SS-M5281 (self-support).
2. Replace two (2) 73ft round galvanized steel poles with two (2) 73ft 12-sided galvanized steel pole, 73'-GS-S35 (guy-supported).
3. Replace eight (8) 73ft round galvanized steel poles with eight (8) 73ft 12-sided galvanized steel pole, 73'-GS-S8 (guy-supported).
4. Replace one (1) 73ft round galvanized steel poles with one (1) 73ft 12-sided galvanized steel pole, 73'-GS-S21 (guy-supported).
5. Replace thirty-three (33) 75ft round galvanized steel poles with thirty-three (33) 75ft 12-sided galvanized steel pole, 75'-SS-M7184 (self-support).
6. Replace twenty-two (22) 88ft round galvanized steel poles with twenty-two (22) 88ft 12-sided galvanized steel pole, 88'-GS-S20 (guy-supported).
7. Replace thirty-two (32) 88ft round galvanized steel poles with thirty-two (32) 88ft 12-sided galvanized steel pole, 88'-GS-S35 (guy-supported).
8. Replace five (5) 90ft round galvanized steel poles with five (5) 90ft 12-sided galvanized steel pole, 90'-SS-M10740 (self-support).

B. Overhead Optical Ground Wire (OPGW) (52,000 LF):

o To avoid damage in a future event, the Subrecipient proposes as a mitigation measure, replacing the Overhead Ground Wire (OHGW) with a 96-fiber strand Optical Ground Wire (OPGW). OPGW will not be duplicated in the IT/OT scope of work (SOW) and will serve as 406 HM. Adding this mitigation measure allows for remote monitoring and operation of the substations and provides real-time information for things such as flood, fire, or component failure for a faster and more reliable grid restoration to minimize loss of power service after a major weather event. These capabilities will reduce response time and help to prevent those issues from further similar damage to the infrastructure. Note: Replacement of existing OHGW with a new 96-strand OPGW (delta between OHGW and 96-strand OPGW) will be performed as 406 HM. However, for operational purposes and with 428 PA funding, the

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Subrecipient will increase the OPGW from 96 strands to 144 strands.

1. Remove fifty-two thousand (52,000) linear feet of existing OHGW and replace with fifty-two thousand (52,000) linear feet of new 96-strand OPGW.

Mitigation Measures *(Supplementary)*

C. Concrete Base Foundations (734.40 CY):

o To avoid damage in a future event, the Subrecipient proposes as a mitigation measure, the installation of forty-eight (48) concrete base foundation for the new self-supporting galvanized steel poles (65'-SS-M5281, 75'-SS-M7184 and 90'-SS-M10740). The mitigation strategy will reinforce the utility pole to increase their wind tolerance to 160mph and reduce soil instability, thereby improving the structures resilience against potential flooding and the associated hydrostatic and hydrodynamic forces.

1. Precast Concrete Base Foundations: [(3.14 x (5/2) ^2 x 21) / 27] = 15.3CY x 48ea concrete bases = 734.4 CY.

D. Guy Wires/Anchoring (62ea):

o To avoid damage in a future event, the Subrecipient proposes as a mitigation measure, the installation of additional guys wires and anchors to provide lateral support to the poles. The above mitigation measures will protect and make the affected infrastructure more resistant, stronger, and resilient to similar hazards.

1. Total guy wires to be installed along this project are one-hundred twenty-four (124).
2. Total 406 HM (Delta) = 124EA – 62EA (FCE 428 PA) = 62EA.

Hazard Mitigation Proposal (HMP) Cost:

Total Net Hazard Mitigation Cost (Base Cost) =	$ 7,609,832.98
+ HM (Subrecipient A&E, Management & General Conditions) =	$ 1,992,966.42
Hazard Mitigation Total Cost =	**$9,602,799.40**

Hazard Mitigation Proposal (HMP) Cost Distribution:

Equipment and Materials (E&M) =	$ 57,301.99
Architecture and Engineering (A&E) =	$ 685,219.51
Construction Cost =	$ 8,860,277.90
Hazard Mitigation Total Cost =	**$9,602,799.40**

HMP Cost-Effectiveness Calculations:

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

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

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

The cost of the Hazard Mitigation Proposal (HMP) described herein is **$9,602,799.40 (Hazard Mitigation Total Cost)**. The cost of this HMP combined will all other proposals (both PA and HMGP) does not exceed the maximum potential benefit and is therefore deemed cost effective per FEMA Public Assistance Program and Policy Guide (PAPPG) V3.1 April 2018, Chapter 2, VII., Section C, BCA Rule. This Hazard Mitigation Proposal meets eligible repair and restoration cost-effective requirements.

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

Cost

Code	Quantity	Unit	Total Cost	Section
9001	1	Lump Sum	$34,719,309.11	Uncompleted
3510	1	Lump Sum	($2,407,926.28)	Uncompleted
9001	1	Lump Sum	($2,840,469.97)	Uncompleted

CRC Gross Cost	$29,470,912.86
Total 406 HMP Cost	$0.00
Total Insurance Reductions	$0.00
CRC Net Cost	$29,470,912.86
Federal Share (90.00%)	$26,523,821.58
Non-Federal Share (10.00%)	$2,947,091.28

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

7/24/2026

Does the Applicant have a Commercial Policy: Yes.

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

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

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

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

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

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

Jorge Parrilla, PA Insurance Specialist

CRC Atlantic, Guaynabo, PR

O&M Requirements

There are no Obtain and Maintain Requirements on **FAASt [Line 1900 (38kV)-Lares TO to San Sebastian] (Transmission)**.

406 Mitigation

There is no additional mitigation information on **FAASt [Line 1900 (38kV)-Lares TO to San Sebastian] (Transmission)**.

Environmental Historical Preservation

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

EHP Conditions

- Any change to the approved scope of work will require re-evaluation for compliance with NEPA and other Laws and Executive Orders.
- This review does not address all federal, state and local requirements. Acceptance of federal funding requires recipient to comply with all federal, state and local laws. Failure to obtain all appropriate federal, state and local environmental permits and clearances may jeopardize funding.
- If ground disturbing activities occur during construction, applicant will monitor ground disturbance and if any potential archaeological resources are discovered, will immediately cease construction in that area and notify the State and FEMA.
- On May 16, 2025, the Secretary of the U.S. Department of Energy (DOE) issued Order 202-25-2 (Order), pursuant to the authority vested in him by section 202(c) of the Federal Power Act (FPA), 16 U.S.C. § 824a(c), and section 301(b) of the Department of Energy Organization Act, 42 U.S.C. § 7151(b). The Order sought to expedite repair and maintenance efforts to the electrical grid of Puerto Rico by directing the Puerto Rico Electric Power Authority (PREPA) to perform vegetation management, including vegetation clearing to reestablish a right-of-way, for particular transmission and distribution facilities in the Territory as specified in the Order. The Order required PREPA to identify certain parameters by which the directed work would be performed, and required that all work be performed, to the maximum extent practicable, in a manner consistent with all applicable Federal, State, or local environmental laws or regulations and minimize any adverse environmental impacts. However, pursuant to Section 202(c)(3) of the FPA, to the extent any omission or action taken by PREPA that was necessary to comply with the Order, including any

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

EHP Additional Info

There is no additional environmental historical preservation on **FAASt [Line 1900 (38kV)-Lares TO to San Sebastian] (Transmission)**.

Final Reviews

Final Review

Reviewed By Diaz Rodriguez, Sheila M. **Reviewed On** 08/28/2026 5:10 PM PDT

Review Comments

Project reviewed and ready for continue the process

Recipient Review

Reviewed By Mulero, Noel **Reviewed On** 09/08/2026 2:50 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. This project applies to the Department of Energy's executive order. This means that DOE is the lead agency for environmental matters. Project is ready for applicant review.

Project Signatures

Reviewed By Unsigned

Reviewed On Unsigned

Award Information

EMMIE Imported Version Information

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

Drawdown History

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

Obligation History

Version #	Date Obligated	Obligated Cost	Cost Share	IFMIS Status	IFMIS Obligation #
0	9/12/2026	$26,523,821.58	90%	Accepted	4339DRPRP01080311

Department of Homeland Security
Federal Emergency Management Agency

v0

General Info

Project #	1068646 **P/W #** 108270	**Project Type**	Specialized
Project Category	F - Utilities	**Applicant**	PR Electric Power Authority (000-UA2QU-00)
Project Title	FAASt [Region 4 Caguas 38Kv – Non-Sensitive]/ Former project 740409 (vegetation)	**Event**	4339DR-PR (4339DR)
		Declaration Date	9/20/2017
Project Size	Large	**Incident Start Date**	9/17/2017
Activity Completion Date	9/20/2027	**Incident End Date**	11/15/2017
Process Step	Obligated		

Damage Description and Dimensions

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

Damage #1366674; FAASt [Region 4-Caguas Group B] (Vegetation)

General Facility Information:

- **Facility Type:** Power generation, transmission, and distribution facilities
- **Facility:** Region 4-Caguas Group B (Vegetation)
- **Facility Description:** The Puerto Rico Electric Power Authority (PREPA) owns more than 19,000 miles of transmission and distribution lines, as well as more than 400 substations. The facilities addressed in this project are all the overhead transmission and distribution lines (16,000+ miles), as well as substations. To ensure the functioning of this infrastructure to the level of service needed, keeping this equipment clear from vegetation is significant.
- **Approx. Year Built:** 1950
- **GPS Latitude/Longitude:** [redacted]

Final Scope

1366674 **FAASt [Region 4-Caguas Group B] (Vegetation)**

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

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

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

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

This project captures a portion of the Island-wide actual recovery solution, specifically the one-time vegetation clearance and removal operation intended to mitigate the Region 4 Caguas (38kV) – non-sensitive (see project note #1 and #2).

FEMA 406 Hazard Mitigation (HM) team will review this actual recovery solution and issue an FCE offer for the portion of the recovery solution that reduces risk of future similar damages. The Work to be Completed will be captured in the 406 HM scope section. To address the overlap between the incidental vegetation work needed to carry out the repairs and the mitigation work, the Vegetation clearance HMP Sub-FAASt projects will be adjusted as describe in FEMA-4339-DR-PR Public Assistance PREPA FAASt Post-Fixed Cost Estimate Obligation Vegetation HMP Approach: 38kV. See document 956345 DR4339PR FAAStVegetationHMPApproach_38kVTrans.pdf. The PA Scope of Work and Cost is limited to the incidental vegetation clearance. No permanent infrastructure repairs are included as part of this scope. WTBC Cost (PA) = $15,433.57 per mile. Therefore, the total cost (PA) for this project will be $204,634.22.

DI#	PA Vegetation Clearance Overlap per mile	Total miles	WTBC - PA Cost with Subrecipient Management & General Conditions	A&E - PA	Total - PA
1366674	$15,433.57	13.37	$206,346.90	$(1,712.68)	$204,634.22

Work to be completed total: $206,346.90

A&E Deduction (Global A&E FAASt 335168): $(1,712.68)

Project Total: $204,634.22

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 have been, and will be, counted only once to avoid duplication within the vegetation clearance projects.

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

4. For details on the SOW, refer to filename 1068646 - FAASt [Region 4 Caguas 38Kv – Non-Sensitive] Former project 740409 (vegetation) DSOW Rev1.pdf

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

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

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

406 HMP Scope

Project number: [1068646] FAASt [Region 4 Caguas 38Kv – Non-Sensitive]/ Former project 740409 (vegetation)

Damage #: 1068646

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

Location: Caguas, Puerto Rico

GPS Latitude/Longitude: From: [redacted]

Introduction:

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

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

Hazard Mitigation Narrative:

In order to minimize damages in a future event, the Subrecipient's actual recovery solution seeks a one-time 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 caused by the declared event. Under DR-4339-PR, Section 406 hazard mitigation funds are based on eligible, technically feasible, and cost- effective mitigation activities proposed to reduce risk to the function of the disaster- damaged facilities. The portion of the recovery solution that reduces risk of future damage may be considered as eligible 406 mitigation.

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

The global project was divided into the following regions:

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

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

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

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

FAASt [Region 4 Caguas 38Kv – Non-Sensitive]/ Former project 740409 (vegetation)

This is a project for 38kV transmission lines in Region 4 Caguas. The DSOW captures the scope of work and cost estimate for Vegetation Clearing intended to mitigate the threat that the existing vegetation, along 38kV lines within Caguas (if left untended to), poses Puerto Rico's electric grid.

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

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

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

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

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

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

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

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

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

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

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

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

FEMA performed an analysis to the PREPA FAASt documents and determined that vegetation clearing on each mile of 38 kV line requiring repair was

on average 8.34% related to the repair (428 PA) and 91.66% related to a mitigation measure (406 HM). The fixed-cost estimate for the PA scope is $15,433.57 per 13.37 mile, with a total project cost of $206,346.90. For further details, refer to the document "FAAStVegetationHMPApproach_38kV Sub-Transmission_05.15.2025.pdf".

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

1068646 FAASt [Region 4 Caguas 38Kv – Non-Sensitive]/ Former project 740409 (vegetation)

As a result of DR-4339-PR, vegetation surrounding T&D assets are falling onto these facilities and interfering with the safe and reliable operation of the assets. The vegetation at present is currently causing outages when vegetation is in contact with the T&D assets. To mitigate the future damage across T&D assets and protect the 428 repairs and replacement along these facilities, clearing vegetation materials will be required. This 406 Hazard Mitigation Scope of Work is to directly reduce the potential of future, damages to the T&D system by clearing vegetative materials that pose an immediate threat to the power distribution lines, and identification for corrective actions related to clearing vegetation (consisting of shrubs, branches, limbs, stumps, bamboo, and trees that are directly impacting the resilience and productivity of the power grid) applicable to the existing PREPA electrical grid within Region 4 Caguas TL of Puerto Rico.

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

Parameters for Performing 406 Hazard Mitigation Vegetation Clearing

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

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

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

Double Circuit, Different Structures	Rural	50 ft	100 ft	100 ft

Scope of Work Inside Easement – Incompatible Species

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

- Tree removal: Qualified line clearance crews work at ground level or on aerial platforms to remove the portion of the tree that is above ground, leaving the stump in place.
- Severing of vines: Vines will be severed at the base with an airgap created between the root system and the portion of the vine climbing on the structure. Vines are severed and treated by a qualified working at ground level. The upper portion of the vine remains attached and is not removed.
- Cutting: Cutting typically involves the removal of small diameter Incompatible Species by hand.
- Vegetation mastication: also known as mulching, slash-busting, or brush-cutting, involves technique for reducing the size of vegetation and downed material in forests. It involves grinding, shredding, or chopping vegetation into smaller pieces, which are then left on the site as mulch.

Scope of Work Inside Easement – Compatible Species:

Compatible vegetation species will be cleared consistent with the distances identified in Regulation 7282, which means that any species with the potential to encroach within 12 feet of the conductors at full size will be removed using the same methods discussed above. Even though the distances identified in Regulation 7282 are vertical clearances, Compatible Species encroaching on the conductors from any direction can pose a hazard to the distribution system, with the maximum edge of the conductors to be 12 feet wide centered on the pole. Therefore, the 12-foot clearance is being applied to both vertical and horizontal clearances. For areas with overhead distribution systems located in the backyard or side yard, the certified easement width from LUMA Land Records office will be used 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 analyzing the feeder lines adjacent to roads. Where the feeder is through mountains FEMA use top and 3D view maps that allows determine the elevations for mountains, forested areas (assess vegetation), and the topography of the land. When poles are at the top of mountains and lines run between mountains, only the vegetation around the poles will be considered. The total percentage of each line is the result of compiling all the sections analyzed. It is important to emphasize that after work completed, the subrecipient can submit additional eligible vegetation clearance distance not included in this vegetation clearance percent analysis.

FEMA Analysis:

		HMP	Cost Estimate
Total Project Miles:		39.87	39.87
Vegetation Miles at 100% of Work		9.96	9.96
Vegetation Miles at 50% of Work		4.38	2.19
Total Miles to Clean		14.34	12.15
Buffer Acceptance:		10%	10%
Vegetation Miles at 100% + Buffer		10.96	10.96

Vegetation Miles at 50% + Buffer	4.38	2.41
Total Miles to Clean with Buffer	15.34	13.37
% of Miles to Clean with Buffer	38%	34%

The total length to be cleared, according to the Hazard Mitigation Proposal (HMP) is 15.34 miles, which includes a 10% buffer due the method of assessment (desktop review), providing sufficient funds to ensure vegetation works are covered. This amount is estimated value, that will be adjusted based on the amount of actual work performed.

The cost estimate is based on two vegetation clearance scenarios, (1) the full clearance represents those lines that at both side sides of the right of way have vegetation that needs to be cleared. (2) is the half clearance represented for those circuits alongside roadways and only needs clearance at one side of the right of way. As a result, the total miles used for the cost estimate is 13.37 miles, which reflects these adjustments for segments that do not require full clearing. This amount is estimated value, based on a desktop review that will be adjusted based on the amount of actual work performed and evidence of the actual work performed.

(III) Hazard Mitigation Proposal (HMP) Cost:

Vegetation Clearance Cost per Mile (Base Cost) =	$176,173.47 /
Risk Factor approved by DR4339-PR leadership (5%) =	$8,808.67 /
Vegetation Clearance Cost per Mile (w/Soft Cost) =	$184,982.14
PA Vegetation Clearance Overlap per Mile (Deduction) =	($15,433.57 /
Hazard Mitigation Total Cost per Mile =	**$169,548.57 /**
Project Total Miles with Vegetation: Buffer Acceptance:	12.15-
Project Total Miles with Vegetation:	13.37
Hazard Mitigation Total Cost =	**$2,266,86**

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

Total Net Hazard Mitigation Cost (Base Cost) =	$2,158,9
+ HM (Management & General Conditions Factors) =	$107,9

Hazard Mitigation Total Cost =	**$2,266,**

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

Architecture and Engineering (A&E) =	$18,8
Remaining Vegetation Clearance Cost =	$2,248,
Hazard Mitigation Total Cost =	**$2,266,**

(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 **$2,266,864.38** (Hazard Mitigation Total Cost). The cost of this HMP combined will all other proposals (both PA and HMGP) does not exceed the maximum potential benefit and is therefore deemed cost effective per FEMA Public Assistance Program and Policy Guide (PAPPG) V3.1 April 2018, Chapter 2, VII., Section C, BCA Rule. This Hazard Mitigation Proposal meets eligible repair and restoration cost-effective requirements.

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

(VI) Compliance and Assurance Requirements:

A) HMP GENERAL NOTES:

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

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

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

- Before and after photographs of the total distance included in the HMP Scope of work that clearly show the condition of the area before and after the vegetation clearance.
- A digital map in ArcGIS format showing all areas where vegetation removal was performed. Location information must be provided, including the physical address, GPS coordinates from start to finish of clearance work, and contact information for private property (when applicable).
- Work orders must account for the entire feeder length distance and include a description of the sections both with and without vegetation.

Material disposal documentation must specify whether the material was chipped and removed, left on-site, or transported to a landfill.

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

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

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

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

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

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

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

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

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

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

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

ATTACHMENTS:

Please refer to the following documents.

1. *"Island-Wide Vegetation Clearance - FEMA letter dated March 24, 2023.pdf"*
2. *"FAAStVegetationHMPApproach_38kV Sub-Transmission_05.15.2025.pdf"*
3. *"Appendix A and B - Protected Flora and Incompatible Flora Species.pdf"*
4. *"IWBCA HMP Package.pdf"*
5. *"PN1068646-DR4339PR-HMP-20260729-RFP Rev1.pdf"*
6. *"PN1068646-Caguas_B_38KV_No20SLP_.kmz"*
7. *"PN1068646-DR4339PR-HMCE-IEP-20260729-RFP R3.xlsx"*

Cost

Code	Quantity	Unit	Total Cost	Section
9001	1	Lump Sum	$206,346.90	Uncompleted
3510	1	Lump Sum	($1,712.68)	Uncompleted

CRC Gross Cost	$204,634.22
Total 406 HMP Cost	$0.00
Total Insurance Reductions	$0.00
CRC Net Cost	$204,634.22
Federal Share (90.00%)	$184,170.80
Non-Federal Share (10.00%)	$20,463.42

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

7/31/2026

Does the Applicant have a Commercial Policy: Yes

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

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

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

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

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

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

Patricia A. Perez, PA Insurance Specialist
CRC Atlantic, Guaynabo, PR

O&M Requirements

There are no Obtain and Maintain Requirements on **FAASt [Region 4 Caguas 38Kv – Non-Sensitive]/ Former project 740409 (vegetation)**.

406 Mitigation

There is no additional mitigation information on **FAASt [Region 4 Caguas 38Kv – Non-Sensitive]/ Former project 740409 (vegetation)**.

Environmental Historical Preservation

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

EHP Conditions

- Any change to the approved scope of work will require re-evaluation for compliance with NEPA and other Laws and Executive Orders.
- This review does not address all federal, state and local requirements. Acceptance of federal funding requires recipient to comply with all federal, state and local laws. Failure to obtain all appropriate federal, state and local environmental permits and clearances may jeopardize funding.
- If ground disturbing activities occur during construction, applicant will monitor ground disturbance and if any potential archaeological resources are discovered, will immediately cease construction in that area and notify the State and FEMA.
- On May 16, 2025, the Secretary of the U.S. Department of Energy (DOE) issued Order 202-25-2 (Order), pursuant to the authority vested in him by section 202(c) of the Federal Power Act (FPA), 16 U.S.C. § 824a(c), and section 301(b) of the Department of Energy Organization Act, 42 U.S.C. § 7151(b). The Order sought to expedite repair and maintenance efforts to the electrical grid of Puerto Rico by directing the Puerto Rico Electric Power Authority (PREPA) to perform vegetation management, including vegetation clearing to reestablish a right-of-way, for particular transmission and distribution facilities in the Territory as specified in the Order. The Order required PREPA to identify certain parameters by which the directed work would be performed, and required that all work be performed, to the maximum extent practicable, in a manner consistent with all applicable Federal, State, or local

environmental laws or regulations and minimize any adverse environmental impacts. However, pursuant to Section 202(c)(3) of the FPA, to the extent any omission or action taken by PREPA that was necessary to comply with the Order, including any omission or action taken to voluntarily comply with the Order, caused PREPA to not comply with any Federal, State, or local environmental law or regulation, including any environmental conditions in this REC's "Standard Conditions," such omission or action shall not be considered a violation of such environmental law or regulation, or subject PREPA to any requirement, civil or criminal liability, or citizen suit under such environmental law or regulation. On August 15, 2025, DOE reissued the Order to direct PREPA to also perform asset management, including component refurbishment and replacement. To renew/reissue the Order, DOE was required to consult with the primary Federal agency with expertise in the environmental interest protected by such law or regulation and include in the Order conditions necessary to minimize any adverse environmental impacts to the extent practicable. Pursuant to Section 202(c)(4)(B) of the FPA, DOE provided the relevant agencies the opportunity to submit conditions for worked performed under the Order, to be included in the Order. According to DOE, no conditions were submitted by the agencies for inclusion in the Order. On November 12, 2025, DOE reissued the Order to direct PREPA to also perform asset management, including component refurbishment and replacement. DOE and FEMA have agreed that DOE is the lead agency for activities that fall under the prior and any future DOE 202(c) orders issued under the Federal Power Act to resolve the current and related emergencies in Puerto Rico. FEMA has requested that DOE provide FEMA with all documentation relating to their EHP compliance. FEMA will review and incorporate all available information and data for this project pertaining to applicable environmental laws and regulations into this REC when it is received from DOE. On February 10, 2026, and again on May 7, 2026, DOE reissued the Order to direct PREPA to perform vegetation management, including vegetation clearing to re-establish the right-of-way, and asset management, including component refurbishment and replacement, to ensure operational availability of the transmission and distribution facilities. On August 07, 2026, DOE reissued the Order to direct PREPA to perform vegetation management, including vegetation clearing to re-establish the right-of-way, and asset management, including component refurbishment and replacement, to ensure operational availability of the transmission and distribution facilities.

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

EHP Additional Info

There is no additional environmental historical preservation on **FAASt [Region 4 Caguas 38Kv – Non-Sensitive]/ Former project 740409 (vegetation)**.

Final Reviews

Final Review

Reviewed By Diaz Rodriguez, Sheila M. **Reviewed On** 08/28/2026 5:13 PM PDT

Review Comments

Project reviewed and ready for continue the process

Recipient Review

Reviewed By Mulero, Noel **Reviewed On** 09/08/2026 2:28 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. This project applies to the Department of Energy's executive order. This means that DOE is the lead agency for environmental matters. Project is ready for applicant review.

Project Signatures

Reviewed By Unsigned

Reviewed On Unsigned

Award Information

EMMIE Imported Version Information

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

Drawdown History

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

Obligation History

Version #	Date Obligated	Obligated Cost	Cost Share	IFMIS Status	IFMIS Obligation #
0	9/12/2026	$184,170.80	90%	Accepted	4339DRPRP01082701

Department of Homeland Security
Federal Emergency Management Agency

v0

General Info

Project #	1068649 **P/W #** 108273	**Project Type**	Specialized
Project Category	F - Utilities	**Applicant**	PR Electric Power Authority (000-UA2QU-00)
Project Title	FAASt [Region 6 Ponce 38Kv – Non-Sensitive]/ Former project 740414 (vegetation)	**Event**	4339DR-PR (4339DR)
		Declaration Date	9/20/2017
Project Size	Large	**Incident Start Date**	9/17/2017
Activity Completion Date	9/20/2027	**Incident End Date**	11/15/2017
Process Step	Obligated		

Damage Description and Dimensions

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

Damage #1366679; FAASt [Region 6-Ponce Group B] (Vegetation)

General Facility Information:

- **Facility Type:** Power generation, transmission, and distribution facilities
- **Facility:** Region 6-Ponce Group B (Vegetation)
- **Facility Description:** The Puerto Rico Electric Power Authority (PREPA) owns more than 19,000 miles of transmission and distribution lines, as well as more than 400 substations. The facilities addressed in this project are all the overhead transmission and distribution lines (16,000+ miles), as well as substations. To ensure the functioning of this infrastructure to the level of service needed, keeping this equipment clear from vegetation is significant.
- **Approx. Year Built:** 1950
- **GPS Latitude/Longitude:** [redacted]

Final Scope

1366679 **FAASt [Region 6-Ponce Group B] (Vegetation)**

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

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

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

The actual recovery solution (scope and cost) will be captured in multiple individual projects (hereinafter Vegetation clearance HMP Sub-FAASt projects) to provide ?exibility 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, speci?cally the one-time vegetation clearance and removal operation intended to mitigate the Region 6 Ponce (38kV) – non-sensitive (see project note #1 and #2).

FEMA 406 Hazard Mitigation (HM) team will review this actual recovery solution and issue an FCE offer for the portion of the recovery solution that reduces risk of future similar damages. The Work to be Completed will be captured in the 406 HM scope section. To address the overlap between the incidental vegetation work needed to carry out the repairs and the mitigation work, the Vegetation clearance HMP Sub-FAASt projects will be adjusted as describe in FEMA-4339-DR-PR Public Assistance PREPA FAASt Post-Fixed Cost Estimate Obligation Vegetation HMP Approach: 38kV. See document 956345 DR4339PR FAAStVegetationHMPApproach_38kVTrans.pdf. The PA Scope of Work and Cost is limited to the incidental vegetation clearance. No permanent infrastructure repairs are included as part of this scope. WTBC Cost (PA) = $15,433.57 per mile. Therefore, the total cost (PA) for this project will be $294,324.21.

DI#	PA Vegetation Clearance Overlap per mile	Total miles	WTBC - PA Cost with Subrecipient Management & General Conditions	A&E - PA	Total - PA
1366679	$15,433.57	19.23	$296,787.55	$(2,463.34)	$294,324.21

Work to be completed total: $296,787.55

A&E Deduction (Global A&E FAASt 335168): -$2,463.34

Project Total: $294,324.21

Project Notes:

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

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

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

4. For details on the SOW, refer to filename 1068649 - FAASt [Region 6 Ponce 38Kv – Non-Sensitive] Former project 740414 (vegetation) DSOW Rev 1.pdf

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

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

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

406 HMP Scope

Project number: FAASt [1068649] FAASt [Region 6 Ponce 38Kv – Non Sensitive]/ Former project 740414

(vegetation)

Damage #: 1366679

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

Location: Ponce, Puerto Rico

GPS Latitude/Longitude: From: [redacted]

Introduction:

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

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 (hereinaft 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 t 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 o 12 to 25 feet from energized conductors to directly reduce the potential for future damage to the "transmission and/or distribution" (T&D) systems. Each 406 HM Vegetation Reset project is correlated with an eligible 428 T&D project, in association with PREPA's electrical grid. Different regional projects are developed to impact all lines of the electrical system, including distribution lines and high-voltage transmission lines. Also, projects are defined in terms of line type (distribution or transmission) and population density of the area (high or low) to simplify the evaluation by the Environmental and Historical Preservation team (EHP).

The global project was divided into the following regions:

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

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

- Region 1 – San Juan
- Region 2 – Arecibo
- Group A – High/Low Density Distribution Lines
- Group B – 38 kV Transmission.

- Group C – Overlapped Distribution and Transmission Lines
- Group D - 115 kV Facilities
- Group E - Substation and Telecommunication Facilities.
- Group F – 230 Kv Facilities (Non Region – Specific)

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

FAASt [Region 6 Ponce 38Kv – Non-Sensitive]/ Former project 740414 (vegetation)

This is a project for 38kV transmission lines in region 6 Ponce. The DSOW captures the scope of work and cost estimate for Vegetation Clearing intended to mitigate the threat that the existing vegetation, along 38kV lines within Arecibo (if left untended to), poses Puerto Rico's electric grid.

This SOW is aligned with and leverages FEMA's Island-Wide Benefits Cost Analysis (IWBCA), which was used for this purpose and fully support the mitigation measures employe 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 **19.23 miles,** with a total project cost of **$296,787.55.** For further details, refer to the document "FAAStVegetationHMPApproach_38kV Sub-Transmission_05.15.2025.pdf"

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

[1068649] FAASt [Region 6 Ponce 38Kv – Non-Sensitive]/ Former project 740414 (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 2 Arecibo TL of Puerto Rico.

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

Parameters for Performing 406 Hazard Mitigation Vegetation Clearing

Regulation 7282 requires that only shrubs and plants (no trees) be planted within the easement under power lines. Climbing plants and vines, as well as bamboo, are prohibited from being planted within an easement. The branches of trees planted outside the easement must not obstruct free passage of the power lines. The National Electrical Safety Code (NESC) and PREPA's Technical Communication establish the minimum required distances, both vertical and horizontal, between an energized conductor or device and any structure, building, or surface. Vegetation clearing will be restricted to removing any vegetation that interferes with these clearances. For power distribution lines, NESC and Regulation 7282 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 Management Plan establishing standard Distribution easement widths. Easement Clearance widths for distribution lines are given in the table below:

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

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

Scope of Work Inside Easement – Incompatible Species

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

- Tree removal: Qualified line clearance crews work at ground level or on aerial platforms to remove the portion of the tree that is above ground, leaving the stump in place.
- Severing of vines: Vines will be severed at the base with an airgap created between the root system and the portion of the vine climbing on the structure. Vines are severed and treated by a qualified working at ground level. The upper portion of the vine remains attached and is not removed.
- Cutting: Cutting typically involves the removal of small diameter Incompatible Species by hand.
- Vegetation mastication: also known as mulching, slash-busting, or brush-cutting, involves technique for reducing the size of vegetation and downed material in forests. It involves grinding, shredding, or chopping vegetation into smaller pieces, which are then left on the site as mulch.

Scope of Work Inside Easement – Compatible Species:

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

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

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

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

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

All Other Incompatible Species within the Recommended Easement Width:

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

cutting, and vegetation mastication) will be utilized.

Scope of Work Outside Easement – Species Growing into the Easement

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

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

FEMA 38kV Assessment & Methodology:

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

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

FEMA Analysis:

	HMP	Cost Estimate
Total Project Miles:	44.50	44.50
Vegetation Miles at 100% of Work	16.42	16.42
Vegetation Miles at 50% of Work	2.12	1.06
Total Miles to Clean	18.54	17.48
Buffer Acceptance:	0.10	10%
Vegetation Miles at 100% + Buffer	**18.06**	**18.06**

Vegetation Miles at 50% + Buffer	**2.33**	**1.17**
Total Miles to Clean with Buffer	**20.39**	**19.23**
% of Miles to Clean with Buffer	**46%**	**43%**

The total miles to clean in the Hazard Mitigation Plan (HMP) is **20.39 miles**, which includes a 10% buffer due to the method of assessment (desktop review), providing sufficient funds to ensure vegetation works are covered. This amount is estimated value, that will be adjusted based on the amount of actual work performed.

The cost estimate is based on two vegetation clearance scenarios, (1) the full clearance represents those lines that at both side sides of the right of way have vegetation that needs to be cleared. (2) is the half clearance represented for those circuits alongside roadways and only needs clearance at one side of the right of way. As a result, the total miles used for the cost estimate is **19.23 miles,** which reflects these adjustments for segments that do not require full clearing. This amount is estimated value, based on a desktop review that will be adjusted based on the amount of actual work performed and evidence of the actual work performed.

Case Scenario #1

Case scenario #2.

Cost Summary:

The Hazard Mitigation Proposal is divided into 1ea Sub-Project: Damage #1366679; FAASt [Region 6-Ponce Group B] (Vegetation)The total HMP Cost is the HM Net Cost ($3,105,160.98) + Applicant A&E, Management & General Conditions $155,258.02 = $3,260,419.00

(III) Hazard Mitigation Proposal (HMP) Cost:

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

Hazard Mitigation Total Cost per Mile =	**$169,548.57 /**
Project Total Miles with Vegetation: Buffer Acceptance:	17.48
Project Total Miles with Vegetation:	19.23
Hazard Mitigation Total Cost =	**$3,260,41**

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

Total Net Hazard Mitigation Cost (Base Cost) =	$3,105
+ HM (Management & General Conditions Factors) =	$155
Hazard Mitigation Total Cost =	**$3,260,**

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

Architecture and Engineering (A&E) =	$27
Remaining Vegetation Clearance Cost =	$3,233
Hazard Mitigation Total Cost =	$3,260

(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 a 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 Accelerat 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 **$3,260,419.00 (Hazard Mitigation Total Cost).** The cost of this HMP combined will all other proposals (both PA and HMGP) does not exceed the maximum potential benefit and is therefore deemed cost effective per FEMA Public Assistance Program and Policy Guide (PAPPG) V3.1 April 2018, Chapter 2, VII., Section C, BCA Rule. This Hazard Mitigation Proposal meets eligible repair and restoration cost-effective requirements.

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

(VI) Compliance and Assurance Requirements:

A) HMP GENERAL NOTES:

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

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

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

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

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

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

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

COST DISTRIBUTION: Recognizing that the established cost is an average per mile, it is understood that actual expenses for each feeder or area may deviate (either underrun o 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 cou 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 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, an 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 th 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 t 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 Regulatio 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. 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 la regulations, and executive orders applicable to the site. This project will undergo an EHP compliance review, after obligation any changes to the SOW will likely trigger an additional EHP compliance review of the revised SOW.

ATTACHMENTS:

Date Downloaded: 9/14/26 6:36am PDT

Please refer to the following documents.

1. “Island-Wide Vegetation Clearance - FEMA letter dated March 24, 2023.pdf”
2. “FAAStVegetationHMPApproach_38kV Sub-Transmission_05.15.2025.pdf”
3. “Appendix A and B - Protected Flora and Incompatible Flora Species.pdf”
4. “IWBCA HMP Package.pdf”
5. “PN1068649-DR4339PR-HMP-20260729-ENR.pdf"
6. “PN1068649-Ponce 38KV.kmz”
7. “PN1068649-DR4339PR-HMCE-ENR-20260729”

Date Downloaded: 9/14/26 6:36am PDT

Cost

Code	Quantity	Unit	Total Cost	Section
9001	1	Lump Sum	$296,787.55	Uncompleted
3510	1	Lump Sum	($2,463.34)	Uncompleted

CRC Gross Cost	$294,324.21
Total 406 HMP Cost	$0.00
Total Insurance Reductions	$0.00
CRC Net Cost	$294,324.21
Federal Share (90.00%)	$264,891.79
Non-Federal Share (10.00%)	$29,432.42

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

7/31/2026

Does the Applicant have a Commercial Policy: Yes

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

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

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

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

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

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

Patricia A. Perez, PA Insurance Specialist, CRC Atlantic, Guaynabo, PR

O&M Requirements

There are no Obtain and Maintain Requirements on **FAASt [Region 6 Ponce 38Kv – Non-Sensitive]/ Former project 740414 (vegetation)**.

406 Mitigation

There is no additional mitigation information on **FAASt [Region 6 Ponce 38Kv – Non-Sensitive]/ Former project 740414 (vegetation)**.

Environmental Historical Preservation

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

EHP Conditions

- Any change to the approved scope of work will require re-evaluation for compliance with NEPA and other Laws and Executive Orders.
- This review does not address all federal, state and local requirements. Acceptance of federal funding requires recipient to comply with all federal, state and local laws. Failure to obtain all appropriate federal, state and local environmental permits and clearances may jeopardize funding.
- If ground disturbing activities occur during construction, applicant will monitor ground disturbance and if any potential archaeological resources are discovered, will immediately cease construction in that area and notify the State and FEMA.
- On May 16, 2025, the Secretary of the U.S. Department of Energy (DOE) issued Order 202-25-2 (Order), pursuant to the authority vested in him by section 202(c) of the Federal Power Act (FPA), 16 U.S.C. § 824a(c), and section 301(b) of the Department of Energy Organization Act, 42 U.S.C. § 7151(b). The Order sought to expedite repair and maintenance efforts to the electrical grid of Puerto Rico by directing the Puerto Rico Electric Power Authority (PREPA) to perform vegetation management, including vegetation clearing to reestablish a right-of-way, for particular transmission and distribution facilities in the Territory as specified in the Order. The Order required PREPA to identify certain parameters by which the directed work would be performed, and required that all work be performed, to the maximum extent practicable, in a manner consistent with all applicable Federal, State, or local

environmental laws or regulations and minimize any adverse environmental impacts. However, pursuant to Section 202(c)(3) of the FPA, to the extent any omission or action taken by PREPA that was necessary to comply with the Order, including any omission or action taken to voluntarily comply with the Order, caused PREPA to not comply with any Federal, State, or local environmental law or regulation, including any environmental conditions in this REC's "Standard Conditions," such omission or action shall not be considered a violation of such environmental law or regulation, or subject PREPA to any requirement, civil or criminal liability, or citizen suit under such environmental law or regulation. On August 15, 2025, DOE reissued the Order to direct PREPA to also perform asset management, including component refurbishment and replacement. To renew/reissue the Order, DOE was required to consult with the primary Federal agency with expertise in the environmental interest protected by such law or regulation and include in the Order conditions necessary to minimize any adverse environmental impacts to the extent practicable. Pursuant to Section 202(c)(4)(B) of the FPA, DOE provided the relevant agencies the opportunity to submit conditions for worked performed under the Order, to be included in the Order. According to DOE, no conditions were submitted by the agencies for inclusion in the Order. On November 12, 2025, DOE reissued the Order to direct PREPA to also perform asset management, including component refurbishment and replacement. DOE and FEMA have agreed that DOE is the lead agency for activities that fall under the prior and any future DOE 202(c) orders issued under the Federal Power Act to resolve the current and related emergencies in Puerto Rico. FEMA has requested that DOE provide FEMA with all documentation relating to their EHP compliance. FEMA will review and incorporate all available information and data for this project pertaining to applicable environmental laws and regulations into this REC when it is received from DOE. On February 10, 2026, and again on May 7, 2026, DOE reissued the Order to direct PREPA to perform vegetation management, including vegetation clearing to re-establish the right-of-way, and asset management, including component refurbishment and replacement, to ensure operational availability of the transmission and distribution facilities. On August 07, 2026, DOE reissued the Order to direct PREPA to perform vegetation management, including vegetation clearing to re-establish the right-of-way, and asset management, including component refurbishment and replacement, to ensure operational availability of the transmission and distribution facilities.

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

EHP Additional Info

There is no additional environmental historical preservation on **FAASt [Region 6 Ponce 38Kv – Non-Sensitive]/ Former project 740414 (vegetation)**.

Final Reviews

Final Review

Reviewed By Diaz Rodriguez, Sheila M. **Reviewed On** 08/28/2026 5:15 PM PDT

Review Comments

Project reviewed and ready to continue the process

Recipient Review

Reviewed By Mulero, Noel **Reviewed On** 09/08/2026 2:17 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. This project applies to the Department of Energy's executive order. This means that DOE is the lead agency for environmental matters. Project is ready for applicant review.

Project Signatures

Reviewed By Unsigned

Reviewed On Unsigned

Award Information

EMMIE Imported Version Information

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

Drawdown History

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

Obligation History

Version #	Date Obligated	Obligated Cost	Cost Share	IFMIS Status	IFMIS Obligation #
0	9/12/2026	$264,891.79	90%	Accepted	4339DRPRP01082731