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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 Eight (8) Amended FEMA Approval of Project and Five (5) FEMA Approvals of Project, Request for Confidential Treatment, and Supporting Memorandum of Law**

MOTION SUBMITTING EIGHT (8) 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 submit the following:

I. Relevant Procedural Background

1. On March 26, 2021, this Honorable Puerto Rico Energy Bureau ("Energy Bureau") issued a Resolution and Order in the instant proceeding, ordering, in pertinent part, that the Puerto Rico Electric Power Authority ("PREPA") submit to the Energy Bureau the specific transmission and distribution projects ("T&D Projects" or "Projects") to be funded with Federal Emergency Management Agency ("FEMA") funds or any other federal funds at least thirty (30) calendar days prior to submitting these Projects to the Puerto Rico Central Office for Recovery, Reconstruction and Resiliency ("COR3"), FEMA or any other federal agency ("March 26th Order"). It also directed PREPA to continue reporting to the Energy Bureau and FEMA, within the next five years, on the progress of all ongoing efforts related to the approval of the submitted Projects that 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 July 8, 2021, LUMA filed a *Motion Submitting List of Projects and Twenty-Eight Scopes of Work* ("July 8th Motion"). In the July 8th Motion, LUMA submitted twenty-eight (28) scopes of work ("SOWs") for T&D Projects for the Energy Bureau's review and approval prior to submitting them to COR3 and FEMA. Among the twenty-eight SOWs, LUMA submitted the "Distribution Feeders – San Juan Short Term Group 2" SOW.

3. On August 20, 2021, the Energy Bureau issued a Resolution and Order ("August 20th Order") that determined that all of the SOWs for the T&D projects submitted by LUMA in the July 8th Motion were necessary to improve the system's reliability. Therefore, it approved all of the projects presented in the July 8th Motion, including the "Distribution Feeders – San Juan Short Term Group 2" 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.

4. 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

[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*.

Poles and Structures Replacements", the "Distribution Feeders – San Juan Short Term Group 3", the "Distribution Pole and Conductor Replacement", and the "Distribution Streetlighting" SOWs.

5. 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 Transmission Priority Poles and Structures Replacements", the "Distribution Feeders – San Juan Short Term Group 3", the "Distribution Pole and Conductor Replacement", and the "Distribution Streetlighting" SOWs. 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.

6. On July 29, 2022, LUMA filed a *Motion Submitting Four Scopes of Work and Updated List of Projects and Request for Confidentiality and Supporting Memorandum* ("July 29th Motion") whereby it submitted four (4) scopes of work ("SOWs") for the Energy Bureau's review and approval prior to submitting them to COR3 and FEMA ("July 29th Motion"). The SOWs LUMA submitted included the "Transmission and Distribution Automation Program Installation of Intelligent Reclosers, Single Phase Reclosers and Fault Current Indicators" T&D Project.

7. On August 25, 2022, the Energy Bureau issued a Resolution and Order that determined that the SOWs for T&D projects submitted by LUMA in the July 29th Motion were necessary to improve the system's reliability ("August 25th Order"). Therefore, it approved all of the projects presented in the July 29th Motion, including the "Transmission and Distribution Automation Program Installation of Intelligent Reclosers, Single Phase Reclosers and Fault Current Indicators" T&D Project. The Energy Bureau also ordered LUMA to submit a copy of the

approval by COR3 and/or FEMA of the Project, which shall contain the costs obligated for each project, within ten (10) days of receipt of 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. Then, on November 7, 2023, LUMA filed the *Motion Submitting One Scope of Work, Request for Confidentiality and Supporting Memorandum of Law* ("November 7th Motion"), whereby LUMA submitted the "Transmission and Distribution Automation Program Installation of Three Phase Reclosers, Single Phase Reclosers and Fault Circuit Indicators and Feeder Headend Protection Devices" SOW for the Energy Bureau's approval.

11. On November 27, 2023, the Energy Bureau issued a Resolution and Order ("November 27th Order"), whereby it approved the "Transmission and Distribution Automation Program Installation of Three Phase Reclosers, Single Phase Reclosers and Fault Circuit Indicators and Feeder Headend Protection Devices" SOW and 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.

12. The "38 kV Transmission Priority Poles and Structures Replacements" SOW is divided into individual projects per region, which include the "FAASt [Transmission Priority Pole Replacements – Line 2200] (Transmission)" T&D Project.

13. The "Transmission and Distribution Automation Program Installation of Reclosers, Single Phase Reclosers and Fault Current Indicators" and the "Transmission and Distribution Automation Program Installation of Three Phase Reclosers, Single Phase Reclosers and Fault Circuit Indicators and Feeder Headend Protection Devices" SOWs were also divided into separate groups, which include the "FAASt [Automation Program Group 12: DAR – ARECIBO 7402, 7403, 7702 FY24] (Distribution)", the "FAASt [Automation Program Group 20: Caguas] (Distribution)", the "FAASt [Automation Program Group 15] (Distribution)", and the "FAASt [Automation Program Group 31] (Distribution)" T&D Projects.

14. The "Distribution Feeders – San Juan Short Term Group 3" and the "Distribution Feeders – San Juan Short Term Group 2" SOWs were also subdivided, which include the "FAASt [Distribution Feeder Rebuild # 1620-02] (Distribution)" and "FAAST [Distribution Feeder Rebuild # 1529-15] (Distribution)" T&D Projects, respectively.

15. The "Distribution Streetlighting" SOW was further divided into individual projects, among them, the "FAASt [Rincón Streetlighting] (Distribution)", the "FAASt [Moca Streetlighting] (Distribution)", the "FAASt [Aguas Buenas Streetlighting] (Distribution)", and the "FAASt [Lares Streetlighting] (Distribution)" T&D Projects.

16. The "Island-Wide Vegetation Clearing" SOW was also divided into separate projects by group, which include the "FAASt [Region 5 Mayagüez Transmission 38kV – Non-Sensitive] (Vegetation)- Group B" T&D Project.

17. Finally, the "Distribution Pole & Conductor Replacement" SOW was also divided into separate projects, including the "FAASt [Pole and Conductor Repair - Caguas Group 6 - Phase 2]" T&D Project.

II. Submittal of Eight Amended FEMA Approvals of Project

18. On July 19, 2022, LUMA filed a *Motion Submitting FEMA Approval of Four Projects, Request for Confidential Treatment and Memorandum of Law in Support of this Request* ("July 19th Motion"), whereby, in compliance with the August 20th Order, LUMA submitted a copy of the project approval issued by FEMA on July 11, 2022, for the "FAASt [Priority Pole Replacement Program (Line 2200)] (Transmission)"[2] T&D Project.

19. On February 11, 2025, LUMA filed a *Motion Submitting Seven FEMA Approvals of Projects, Request for Confidential Treatment and Supporting Memorandum of Law* ("February 11th Motion"), whereby, in compliance with the August 25th and November 27th Orders, LUMA submitted copies of the project approvals issued by FEMA on February 6, 2025, for the "FAASt [Automation Program Group 12: DAR – ARECIBO 7402, 7403, 7702 FY24] (Distribution)",[3] "FAASt [Automation Program Group 20: Caguas] (Distribution)",[4] and "FAASt [Automation Program Group 15] (Distribution)"[5] T&D Projects.

20. On September 26, 2025, LUMA filed a *Motion Submitting Eighteen FEMA Approvals of Projects, Request for Confidential Treatment and Supporting Memorandum of Law* ("September 26th Motion"), whereby, in compliance with the August 20th, September 22nd, August 25th and November 27th Orders, LUMA submitted a copy of the project approval issued by FEMA

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[2] Described as the "FAASt [Line 2200 Dos Bocas HP to Dorado TC] (Transmission) T&D Project in the July 19th Motion.
[3] Described as the "FAASt [Automation Program Group 12] (TL/Distribution)" in the February 11th Motion.
[4] Described as the "FAASt [Automation Program Group 20] (TL/Distribution)" in the February 11th Motion.
[5] Described as the "FAASt [Automation Program Group 15] (TL/Distribution)" in the February 11th Motion.

on September 17, 2025, for the "FAASt [Automation Program Group 31] (Distribution)", "FAASt [Distribution Feeder Rebuild # 1620-02] (Distribution)",[6] and the "FAASt [Distribution Feeder Rebuild #1529-15] (Distribution)"[7] T&D Projects.

21. Finally, on March 5, 2026, LUMA filed a *Motion Submitting Seventeen (17) FEMA Approvals of Project, Request for Confidential Treatment and Supporting Memorandum of Law* ("March 5th Motion"), whereby, in compliance with the September 22nd Order, LUMA submitted a copy of the project approval issued by FEMA on March 1, 2026, for the "FAASt [Rincón Streetlighting] (Distribution)" T&D Project.

22. In compliance with the August 20th, August 25th, September 22nd, and November 27th Orders, LUMA hereby submits copies of the following eight (8) amended approvals by FEMA, which state they were re-obligated on September 25, 2026:[8] "FAASt [Rincón Streetlighting] (Distribution)", "FAASt [Automation Program Group 12: DAR – ARECIBO 7402, 7403, 7702 FY24] (Distribution)", "FAASt [Automation Program Group 20: Caguas] (Distribution)", "FAASt [Automation Program Group 15] (Distribution)", "FAASt [Automation Program Group 31] (Distribution)", "FAASt [Distribution Feeder Rebuild # 1620-02] (Distribution)", "FAASt [Distribution Feeder Rebuild #1529-15] (Distribution)", and "FAASt [Priority Pole Replacement Program (Line 2200)] (Transmission)" T&D Projects. *See* Exhibit 1 to this Motion.[9]

[6] Described as the "FAASt [Feeder Rebuild # 1620-02] (Distribution)" in the September 26th Motion.
[7] Described as the "FAASt [Feeder Rebuild # 1529-15] (Distribution)" in the September 26th Motion.
[8] The amended FEMA approvals are listed in the order they appear in **Exhibit 1**.
[9] Please note that **Exhibit 1** has digitalization and table format issues, which are found on the documents as issued by FEMA.

23. As explained in prior motions,[10] FEMA has clarified how it processes certain Sub-FAASt transactions involving both positive and negative cost adjustments under Section 428 Public Assistance and Section 406 Hazard Mitigation. Because FEMA's system cannot process both adjustments in the same version, it processes the positive adjustment in the current version and the corresponding negative adjustment in a subsequent version. This procedure explains temporary discrepancies between project costs listed in the Consolidated Project List and amounts shown in individual FEMA versions. Most of the amended FEMA approvals discussed below reflect this subsequent-version process for negative adjustments. FEMA will address obligations that did not receive Section 406 funding in subsequent versions.

24. Version 1 of the "FAASt [Rincón Streetlighting] (Distribution)" approved T&D Project was created to capture the LUMA change in cost of the project and request an amendment to the Scope of Work (SOW). In Version 0, the project had a total estimated cost of $11,536,809.84 when it was obligated. In Version 1, LUMA seeks to modify the project cost estimate to accurately allocate Architecture and Engineering (A&E) costs to FAASt # 335168 and allocate Equipment and Materials (E&M) costs to FAASt # 673691. Version 2, on the other hand, was created as an administrative amendment because IFMIS (the finance system) cannot currently accommodate two separate accounting streams within a single transaction. This administrative amendment includes the cost changes that were pending in the previous project version. *See* **Exhibit 1** of this Motion, FEMA re-obligation for "FAASt [Rincón Streetlighting] (Distribution)", pp. 15, 31.

25. As to the "FAASt [Automation Program Group 12: DAR – ARECIBO 7402, 7403, 7702 FY24] (Distribution)", "FAASt [Automation Program Group 20: Caguas] (Distribution)",

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

and "FAASt [Automation Program Group 31] (Distribution)" approved T&D Projects, Version 1 of these projects was created to align the scope and cost in PA and HM. Since these versions include both 406 HMP and 428 PA costs, one with a positive amount and the other negative, FEMA will first process the positive funds, and in a later version FEMA will de-obligate the negative portion. Accordingly, Version 2 of these three projects was created as an administrative amendment because IFMIS (the finance system) cannot currently accommodate two separate accounting streams within a single transaction. This administrative amendment includes the cost changes pending in the previous project versions. *See, respectively,* **Exhibit 1** of this Motion, FEMA re-obligation for "FAASt [Automation Program Group 12: DAR – ARECIBO 7402, 7403, 7702 FY24] (Distribution)", pp. 21, 44; *Id*., FEMA re-obligation for "FAASt [Automation Program Group 20: Caguas] (Distribution)", p. 20, 45. *Id*., FEMA re-obligation for "FAASt [Automation Program Group 31] (Distribution)," pp. 17, 35.

26. Regarding "FAASt [Automation Program Group 15] (Distribution)" approved T&D Project, this FEMA cost approval has been amended several times. Versions 1 and 2 were created to correct the fund code from FC6E to FC06 for FAASt projects. This administrative amendment did not change the previously approved scope of work or costs; however, to process the correction, a version was submitted to de-obligate the available balance in this PW, and a subsequent version was to be submitted to reconcile available funding in the correct code. *See id*., FEMA re-obligation for "FAASt [Automation Program Group 15] (Distribution)", pp. 12, 18. Version 3 of the aforementioned project was approved not only to correct the fund code from FC6E to FC06, but also to re-obligate the available balance de-obligated in a previous version as part of the fund code fix under FC06. *Id*., p. 24. Version 4 was created to capture the LUMA change in the project cost and to request an amendment to the SOW. LUMA requested component additions

to the project scope of work and cost estimates that were not included in the obligated project. *Id*., p. 30. Version 5 was created to capture LUMA's change in project cost, as an amendment at the request of Event Leadership. The project currently reflects a negative pending federal share obligated. To address this, we created a new amendment/version to offset the CRC gross cost from the previous version. In the current version, $367,283.08 will be re-obligated to the CRC gross cost, effectively canceling out the CRC gross costs from the prior version. Once this amendment/version moves to Pending Award, only the 406 HMP amount of $250,899.06 will be net obligated for 406 HM costs. This process ensures that the CRC gross cost is properly accounted for and that only the eligible 406 HMP costs are reflected in the pending award. *Id.,* p. 46. Finally, Version 6 was created to capture the LUMA change in project cost and to request an amendment to the Scope of Work (SOW). In Version 5, leadership requested that the negative pending federal share obligation be addressed. A positive amount of $367,283.08 was re-obligated to the CRC gross cost, effectively canceling out the CRC gross cost from the prior version. As a result, only the Section 406 Hazard Mitigation Program (HMP) amount of $250,899.06 was net obligated for Section 406 hazard mitigation costs. In this version, Section 428 funding is reconciled to modify the project cost estimate and accurately allocate Architecture and Engineering (A&E) costs to FAASt #335168, as well as appropriately allocate Equipment and Materials (E&M) costs to FAASt #673691. Version 0 will be fully de-obligated to reclassify Section 428 Public Assistance costs, which had been added to Section 406 Mitigation costs in the previous version. *Id*., p. 56.

27. Version 1 of the "FAASt [Distribution Feeder Rebuild # 1620-02] (Distribution)" approved T&D project was created to capture the change in scope and cost as per Applicant-provided documentation. The update also reconciles design adjustments identified during the engineering and IFC development stage and incorporates the new Detailed Scope of Work (DSOW

Rev. 0, dated December 1, 2025) and the revised Line-Item Project Cost Estimate (LPCE) for Feeder 1620-02. *See* **Exhibit 1** of this Motion, FEMA re-obligation for "FAASt [Distribution Feeder Rebuild # 1620-02] (Distribution)", p. 15.

28. Version 1 of the "FAASt [Distribution Feeder Rebuild #1529-15] (Distribution)", approved T&D project was created to align the scope and cost in PA and HM. Since this version includes both 406 HMP and 428 PA costs, one with a positive amount and the other negative, FEMA will first process the positive funds, and in a later version FEMA will de-obligate the negative portion. SOW from previous. Version 2, on the other hand, was created as an administrative amendment because IFMIS (the finance system) cannot currently accommodate two separate accounting streams within a single transaction. This administrative amendment includes the cost changes that were pending in the previous project version. *See* **Exhibit 1** of this Motion, FEMA re-obligation for "FAASt [Distribution Feeder Rebuild #1529-15] (Distribution)", pp. 14, 43.

29. Finally, Version 1 of the "FAASt [Priority Pole Replacement Program (Line 2200)] (Transmission)" approved T&D Project was created to address the EHP review for critical Habitat of the PR Harlequin Butterfly according to the requirements of the Endangered Species Act. This version includes no additional SOW or cost changes. The damage, description, dimensions, and SOW of this data integration remain the same as in Version 0. Version 3 was created to relocate the 428 PA and 406 HM scope of work, which required reconciling funds. The project was reviewed, and HM validated the subrecipient-proposed HMP. Total 406 HMP costs are $36,562.22, and the federal Share is $32,906.00. EHP Compliance review was also completed. *See* **Exhibit 1** of this Motion, FEMA re-obligation for "FAASt [Priority Pole Replacement Program (Line 2200)] (Transmission)", pp. 9, 27.

III. Submittal of Five FEMA Approvals of Project

30. In compliance with the September 22nd and May 5th Orders, LUMA hereby submits copies of the following FEMA Cost Approvals for T&D projects, which state that they were obligated on September 25, 2026: "FAASt [Pole and Conductor Repair - Caguas Group 6 - Phase 2]",[11] "FAASt [Region 5 Mayagüez Transmission 38kV - Non-Sensitive] (Vegetation)- Group B",[12] "FAASt [Aguas Buenas Streetlighting] (Distribution)",[13] "FAASt [Lares Streetlighting] (Distribution)",[14] and "FAASt [Moca Streetlighting] (Distribution)"[15] T&D Projects. *See* **Exhibit 2**.[16] The document contains the FEMA approvals and includes the costs obligated for each project.

IV. Request for Confidential Treatment of Exhibit 1 and 2

31. LUMA is submitting herein redacted public versions of the amended FEMA approvals for the "FAASt [Rincón Streetlighting] (Distribution)", "FAASt [Automation Program Group 12: DAR – ARECIBO 7402, 7403, 7702 FY24] (Distribution)", "FAASt [Automation Program Group 20: Caguas] (Distribution)", "FAASt [Automation Program Group 15] (Distribution)", "FAASt [Automation Program Group 31] (Distribution)", "FAASt [Distribution Feeder Rebuild # 1620-02] (Distribution)", "FAASt [Distribution Feeder Rebuild #1529-15] (Distribution)", and "FAASt [Priority Pole Replacement Program (Line 2200)] (Transmission)" T&D projects (**Exhibit 1**) and the FEMA approvals for the "FAASt [Pole and Conductor Repair - Caguas Group 6 - Phase 2]", "FAASt [Region 5 Mayagüez Transmission 38kV - Non-Sensitive] (Vegetation)- Group B", "FAASt [Aguas Buenas Streetlighting] (Distribution)", "FAASt [Lares Streetlighting] (Distribution)", and "FAASt [Moca Streetlighting] (Distribution)" T&D Projects

[11] The former FAASt number for this T&D Project was 806935; the current FAASt number is 1066738.
[12] The former FAASt number for this T&D Project was 740411; the current FAASt number is 1068648.
[13] The former FAASt number for this T&D Project was 724941; the current FAASt number is 1068662.
[14] The former FAASt number for this T&D Project was 713795; the current FAASt number is 1068666.
[15] The former FAASt number for this T&D Project was 704741; the current FAASt number is 1068667.
[16] Please note that **Exhibit 2** has digitalization and table format issues, which are found on the documents as issued by FEMA.

(**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

32. 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).

33. 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).

34. 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.

35. 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.

36. 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).

37. 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

38. 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.

39. 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.

40. 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.

41. 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").[17] 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).[18]

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

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

[18] 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;

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 generation assets and the T&D System, LUMA respectfully submits that these materials constitute CEII that should be maintained confidentially to safeguard their integrity and protect them from external threats.

C. Identification of Confidential Information

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

(B) 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.

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 [Rincón Streetlighting] (Distribution) (Cost Only)	Pages 1, 3, 5, 15, 19, 21–22, 31, 35, 37	Critical Energy Infrastructure Information, 18 C.F.R. § 388.113; 6 U.S.C. §§ 671-674.	October 5, 2026
	FAASt [Automation Program Group 12: DAR – ARECIBO 7402, 7403, 7702 FY24] (Distribution) (Cost Only)	Pages 1, 3-14, 21, 23-31, 34, 44, 46-54, 57	Critical Energy Infrastructure Information, 18 C.F.R. § 388.113; 6 U.S.C. §§ 671-674.	October 5, 2026
	FAASt [Automation Program Group 20: Caguas] (Distribution) (Cost Only)	Pages 1, 3-12, 20, 22-31, 34, 45, 47-56, 59	Critical Energy Infrastructure Information, 18 C.F.R. § 388.113; 6 U.S.C. §§ 671-674.	October 5, 2026
	FAASt [Automation Program Group 15] (Distribution) (Cost Only)	Pages 1, 3, 4, 12, 18, 24, 30, 32, 34, 37, 46, 47, 56, 58-60, 62, 64	Critical Energy Infrastructure Information, 18 C.F.R. § 388.113; 6 U.S.C. §§ 671-674.	October 5, 2026
	FAASt [Automation Program Group 31] (Distribution) (Cost Only)	Pages 1, 3-10, 17, 19-24, 27, 29, 35, 37, 38-42, 45, 47	Critical Energy Infrastructure Information, 18 C.F.R. § 388.113; 6 U.S.C. §§ 671-674.	October 5, 2026

Document	Name	Pages in which Confidential Information is Found, if applicable	Summary of Legal Basis for Confidentiality Protection, if applicable	Date Filed
	FAASt [Distribution Feeder Rebuild # 1620-02] (Distribution)	Pages 1, 2, 6, 15-17, 23, 26	Critical Energy Infrastructure Information, 18 C.F.R. § 388.113; 6 U.S.C. §§ 671-674.	October 5, 2026
	FAASt [Distribution Feeder Rebuild #1529-15] (Distribution) (Cost Only)	Pages 1-5, 14-16, 32, 35, 43-45, 58, 61	Critical Energy Infrastructure Information, 18 C.F.R. § 388.113; 6 U.S.C. §§ 671-674.	October 5, 2026
	FAASt [Priority Pole Replacement Program (Line 2200)] (Transmission)	Pages 1, 9, 16, 27, 31	Critical Energy Infrastructure Information, 18 C.F.R. § 388.113; 6 U.S.C. §§ 671-674.	October 5, 2026
Exhibit 2	[Moca Streetlighting] (Distribution)	Pages 1, 5, 6	Critical Energy Infrastructure Information, 18 C.F.R. § 388.113; 6 U.S.C. §§ 671-674.	October 5, 2026
	[Aguas Buenas Streetlighting] (Distribution)	Pages 1, 4, 6	Critical Energy Infrastructure Information, 18 C.F.R. § 388.113; 6 U.S.C. §§ 671-674.	October 5, 2026

Document	Name	Pages in which Confidential Information is Found, if applicable	Summary of Legal Basis for Confidentiality Protection, if applicable	Date Filed
	FAASt [Region 5 Mayagüez Transmission 38kV - Non-Sensitive (Vegetation)]- Group B	Pages 1, 3	Critical Energy Infrastructure Information, 18 C.F.R. § 388.113; 6 U.S.C. §§ 671-674.	October 5, 2026
	[Lares Streetlighting] (Distribution)	Pages 1, 7, 9	Critical Energy Infrastructure Information, 18 C.F.R. § 388.113; 6 U.S.C. §§ 671-674.	October 5, 2026
	Distribution Pole and Conductor Repair - Caguas Group 6 - Phase 2	Pages 1, 2, 3, 10	Critical Energy Infrastructure Information, 18 C.F.R. § 388.113; 6 U.S.C. §§ 671-674.	October 5, 2026

WHEREFORE, LUMA respectfully requests that the Energy Bureau **take notice** of the aforementioned; **accept** the copies of the Amended FEMA approvals 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 5th day of October 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
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/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

v0

General Info

Project #	714641 **P/W #** 11630	**Project Type**	Specialized
Project Category	F - Utilities	**Applicant**	PR Electric Power Authority (000-UA2QU-00)
Project Title	FAASt [Rincón Streetlighting] (Distribution) (Cost Only)	**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 #1317631; FAASt [Distribution Streetlighting - Rincón]

General Facility Information:

- **Facility Type:** Power generation, transmission, and distribution facilities
- **Facility:** Distribution Streetlighting - Rincón
- **Facility Description:** The Rincón municipality has a total of 3236 luminaires of which damage was estimated for 70% of these luminaires.Additional descriptions of typical components of a streetlight system are described below: • Pole – This can be either a standalone structure intended to house a streetlight, or a utility pole shared with other overhead utilities. • Arm – A piece of hardware affixed to a pole to which a luminaire is mounted. The arm serves to position the streetlight over the street for optimal lighting. • Luminaire/Light Bulb – The light emitting part of a streetlight • Light controller (e.g., photocell) – A hardware device affixed to the luminaire which controls the operating mode • Communication network – A wired or wireless system that allows the smart streetlight to communicate with other devices and the control system • Technology control system – A software platform that allows a remote operator to set the operating parameters for the smart streetlight or manually override the parameter if needed.
- **Approx. Year Built:** 1970
- **GPS Latitude/Longitude:** [redacted]

Final Scope

1317631 **FAASt [Distribution Streetlighting - Rincón]**

Introduction

The purpose of this document is to submit the Detailed Scope of Work (DSOW), for project 714641 Rincón Streetlighting (Distribution), for approval by COR3 and FEMA. This project is submitted for approval under DR-4339-PR Public Assistance. The document provides a detailed description of the project, including scope, schedule, cost estimate, project considerations, 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 according to the Transmission and Distribution Operations & Maintenance Agreement between the Puerto Rico Electric Power Authority ("PREPA"), the Puerto Rico Public-Private Partnerships Authority ("P3A") and LUMA Energy, an following the Consent to Federal Funding Letter issued by PREPA and P3A 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 T&D System submitted to FEMA.

Facilities

Facilities Description

This description outlines the diverse infrastructure of the streetlight facilities, including existing components, materials, structures, disposal procedures, and hazard mitigation measures.

Existing Lighting Components

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

Existing Streetlight Poles

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

Facilities List

A complete list of facilities by GPS location is provide at Appendix B.

Name	Damage Number	GPS Location
Rincón Municipality	1317631	See Appendix B.

Project Scope of Work

Scope Summary

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

The project's final deliverables will include fully functional and upgraded streetlight facilities. These deliverables include replacing existing lighting components, poles, and disposal of hazardous materials. The proposed 406 Hazard Mitigation Scope of Work (Section 4.5 below) will also enhance streetlight components to withstand extreme weather events. The completion of the project will ensure improved lighting infrastructure, enhanced safety measures, and increased resilience to future challenges.

Work Description	Number of Points
Components only, does not require pole replacement, installation, removal	1833
Secondary pole replacement, installation, removal, with third party attachments	876
Secondary pole replacement, installation, removal, without third party attachments	246
Secondary pole, removal, with third party attachments, Luminaire Location Change (LLC)	45
Streetlight pole replacement, installation, and/removal	8
Grand Total	**3008**

Proposed 428 Public Assistance Scope of Work

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

A. Lighting Components Replacement

1. Remove existing lighting components, including photo controls, luminaires, arms, and associated hardware, and replacing with new lighting components in the exact location. Quantities for these replacements are provided in the table in section 4.1 above.

2. Brush vegetation, as identified, to gain access to the pole and conduct repairs. (See Scope Note #5)

3. Perform site evaluation and disposal of hazardous bulbs and photocells in an authorized facility.

B. Pole Replacement

1. Remove and replace existing streetlight poles, including lighting components, at the exact location or within 3 feet. Quantities for these replacements are provided in the table in section 4.1 above. The locations of the poles and description of work on each pole is described in Appendix D -- Project Considerations Rincón Municipality.

2. Brush vegetation, as identified, to gain access to the pole and conduct repairs. (See Scope Note #5)

3. All work for this program will be performed within the municipality's current electrical right-of- way.

Scope Notes

1. The Project does not include removal and/or disposal of transformers because they are secondary voltage facilities, and transformers removal pertains to primary voltage facilities.

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

3. All materials are stored and dispatched from the assigned LUMA Regional Warehouse. The location assigned for this project is the Mayagüez Warehouse, [redacted]

4. All work for this program will be performed within the current electrical right-of-way of the municipality. Poles are near the roads and are site accessible. The construction of access roads is not required for this scope of work. (Refer to Appendix D in the “Site Accessible” column).

5. The brushing of vegetation will be limited to a 10ft radius that surrounds the surface of the pole without exceeding the width of the right-of-way. Refer to (Appendix D in the “Brushing/Clearing required” column) for locations where vegetation brushing has been identified. The vegetation clearing process will be managed according to federal and state regulations.

6. Fill, gravel, and sand materials will be obtained from a preferred vendor as referenced in the Approved Supplier List Directory PR (see Applicant Profile).

7. Appendix C and Appendix D contain coordinates for streetlight poles where ground disturbance is required. The replacement of poles has a standard diameter for ground disturbance of 18 inches. The depth, of the poles to be installed, is stated in Appendix D (see “soil area and depth impact” column).

8. The debris that will be produced during removal is luminaires, pole arms, photocells, metal scrap, wiring, concrete, steel, and wood poles. The debris will be separated and taken to an authorized waste disposal facility.

9. Luminaires and photocells are considered hazardous waste and will be disposed of by the contractor in authorized facilities.

10. Staging areas within work site have not yet been identified. The contractor must provide the information of the staging areas as soon as available. Staging areas are confined to previously disturbed or hardened surfaces.

Specific List of Permits Required

I. Department of Transportation and Public Works (DTOP) Endorsement.

II. Rincón Municipality Notifications.

III. Excavation and Demolition Notification to the Department of Transportation and Public Works (DTOP).

Project Cost Estimate (PCE)

The estimated costs (compliant with Class 3 Accuracy +/-30%) to complete the project are captured in the table(s) 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 to mitigate potential known risks.

COST ESTIMATE			
COST ELEMENT	428	406	PROJECT TOTAL
PLANNING (A&E)	$93,514.10	$5,113.47	$98,62
ENVIRONMENTAL MANAGEMENT (A&E)	$280,542.31	$15,340.40	$295,88
MANAGEMENT (A&E)	$467,570.53	$25,567.33	$493,13
ENGINEERING (A&E)	$1,104,599.03	$60,400.83	$1,164,99
CONSTRUCTION	$9,348,905.39	$46,232.29	$9,395,13
CONSTRUCTION - CONTINGENCY	$654,598.74	$35,794.26	$690,39
LODGING, PER DIEM & TRAVEL	$838,835.13	$0.00	$838,83
EQUIPMENT & MATERIAL	$750,618.00	$506,022.00	$1,256,64
COST TOTALS	$13,539,183.23	$694,470.58	$14,233,65
FAASt ALLOCATIONS	FAASt Project # 714641 TOTAL		$11,536,80
	FAASt 428 A&E # 335168 TOTAL		$1,946,22
	FAASt 428 E&M # 673691 TOTAL		$750,61

Project 714641 Cost Summary, 428 PAAP:

Work to be Completed (WTBC): $13,539,183.23

A&E Deduction, Global A&E 335168: ($1,946,225.97)

E&M Deduction, Global E&M 673961: ($750,618.00)

Project Total: $10,842,339.26

Project Notes

1. Reduction(s): No insurance reduction will be applied to this project. An anticipated insurance reduction was applied to FAAST project # 136271 for anticipated insurance proceeds for Hurricane Maria losses.

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

3. 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.

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

5. For details on the updated SOW and CE, refer to filenames:

- 714641-DR4339PR-Rincón Streetlight-Detailed Scope of Work Rev. 10.pdf
- 714641-DR4339PR- Rincón Streetlighting-Appendix C - Cost Estimate Rincón Municipality - Rev11.xlsx

Attachments

For reference documents Appendix A through E, see the files labeled:

- Appendix A – Rincón Work Zones Map
- Appendix B – Rincón Municipality Work Zones FIDs SIDs and Coordinates
- Appendix C – Cost Estimate Rincón Municipality
- Appendix D – Project Considerations Rincón Municipality
- Appendix E – FEMA 406 Justification: Streetlight Program

406 HMP Scope

Project number: 714641; FAASt [Distribution Streetlighting - Rincón] (Distribution)

Damage # 1317631; FAASt [Distribution Streetlighting - Rincón]

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

Location: Rincón, Puerto Rico

GPS Latitude/Longitude: [redacted]

Hazard Mitigation Narrative

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

In the Rincón Municipality, PREPA has a total of 3,008 ea. streetlights luminaries. The Method of Repair (MOR) include the replacement of the damage lighting components including photocells, luminaires, arms, and associated hardware. Also include the replacement of the damage distribution and streetlight poles (wood, concrete, galvanized & aluminum), the replacement of the aerial secondary wiring connections, and the construction of new concrete base for the aluminum streetlight poles. According to the information provided by the Applicant, due to the high velocity hurricane winds, wind-blown debris, and prolonged heavy rain, were the main cause of the damages of the facilities.

In order to minimize the damages in a future event, the Applicant is proposing as a mitigation measure, increase the strength of the poles, aluminum poles breakaway bases, and foundations (concrete bases) by increasing the wind tolerance of all materials to 160mph. Note: The FEMA Accelerated Award Strategy (FAASt) MOR included the PREPA distribution standards and specifications that were based on a 90mph sustained

winds for all materials. Although in PREPA Technical Communication #13-02 (August 22, 2013) a design-criteria of 145mph winds were published, the specifications for streetlighting material were never revised, and in the specification documents, the 90mph winds stayed as the requirement for procurement purposes of all streetlighting materials. The 160mph wind tolerance mitigation measure, will protect and make the affected infrastructure more resistant, stronger, and resilient to similar hazards.

Hazard Mitigation Proposal (HMP) Scope of Work:

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

Mitigation Measures *(Replacement)*

1. To avoid damage in a future event, the Applicant is proposing as a mitigation measure, increase the strength of aluminum and concrete poles, breakaway bases, and foundations (concrete bases) by increasing the wind tolerance of all materials to 160mph. The FAASt MOR used PREPA distribution standards and specifications that were based on a 90mph sustained winds for all materials. Although in PREPA Technical Communication #13-02 (August 22, 2013) a design-criteria of 145mph winds were published, the specifications for streetlighting material were never revised, and in the specification documents, the 90mph winds stayed as the requirement for procurement purposes of all streetlighting materials. The above mitigation measures will protect and make the affected infrastructure more resistant, stronger, and resilient to similar hazards. Refer to Appendix J: Section VI.D.1 of the PAPPG V3.1.

406 Mitigation Scope of Work:

- Replace (8 ea.) 33ft octagonal concrete poles by (8 ea.) 39ft octagonal concrete poles.
- Replace (1,121 ea.) 35ft galvanized poles by (1,121 ea.) 35ft S3.5 galvanized poles.

Hazard Mitigation Proposal (HMP) Cost:

Total Net Hazard Mitigation Cost (Base Cost) = $511,346.56

+ HM (Applicant A&E, Management & General Conditions) = $183,124.02

Hazard Mitigation Total Cost = $694,470.58

Hazard Mitigation Proposal (HMP) Cost Distribution:

Equopment and Materials (E&M) = $506,022.00
Architecture and Engineering (A&E = $106,422.03
Construction Cost = $82,026.55
Hazard Mitigation Total Cost = $694,470.58

HMP Cost-Effectiveness Calculations:

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

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

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

The cost of the Hazard Mitigation Proposal (HMP) described herein is $694,470.58 (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	($1,946,225.97)	Uncompleted
9001	1	Lump Sum	$13,539,183.23	Uncompleted
9008	1	Lump Sum	($750,618.00)	Uncompleted
9201	1	Lump Sum	$0.00	Completed

CRC Gross Cost	$10,842,339.26
Total 406 HMP Cost	$694,470.58
Total Insurance Reductions	$0.00
CRC Net Cost	$11,536,809.84
Federal Share (90.00%)	$10,383,128.86
Non-Federal Share (10.00%)	$1,153,680.98

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

9/3/2026

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

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

7/3/2025

Does the Applicant have a Commercial Policy: Yes.

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

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

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

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

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

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

Olga Renta, PA Insurance Specialist

CRC Atlantic, Guaynabo, PR

O&M Requirements

There are no Obtain and Maintain Requirements on **FAASt [Rincón Streetlighting] (Distribution) (Cost Only)**.

406 Mitigation

There is no additional mitigation information on **FAASt [Rincón Streetlighting] (Distribution) (Cost Only)**.

Environmental Historical Preservation

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

EHP Conditions

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

- a. The Subrecipient and/or Subrecipient's contractor shall follow the Low Impact Debris Removal Stipulations (LIDRS) as stated in Appendix E of the Project-Specific Programmatic Agreement Among FEMA, the SHPO, ACHP, COR3, and PREPA (PSPA), executed on August 2, 2022. b. Unexpected Discoveries: Pursuant to Stipulation III.B of the PSPA, if, in the course of implementing this Individual Undertaking(s), previously unidentified structures, sites, buildings, objects, districts, or archaeological deposits, that may be eligible for listing in the National Register, or human remains are uncovered, or if it appears that an Individual Undertaking has affected or will affect a previously identified historic property in an unanticipated manner, the contractor must notify Subrecipient who will immediately notify the Recipient. Work must stop in the vicinity of the discovery and measures must be taken to protect the discovery and avoid additional harm. c. Additional staging areas and/or work pads within work site area haven't been identified yet. The Recipient/Subrecipient and/or private operator must provide the information of any additional staging areas or work pads for EHP evaluation as soon as available specially if any construction activity will be necessary to prepare the site(s). Information for staging areas and/or work pads confined to hardened surfaces can be provided at closeout. d. FEMA will require that an archaeologist, who meets the Secretary of the Interior (SOI) Qualification Standards (36 CFR Part 61) for archaeology, be present to monitor all trenching activities within the Traditional Urban Center of Rinc&#65533;n and for trenches within 200m of the coordinates of RN-1/RC0100001 Yacimiento Ensenada/Fussa I, RN-9-A Puentes o Atarjeas, and any trenching along Calle Parque in Rinc&#65533;n (See Appendix B for complete Archeological Monitoring Plan). e. In the event that historically or archaeologically significant materials (or evidence thereof) are discovered during the implementation of this project, the Sub-Recipient and the Recipient shall proceed as indicated in Stipulation III.B. of the Programmatic Agreement, and the project shall be halted until such time as FEMA, in consultation with the PRSHPO, determines that appropriate measures have been taken to ensure that the project is in compliance with the NHPA. f. Archaeological monitoring of the activities will be documented by the SOI-qualified archaeologist in a report that must be submitted to FEMA's EHP Section for review. The level of description and documentation in the report submitted to FEMA for review shall be consistent with The Secretary of the Interior's Standards and Guidelines for Archaeological Documentation (http://www.nps.gov/history/local-law/arch_stnds_7.htm). After approval, FEMA EHP will submit the report to PRSHPO for comments and concurrence.
- ***DISREGARD PREVIOUS NHPAA CONDITIONS*** a. The Subrecipient and/or Subrecipient's contractor shall follow the Low Impact Debris Removal Stipulations (LIDRS) as stated in Appendix E of the Project-Specific Programmatic Agreement Among FEMA, the SHPO, ACHP, COR3, and PREPA (PSPA), executed on August 2, 2022. b. Unexpected Discoveries: Pursuant to Stipulation III.B of the PSPA, if, in the course of implementing this Individual Undertaking(s), previously unidentified structures, sites, buildings, objects, districts, or archaeological deposits, that may be eligible for listing in the National Register, or human remains are uncovered, or if it appears that an Individual Undertaking has affected or will affect a previously identified historic property in an unanticipated manner, the contractor must notify Subrecipient who will immediately notify the Recipient. Work must stop in the vicinity of the discovery and measures must be taken to protect the discovery and avoid additional harm. c. Additional staging areas and/or work pads within work site area haven't been identified yet. The Recipient/Subrecipient and/or private operator must provide the information of any additional staging areas or work pads for EHP evaluation as soon as available specially if any construction activity will be necessary to prepare the site(s). Information for staging areas and/or work pads confined to previously disturbed or hardened surfaces can be provided at close-out. d. All borrow or fill material must come from pre-existing stockpiles, material reclaimed from maintained roadside ditches (provided the designed width or depth of the ditch is not increased), or commercially procured material from a source existing prior to the event. For any FEMA-funded project requiring the use of a non-commercial source or a commercial source that was not permitted to operate prior to the event (e.g. a new pit, agricultural fields, road ROWs, etc.) in Recipient prior to extracting material. FEMA must review the source for compliance with all applicable federal environmental planning and historic preservation laws and execute orders prior to a subrecipient or their contractor commencing borrow extraction. Consultation and regulatory permitting may be required. Non-compliance with this requirement may jeopardize receipt of federal funding. Documentation of borrow sources utilized is required at closeout.
- The Applicant shall handle, manage, and dispose of all types of hazardous waste in accordance with requirements of local, state, and federal laws, regulations, and ordinances. In addition, the Applicant shall ensure that all debris is separated and disposed of in a manner consistent with the PR DNER guidelines at a permitted site or landfill. The contractor/applicant will be responsible for the proper disposition of construction debris in authorized landfills providing the name, location, coordinates and permits of the facility to the corresponding authorities.
- Unusable equipment, debris, white goods, scrap metal any other material shall be disposed in approved manner and location. In the event significant items are discovered during the implementation or development of the project the Applicant shall handle, manage, and dispose petroleum products, hazardous materials, and toxic waste in accordance with the requirements of the local and federal agencies. Noncompliance with these requirements may jeopardize receipt of federal funds.
- For Rincon Streetlighting only: Applicant must obtain any required permits from the Puerto Rico Permits Management Office (OGPe) prior to initiating work and comply with any conditions of the permit established by the Planning Board (JP) for constructions in floodplains. All coordination (emails, letters, documented phone calls) pertaining to these activities and compliance must be provided and maintained in the Applicant&#65533;s permanent files.
- The Applicant must provide documentation at close-out that proves completion of required Conservation Measures. For PR Boa (Chilabothrus inornatus) In 2023, the Service amended a Programmatic Biological Opinion (PBO) for the Puerto Rican boa and the Virgin Islands tree boa. The below measures are included as Terms and Conditions (T&Cs) in the amended PBO (USFWS 2023). 1. Inform all project personnel about the potential presence of the Puerto Rican (PR) boa and Virgin Islands (VI) boa in areas where the proposed work will be conducted and provide training on PR and VI boa identification. A pre-construction

meeting will be conducted to inform all project personnel about the need to avoid harming these species. All personnel will be advised that there are civil and criminal penalties for harming, harassing, or killing species protected under the Endangered Species Act of 1973. An educational poster or sign with photo or illustration of these species will be displayed at the project site. 2. Prior to any construction activity, including removal of vegetation and earth movement, the boundaries of the project area and any area to be excluded and protected will be clearly marked in the project plan and in the field to avoid further habitat degradation outside of the footprint of the project. 3. Once areas are clearly marked, and right before the use of heavy machinery and any construction activity (including removal of vegetation and earth movement), biologist or designated project personnel with experience on these species will survey the areas to be cleared to verify the presence of any PR or VI boa within the Action Area. If a PR or VI boa is found during the search, it should be captured and managed as per #6 below. Once the removal of vegetation begins, the biologist or designated personnel must remain at the work site and be ready to capture any boa that might be in harms way as the result of the habitat disturbance (see #6).

- 4. For VI boas, once the Action Area has been searched, vegetation will be cut about one meter above ground prior to the use of heavy machinery for land clearing. Cutting vegetation by hand will allow VI boas present on site to move away on their own to adjacent available habitat. If there is no suitable habitat adjacent to the project site, any VI boa found will be relocated accordingly (see #6). 5. For all boa sightings (dead or alive), record the time and date of the sighting and the specific location where it was found. Data will also include a photo of the animal (dead or alive), relocation site GPS coordinates, time and date of the relocation, and comments on how the animal was detected and its behavior. 6. If any PR or VI boa (dead or alive) is found within the Action Area and on harms way, the action will stop, and information will be recorded (see #5). All attempts will be made to immediately safely capture and relocate the animal within suitable habitat (forested) at least 1km from the Action Area and away from construction areas. PR boa relocation sites will be pre-determined before the project starts and sites shared with the Service for revision and concurrence. Relocation of PR boas will be conducted by trained, designated personnel ensuring the animal is not harmed or injured during the capture and relocation process. 7. Measures will be taken to avoid and minimize PR boa and VI boa casualties by heavy machinery or motor vehicles being left in the Action Area.
- - Any heavy machinery left on site (staging areas) or near potential PR or VI boa habitat will be thoroughly inspected each morning before work starts to ensure that no boas have sheltered within engine compartments or other areas of the heavy machinery. If a PR boa or VI boa is found within vehicles or heavy machinery, boas will be safely captured accordingly. If not possible, the animal will be left alone until it leaves the vehicle or machine by itself. - The PR boa and VI boa may seek shelter within debris piles. Measures should be taken to avoid and minimize boa casualties associated with sheltering in new debris piles as a result of project activities. New debris piles should be placed in areas as far as possible from forested areas. Prior to moving, disposing, or shredding, debris piles should be carefully inspected for the presence of PR boas and VI boas. If debris piles will be left on site, we recommend they be placed in an undisturbed area. - In the event a PR boa and VI boa is found dead within the project area, the Federal Agency and the Recipient must contact the Service to appropriately dispose the animal. - If a PR boa or a VI boa is accidentally injured or killed during capture and relocation activities during the Action, the Federal Agency and the Recipient shall terminate the authorized activities and contact the Service within 24 hours to reinitiate consultation. The Federal Agency will consult with the Service to determine whether authorized activities should continue as proposed and whether modifications are warranted. - Should the forms of take reach the amount of exempted take during the Action, the Federal Agency and the Recipient shall terminate the authorized activities and contact the Service within 24 hours to reinitiate consultation. The Federal Agency will consult with the Service to determine whether authorized activities should continue as proposed and whether modifications are warranted.
- For questions and to submit reports, the Services Point of Contact (POC) is Jose Cruz-Burgos, Endangered Species Coordinator, and can be contacted at: Mobile: 305-304-1386 Office phone: 786-244-0081 Office Direct Line: 939-320-3120
- For Sea Turtles There is potential for sea turtle nesting activity on all ocean-facing sand beaches in Puerto Rico and the U.S. Virgin Islands, including mixed sand and gravel (shell, coral rubble) beaches. The following measures are applicable to green, loggerhead, leatherback, and hawksbill sea turtles. During sea turtle nesting season (March 1 to November 30), a qualified sea turtle monitor must survey beach work areas each morning for possible nests. Nests found in the area should be marked or flagged in place. Outside of nesting season, these areas should be surveyed at least twice a week. Debris removal or construction on beaches may only begin after morning surveys are completed by the sea turtle monitor, and nests are clearly marked. - All personnel will be advised that there are civil and criminal penalties for harming, harassing, or killing species protected under the Endangered Species Act of 1973, as amended. - Surveys shall be conducted by sea turtle permit holders or trained personnel following PRDNER/DPNR-DFW protocols. (See image and list of contacts below.) - Nests located adjacent to the work area should be marked with flagging, creating a 10-foot square roped-off buffer with an unobstructed path leading from the nest to the water. - Nest surveys must be conducted in the mornings, immediately before any construction activity commences. - Sea turtle monitoring groups should possess site-specific information for nests in their designated areas and should communicate these details to work crews to ensure avoidance.
- For Puerto Rico contact: ATMAR: 787-448-8627 Chelonia: 787-306-0916 DRNA Loiza: 787-453-6484 DRNA Rio Grande: 787-646-9689 Reserva Natural de Humacao: 787-594-6568 Siete Quillas: 787-688-6763 TICATOVE Vieques: 787-438-4493 Tortugueros del CEN: 787-635-4493 Tortugueros de Culebra: 787-685-7820 Tortugueros de Isla Verde: 787-604-4959 Tortugeros del Sur: 787-341-8888 Vida Marina: 787-380-5254, 787-206-6800 Yo Amo el Tinglar: 939-276-9901
- During the sea turtle nesting season, repair or replacement of structures shall occur in the same location or footprint of the previously permitted structure. If the current projects footprint does not stay within previously permitted structures footprint, then the Service must be consulted. Relocation of sea turtle nests to accommodate construction is not authorized. All project activity shall be confined to daylight hours following the completion of all necessary marine turtle surveys and conservation activities. The

sea turtle monitor shall be available via telephone after the initial inspection throughout the workday. If planting will occur, only native plant species are authorized to be planted. Existing native dune vegetation shall be disturbed to the minimum extent necessary. Removal of standing and live coastal vegetation (e.g., sea grapes, mangroves) that are not a hazard is unauthorized. No sea grass, sea weeds, algae nor beach sand shall be removed during beach debris removal efforts. Any vegetation planting shall be installed by hand labor and tools. Irrigation systems shall not be installed within nesting habitat. Prior to any planting, the Applicant will submit a vegetation plan to the Service at: caribbean_es@fws.gov. If a sea turtle nest is disturbed or uncovered during vegetation planting activity or project excavation, all work shall cease, and the sea turtle monitor shall be immediately contacted to assess the situation and provide guidance on the appropriate steps to safeguard the nest. If a nest(s) cannot be safely avoided during construction, all activity within the affected project area shall be delayed until complete hatching and emergence of the nest.

- Placement of fill shall not occur within 10 feet of or in any area seaward of a marked sea turtle nest. Nests shall be marked in place with a roped off 10-foot buffer. Dependent upon the fill volume and slope, distance offset from marked turtle nests may be required to be larger to avoid indirect impacts (e.g., fill slumping) to the nest. If the turtle nest cannot be avoided by this distance due to the scope of the project, all work near the nest must be postponed until nestlings emerge from the nest and make their way safely to the sea. If a sea turtle nest is found after November, work should be postponed until the nestlings have safely hatched and made their way to the sea. All excavations and temporary alteration of beach topography shall be contoured or leveled to the natural beach profile prior to dusk each day. This includes raking of tire ruts, filling pits or holes where debris was removed, etc. Any potential obstructions such as debris piles, equipment, etc. shall also be removed from the beach by the end of each workday. Fill must be placed as landward as practicable to establish or repair dune features. The existing or pre-disaster beach and dune profile must be considered when determining the appropriate siting of fill to provide reasonable longevity of the project. No vehicles, equipment, staging or debris should be used, parked, or stored landward of the primary dune or in vegetated areas. Staging/parking/storage areas shall be located on paved surfaces as much as possible and outside of vegetated areas. Lightweight, all-terrain style vehicles, with tire pressures of 10 psi or less can operate on the beach and are the preferred transportation method. However, use of heavy equipment on the beach can be allowed provided it is taken off the beach by 1600 AST local time every night using an approved and designated beach access. All driving on the beach shall be between the high-water mark and the waters edge. Removal of vegetation, fence installation, construction activities, and light installation shall be limited within 50 meters from the high tide line.
- No construction involving lights shall be used during the nesting season. Outside of the nesting season, in Puerto Rico and the U.S. Virgin Islands, it is mandatory to have a lighting plan that incorporates sea turtle-friendly lights for coastal areas whenever lights are being repaired or newly installed. For projects in Puerto Rico, compliance with Puerto Rico Law 218 of 2008, which addresses the Control and Prevention of Lighting Pollution in Puerto Rico, and the PR EQB 2016 Regulation to Control and Prevent Light Contamination, is also required. These lighting plans should be submitted to the Service at caribbean_es@fws.gov for review. When submitting the lighting plan, please include: The name and location of the project. A brief description of the project. An associated tracking number (if available). A Point of Contact. After the plan has been fully implemented, the Applicant is responsible for conducting a lighting inspection to identify and correct any remaining problematic lights. If an unmarked sea turtle crawl is encountered during or prior to project activity, the work crew shall not disturb the integrity of the crawl. Project personnel shall follow the crawl up the beach or into the dune and contact the qualified sea turtle monitor to inform of the location of the crawl. Care shall be taken to avoid walking or driving equipment over or near a crawl so that a potential nest is not damaged.
- Any collision(s) with and/or injury to any sea turtle in water, occurring during the construction of a project, shall be reported immediately to PRDNER/DPNR-DFW and the National Marine Fisheries Services (NMFS) Protected Resources Division (PRD) at (1-727-824-5312) or by email to takereport.nmfsser@noaa.gov and SAJ-RD- Enforcement@usace.army.mil. All sea turtle sightings and incidents involving nesting sea turtles or hatchlings shall be reported to PRDNER/DPNR-DFW and the Service. The Services point of contact is Jose Cruz-Burgos, Endangered Species Program Coordinator: Mobile: 305-304-1386 Office phone: 786-244-0081 Office Direct Line: 939-320-3120 caribbean_es@fws.gov or jose_cruz-burgos@fws.gov
- For Buxus vahlii: Before initiating any work within the range of listed plant species and in areas with suitable habitat, applicants must conduct plant surveys. In the event that listed species are discovered at the project site, the Service must be notified. The Applicant must develop conservation measures to minimize or avoid impacts on those species and share those measures with the Service for evaluation and approval. If no listed plants are found during surveys, no further action is required. However, if a listed plant species is found while the project is being conducted, project personnel shall stop work, and the Service should be contacted for further technical assistance. Services point of contacts: Jose Cruz-Burgos, Endangered Species Program Coordinator, Mobile: 305-304-1386, Office: 786-244-0081, jose_cruz-burgos@fws.gov. Omar Monsegur, Fish and Wildlife Biologist, Mobile: (305) 304-0292, omar_monsegur@fws.gov.
- Additional staging areas and/or work pads within work site area havent been identified yet. The Recipient/Subrecipient and/or private operator must provide the information of any additional staging areas or work pads for EHP evaluation as soon as available specially if any construction activity will be necessary to prepare the site(s). Information for staging areas and/or work pads confined to hardened surfaces can be provided at close-out.

EHP Additional Info

There is no additional environmental historical preservation on **FAASt [Rincón Streetlighting] (Distribution) (Cost Only)**.

Final Reviews

Final Review

Reviewed By LEFRANC-GARCIA, CARLOS L. **Reviewed On** 09/16/2025 9:37 PM PDT

Review Comments

Reviewed, found eligible and reasonable. CLG 09.16.2025

Recipient Review

Reviewed By Mulero, Noel **Reviewed On** 09/23/2025 7:43 PM PDT

Review Comments

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

Project Signatures

Reviewed By Unsigned **Reviewed On** Unsigned

General Info

Project #	714641 **P/W #** 11630	**Project Type**	Specialized
Project Category	F - Utilities	**Applicant**	PR Electric Power Authority (000-UA2QU-00)
Project Title	FAASt [Rincón Streetlighting] (Distribution) (Cost Only)	**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 #1317631; FAASt [Distribution Streetlighting - Rincón]

General Facility Information:

- **Facility Type:** Power generation, transmission, and distribution facilities
- **Facility:** Distribution Streetlighting - Rincón
- **Facility Description:** The Rincón municipality has a total of 3236 luminaires of which damage was estimated for 70% of these luminaires.Additional descriptions of typical components of a streetlight system are described below: • Pole – This can be either a standalone structure intended to house a streetlight, or a utility pole shared with other overhead utilities. • Arm – A piece of hardware affixed to a pole to which a luminaire is mounted. The arm serves to position the streetlight over the street for optimal lighting. • Luminaire/Light Bulb – The light emitting part of a streetlight • Light controller (e.g., photocell) – A hardware device affixed to the luminaire which controls the operating mode • Communication network – A wired or wireless system that allows the smart streetlight to communicate with other devices and the control system • Technology control system – A software platform that allows a remote operator to set the operating parameters for the smart streetlight or manually override the parameter if needed.
- **Approx. Year Built:** 1970
- **GPS Latitude/Longitude:** [redacted]

Final Scope

1317631 FAASt [Distribution Streetlighting - Rincón]

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

Version 1 has been created to capture the LUMA change in cost of the project and request an amendment to the Scope of Work (SOW). In Version 0 The project a total estimated cost of?$11,536,809.84 was obligated. In this version, LUMA seeks to modify the cost estimate for the project to reflect accurate allocations of Architecture and Engineering (A&E) costs to FAASt # 335168 and the appropriate allocation of Equipment and Materials (E&M) costs to FAASt # 673691.

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 this version. SOW from previous version 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 de?nes the activities that will be performed using Public Assistance ("PA") funding and may include § 406 hazard mitigation proposals ("HMPs"). The SOW de?nes the activities that will be performed using Public Assistance ("PA") funding.

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

This document contains the detailed SOW for FEMA PA Project 714641 FAASt [Rincón Streetlighting] (Distribution) under DR-4339-PR Public Assistance. The document provides a detailed description of the project, scope of PA construction activities to be completed, common EHP review information, proposed hazard mitigation measures, and project cost estimates. LUMA is seeking approval from COR3 and FEMA for PA funding for the scope described in this document.

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

Project Description

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

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

Facilities

FACILITIES LIST – BUILDINGS AND SUBSTATIONS

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

- None

FACILITIES LIST – OTHER FACILITIES

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

Name	Damage Number	GPS Location
Rincón Municipality	1317631	Please refer to Appendix B for a list of all GPS locations to be impacted by this project.

Existing Lighting Components

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

Existing Streetlight Poles

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

PROJECT AREA MAP WITH BOUNDARIES OF CONSTRUCTION

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

SECTION 428 SCOPE OF WORK

The proposed type of work for this project:

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

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

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

__Recipient's approval letter included, see **Appendix __**.

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

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

__Recipient's approval letter included, see **Appendix __**.

DESCRIPTION OF PROPOSED WORK TO BE PERFORMED

Scope of Work Description	Number of Points
Components only do not require pole replacement, installation, removal	1,833
Secondary pole replacement, installation, removal, with third-party attachments	876
Secondary pole replacement, installation, removal, without third-party attachments	246
Secondary pole, removal, with third party attachments, Luminaire Location Change (LLC)	45
Streetlight pole replacement, installation, removal	8
Grand Total	**3,008**

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

Lighting Components Replaced

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

Pole Replacement

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

CODES & STANDARDS

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

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

COMMON EHP REVIEW INFORMATION

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

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

- All work for this program will be performed within the existing electrical easement of the municipality. Poles are near the roads and are site accessible.
- **Streetlights Poles**: Appendix C and Appendix D contain coordinates for streetlight poles where ground disturbance is required. The replacement of poles has a standard diameter for ground disturbance of 18 inches. The depth of the poles to be installed is stated in Appendix D (see "Soil area and depth impact" column).
- Equipment to be used includes Skid Steer, Excavator, Dump trucks, Man lifts, 120-ton Motor Crane, Boom Trucks, 45-ton Crane, Zoom Boom, Air compressor, Truck Digger, Water truck, Pump Truck, Concrete Vibrator, Filtering Machine, and Flatbed platform.

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

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

· Vegetation clearance will be performed solely to the extent that it allows crews to conduct work and will be limited to a 10 ft radius surrounding the surface of the pole, but not to exceed the width of the easement. This is for the exclusive purpose of gaining access to the pole to conduct repairs. The costs related to vegetation clearance procedures are covered in **727562 FAASt [Region 5 - Mayaguez Group C] (Vegetation) and 750068 FAASt [Region 5 - Mayaguez Group A] Low Density (Vegetation)**. The vegetation removal process will be managed in accordance with federal and state regulations.

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

· **Construction Debris**: The debris that will be produced during removal includes luminaires, polearms, photocells, metal scrap, wiring, concrete, steel, and wood poles. The debris will be separated and taken to an authorized waste disposal facility.
· Luminaires are considered universal waste and will be disposed of by the contractor in authorized facilities.
· The Project does not include removal and/or disposal of transformers because they are secondary voltage facilities, and transformer removal pertains to primary voltage facilities.
· The GPS location of temporary debris storage sites, the final debris disposal location, and the final debris disposal method has not been identified yet.

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

· **Staging Areas**: Staging areas within the work site have not been identified at this moment. The contractor must provide the information on the staging areas as soon as available. Staging areas are confined to previously disturbed or hardened surfaces.
  o All materials are stored and dispatched from the assigned LUMA Regional Warehouse. The location assigned for this project is the Mayaguez Warehouse [redacted]
· **Access Roads**: The construction of access roads is not required for this scope of work. (Refer to **Appendix D** in the "Site Accessible" column).

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

· Fill, gravel, and sand materials will be obtained from a preferred vendor as referenced in the *Approved Supplier List Directory PR* (see Applicant Profile).

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

PROJECT COST ESTIMATE (PCE)

The estimated costs (compliant with **Class 3 Accuracy +/-30%**) to complete the project are summarized in the table(s) below. The cost estimate(s) was developed utilizing preliminary Architectural and Engineering ("A&E") design information. For a more detailed cost estimate refer to t *Appendix A-LUMA Project Cost Estimate*.

Distribution Streetlights Estimate Summary - Rincón					
	Total Cost Estimate	**Cost Factor**	**FAASt Project 714641 (428 Cost Estimate)**	**FAASt Project 714641 (406 Cost Estimate)**	**A&E FAASt Project 335168 (428)**
Planning, Permits and Applications (A&E)	$ 98,627.57	1.00%	$ 0.00	$ 5,113.47	$ 93,514.10
Environmental Management (A&E)	$ 295,882.71	3.00%	$ 0.00	$ 15,340.40	$ 280,542.31

Project Management (A&E)	$ 98,627.57	1.00%	$ 0.00	$ 5,113.47	$ 93,514.10
Engineering - A&E Estimate	$ 671,862.00	6.81%	$ 0.00	$ 34,833.50	$ 637,028.50
Engineering - Owners Engineering (A&E)	$ 493,137.86	5.00%	$ 0.00	$ 25,567.33	$ 467,570.53
Construction - Labor & Materials	$ 9,862,757.11	100.00%	$ 9,351,410.55	$ 11,346.56	$ 0.00
Construction - Project Management	$ 394,510.28	4.00%	$ 374,056.42	$ 20,453.86	$ 0.00
Construction - Site Management	$ 493,137.86	5.00%	$ 67,570.53	$ 25,567.33	$ 0.00
Construction - Quality Inspections	$ 295,882.71	3.00%	$ 280,542.31	$ 15,340.40	$ 0.00
Construction - Contingency	$ 690,393.00	7.00%	$ 654,598.74	$ 35,794.26	$ 0.00
Lodging & Per Diem & Travel	$ 838,835.13	50.00%	$ 838,835.13	$ 0.00	$ 0.00
TOTAL PROJECT COST ESTIMATE	**$ 14,233,653.80**		**$ 11,967,013.68**	**$ 694,470.58**	**$ 1,572,169.54**

	Version 0			Version 1			Difference		
Cost Element	**Total Cost**	**428**	**406**	**Total Cost**	**428**	**406**	**Total Cost**	**428**	**406**
Planning	$98,627.57	$93,514.10	$5,113.47	$98,627.57	$93,514.10	$5,113.47	$0.00	$0.00	$0.00
Environmental Management	$295,882.71	$280,542.31	$15,340.40	$295,882.71	$280,542.31	$15,340.40	$0.00	$0.00	$0.00
Management/Project Management	$493,137.86	$467,570.53	$25,567.33	$98,627.57	$93,514.10	$5,113.47	($394,510.29)	($374,056.42)	($20,453.86)
Engineering	$1,164,999.86	$1,104,599.03	$60,400.83	$671,862.00	$637,028.50	$34,833.50	($493,137.86)	($467,570.53)	($25,567.33)
Engineering - Owners Engineering	$0.00	$0.00	$0.00	$493,137.86	$467,570.53	$25,567.33	$493,137.86	$467,570.53	$25,567.33
Construction	$9,395,137.68	$9,348,905.39	$46,232.29	$0.00	$0.00	$0.00	($9,395,137.68)	($9,348,905.39)	($46,232.29)
Construction - Labor & Materials	$8,606,117.11	$8,600,792.55	$5,324.56	$9,862,757.11	$9,351,410.55	$511,346.56	($1,256,640.00)	($750,618.00)	($506,022.00)
Construction - Project Management	$0.00	$0.00	$0.00	$394,510.28	$374,056.42	$20,453.86	$394,510.28	$374,056.42	$20,453.86
Construction - Site Management	$493,137.86	$467,570.53	$25,567.33	$493,137.86	$467,570.53	$25,567.33	$0.00	$0.00	$0.00

Construction - Quality Inspections	$295,882.71	$280,542.31	$15,340.40	$295,882.71	$280,542.31	$15,340.40	$0.00	$0.00	$0.00
Construction - Contingency	$690,393.00	$654,598.74	$35,794.26	$690,393.00	$654,598.74	$35,794.26	$0.00	$0.00	$0.00
Lodging, Per Diem & Travel	$838,835.13	$838,835.13	$0.00	$838,835.13	$838,835.13	$0.00	$0.00	$0.00	$0.00
Equipment & Material	$1,256,640.00	$750,618.00	$506,022.00	$0.00	$0.00	$0.00	($1,256,640.00)	($750,618.00)	($506,022.00)
Cost Totals	$14,233,653.81	$13,539,183.23	$694,470.58	$14,233,653.80	$13,539,183.22	$694,470.58	($0.00)	($0.00)	$0.00
FAASt Project # 714641 428:	$11,536,809.84			$11,967,013.68			$430,203.84		
FAASt Project # 714641 406:	$0.00			$694,470.58			$694,470.58		
FAASt 428 A&E # 335168 TOTAL	$1,946,225.97			$1,572,169.54			($374,056.42)		
FAASt 428 E&M # 673691 TOTAL	$1,256,640.00			$0.00			($1,256,640.00)		

428 Project Summary, Version 1:

Work to Be Completed (WTBC): $13,539,183.23

E&M Deduction (#673691) 428: -$0.00 (See project note # 3)

A&E Deduction (Global A&E FAASt 335168): -$0.00 (See project note # 3)

Project Total Cost: $13,539,183.23

VERSION SUMMARY OF KEY CHANGES:

V0: $10,842,339.26 (WTBC, A&E, E&M Deduction)

V1: $13,539,183.23 (WTBC, A&E Deduction, E&M Deduction, Reconcile funding from De-obligation of V0)

Project Notes:

1. Refer to detailed SOW provided in document: *752808- DR4339PR - DSOW Group 19- Revision 004- V1.pdf.*
2. Refer to detailed cost estimate in document: *752808-DR4339PR-APPENDIX B-Detailed Cost Estimate Revision 004 - V1.xlsx*.
3. In the previous version, the Architecture and Engineering (A&E) and Equipment and Materials (E&M) dollar amounts were deducted. Accordingly, a positive value in the same amount has been added in Version 1 to zero out these costs. This adjustment was made to prevent duplication of A&E and E&M funds in Version 0, as requested by the Applicant, to modify the project cost estimate to reflect accurate allocations of A&E cost to FAASt #335168, and E&M cost to FAASt #673691. Refer to document file: *SP714641 - DR4339PR - AE and E&M Cost Clarification.pdf*
4. This project is part of 136271-MEPA078 Puerto Rico Electrical Power Authority Island Wide FAASt Project.
5. Attachments:

For reference documents Appendix A through E, see the files labeled:

· Appendix A – Rincón Work Zones Map

- Appendix B – Rincón Municipality Work Zones FIDs SIDs and Coordinates
- Appendix C – Cost Estimate Rincón Municipality
- Appendix D – Project Considerations Rincón Municipality
- Appendix E – FEMA 406 Justification: Streetlight Program

406 HMP Scope

Project number: 714641; FAASt [Distribution Streetlighting - Rincón] (Distribution)

Damage # 1317631; FAASt [Distribution Streetlighting - Rincón]

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

Location: Rincón, Puerto Rico

GPS Latitude/Longitude: [redacted]

Hazard Mitigation Narrative

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

In the Rincón Municipality, PREPA has a total of 3,008 ea. streetlights luminaries. The Method of Repair (MOR) include the replacement of the damage lighting components including photocells, luminaires, arms, and associated hardware. Also include the replacement of the damage distribution and streetlight poles (wood, concrete, galvanized & aluminum), the replacement of the aerial secondary wiring connections, and the construction of new concrete base for the aluminum streetlight poles. According to the information provided by the Applicant, due to the high velocity hurricane winds, wind-blown debris, and prolonged heavy rain, were the main cause of the damages of the facilities.

In order to minimize the damages in a future event, the Applicant is proposing as a mitigation measure, increase the strength of the poles, aluminum poles breakaway bases, and foundations (concrete bases) by increasing the wind tolerance of all materials to 160mph. Note: The FEMA Accelerated Award Strategy (FAASt) MOR included the PREPA distribution standards and specifications that were based on a 90mph sustained winds for all materials. Although in PREPA Technical Communication #13-02 (August 22, 2013) a design-criteria of 145mph winds were published, the specifications for streetlighting material were never revised, and in the specification documents, the 90mph winds stayed as the requirement for procurement purposes of all streetlighting materials. The 160mph wind tolerance mitigation measure, will protect and make the affected infrastructure more resistant, stronger, and resilient to similar hazards.

Hazard Mitigation Proposal (HMP) Scope of Work:

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

Mitigation Measures *(Replacement)*

1. To avoid damage in a future event, the Applicant is proposing as a mitigation measure, increase the strength of aluminum and concrete poles, breakaway bases, and foundations (concrete bases) by increasing the wind tolerance of all materials to 160mph. The FAASt MOR used PREPA distribution standards and specifications that were based on a 90mph sustained winds for all materials. Although in PREPA Technical Communication #13-02 (August 22, 2013) a design-criteria of 145mph winds were published, the specifications for streetlighting material were never revised, and in the specification documents, the 90mph winds stayed as the requirement for procurement purposes of all streetlighting materials. The above mitigation measures will protect and make the affected infrastructure more resistant, stronger, and resilient to similar hazards. Refer to Appendix J: Section VI.D.1 of the PAPPG V3.1.

406 Mitigation Scope of Work:

- Replace (8 ea.) 33ft octagonal concrete poles by (8 ea.) 39ft octagonal concrete poles.
- Replace (1,121 ea.) 35ft galvanized poles by (1,121 ea.) 35ft S3.5 galvanized poles.

Hazard Mitigation Proposal (HMP) Cost:

Total Net Hazard Mitigation Cost (Base Cost) = $511,346.56

+ HM (Applicant A&E, Management & General Conditions) = $183,124.02

Hazard Mitigation Total Cost = $694,470.58

Hazard Mitigation Proposal (HMP) Cost Distribution:

Equopment and Materials (E&M) = $506,022.00
Architecture and Engineering (A&E = $106,422.03
Construction Cost = _$82,026.55
Hazard Mitigation Total Cost = $694,470.58

HMP Cost-Effectiveness Calculations:

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

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

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

The cost of the Hazard Mitigation Proposal (HMP) described herein is $694,470.58 (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	($1,946,225.97)	Uncompleted
9001	1	Lump Sum	$13,539,183.23	Uncompleted
9008	1	Lump Sum	($750,618.00)	Uncompleted
9201	1	Lump Sum	$0.00	Completed
9001	1	Lump Sum	($13,539,183.23)	Uncompleted
9001	1	Lump Sum	$13,539,183.23	Uncompleted
3510	1	Lump Sum	$1,946,225.97	Uncompleted
9001	1	Lump Sum	$750,618.00	Uncompleted

CRC Gross Cost	$13,539,183.23
Total 406 HMP Cost	$694,470.58
Total Insurance Reductions	$0.00
CRC Net Cost	$14,233,653.81
Federal Share (90.00%)	$12,810,288.43
Non-Federal Share (10.00%)	$1,423,365.38

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

9/3/2026

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

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

7/3/2025

Does the Applicant have a Commercial Policy: Yes.

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

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

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

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

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

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

Olga Renta, PA Insurance Specialist

CRC Atlantic, Guaynabo, PR

O&M Requirements

There are no Obtain and Maintain Requirements on **FAASt [Rincón Streetlighting] (Distribution) (Cost Only)**.

406 Mitigation

There is no additional mitigation information on **FAASt [Rincón Streetlighting] (Distribution) (Cost Only)**.

Environmental Historical Preservation

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

EHP Conditions

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

- a. The Subrecipient and/or Subrecipient's contractor shall follow the Low Impact Debris Removal Stipulations (LIDRS) as stated in Appendix E of the Project-Specific Programmatic Agreement Among FEMA, the SHPO, ACHP, COR3, and PREPA (PSPA), executed on August 2, 2022. b. Unexpected Discoveries: Pursuant to Stipulation III.B of the PSPA, if, in the course of implementing this Individual Undertaking(s), previously unidentified structures, sites, buildings, objects, districts, or archaeological deposits, that may be eligible for listing in the National Register, or human remains are uncovered, or if it appears that an Individual Undertaking has affected or will affect a previously identified historic property in an unanticipated manner, the contractor must notify Subrecipient who will immediately notify the Recipient. Work must stop in the vicinity of the discovery and measures must be taken to protect the discovery and avoid additional harm. c. Additional staging areas and/or work pads within work site area haven't been identified yet. The Recipient/Subrecipient and/or private operator must provide the information of any additional staging areas or work pads for EHP evaluation as soon as available specially if any construction activity will be necessary to prepare the site(s). Information for staging areas and/or work pads confined to hardened surfaces can be provided at closeout. d. FEMA will require that an archaeologist, who meets the Secretary of the Interior (SOI) Qualification Standards (36 CFR Part 61) for archaeology, be present to monitor all trenching activities within the Traditional Urban Center of Rinc&#65533;n and for trenches within 200m of the coordinates of RN-1/RC0100001 Yacimiento Ensenada/Fussa I, RN-9-A Puentes o Atarjeas, and any trenching along Calle Parque in Rinc&#65533;n (See Appendix B for complete Archeological Monitoring Plan). e. In the event that historically or archaeologically significant materials (or evidence thereof) are discovered during the implementation of this project, the Sub-Recipient and the Recipient shall proceed as indicated in Stipulation III.B. of the Programmatic Agreement, and the project shall be halted until such time as FEMA, in consultation with the PRSHPO, determines that appropriate measures have been taken to ensure that the project is in compliance with the NHPA. f. Archaeological monitoring of the activities will be documented by the SOI-qualified archaeologist in a report that must be submitted to FEMA's EHP Section for review. The level of description and documentation in the report submitted to FEMA for review shall be consistent with The Secretary of the Interior's Standards and Guidelines for Archaeological Documentation (http://www.nps.gov/history/local-law/arch_stnds_7.htm). After approval, FEMA EHP will submit the report to PRSHPO for comments and concurrence.
- ***DISREGARD PREVIOUS NHPAA CONDITIONS*** a. The Subrecipient and/or Subrecipient's contractor shall follow the Low Impact Debris Removal Stipulations (LIDRS) as stated in Appendix E of the Project-Specific Programmatic Agreement Among FEMA, the SHPO, ACHP, COR3, and PREPA (PSPA), executed on August 2, 2022. b. Unexpected Discoveries: Pursuant to Stipulation III.B of the PSPA, if, in the course of implementing this Individual Undertaking(s), previously unidentified structures, sites, buildings, objects, districts, or archaeological deposits, that may be eligible for listing in the National Register, or human remains are uncovered, or if it appears that an Individual Undertaking has affected or will affect a previously identified historic property in an unanticipated manner, the contractor must notify Subrecipient who will immediately notify the Recipient. Work must stop in the vicinity of the discovery and measures must be taken to protect the discovery and avoid additional harm. c. Additional staging areas and/or work pads within work site area haven't been identified yet. The Recipient/Subrecipient and/or private operator must provide the information of any additional staging areas or work pads for EHP evaluation as soon as available specially if any construction activity will be necessary to prepare the site(s). Information for staging areas and/or work pads confined to previously disturbed or hardened surfaces can be provided at close-out. d. All borrow or fill material must come from pre-existing stockpiles, material reclaimed from maintained roadside ditches (provided the designed width or depth of the ditch is not increased), or commercially procured material from a source existing prior to the event. For any FEMA-funded project requiring the use of a non-commercial source or a commercial source that was not permitted to operate prior to the event (e.g. a new pit, agricultural fields, road ROWs, etc.) in Recipient prior to extracting material. FEMA must review the source for compliance with all applicable federal environmental planning and historic preservation laws and execute orders prior to a subrecipient or their contractor commencing borrow extraction. Consultation and regulatory permitting may be required. Non-compliance with this requirement may jeopardize receipt of federal funding. Documentation of borrow sources utilized is required at closeout.
- The Applicant shall handle, manage, and dispose of all types of hazardous waste in accordance with requirements of local, state, and federal laws, regulations, and ordinances. In addition, the Applicant shall ensure that all debris is separated and disposed of in a manner consistent with the PR DNER guidelines at a permitted site or landfill. The contractor/applicant will be responsible for the proper disposition of construction debris in authorized landfills providing the name, location, coordinates and permits of the facility to the corresponding authorities.
- Unusable equipment, debris, white goods, scrap metal any other material shall be disposed in approved manner and location. In the event significant items are discovered during the implementation or development of the project the Applicant shall handle, manage, and dispose petroleum products, hazardous materials, and toxic waste in accordance with the requirements of the local and federal agencies. Noncompliance with these requirements may jeopardize receipt of federal funds.
- For Rincon Streetlighting only: Applicant must obtain any required permits from the Puerto Rico Permits Management Office (OGPe) prior to initiating work and comply with any conditions of the permit established by the Planning Board (JP) for constructions in floodplains. All coordination (emails, letters, documented phone calls) pertaining to these activities and compliance must be provided and maintained in the Applicant&#65533;s permanent files.
- The Applicant must provide documentation at close-out that proves completion of required Conservation Measures. For PR Boa (Chilabothrus inornatus) In 2023, the Service amended a Programmatic Biological Opinion (PBO) for the Puerto Rican boa and the Virgin Islands tree boa. The below measures are included as Terms and Conditions (T&Cs) in the amended PBO (USFWS 2023). 1. Inform all project personnel about the potential presence of the Puerto Rican (PR) boa and Virgin Islands (VI) boa in areas where the proposed work will be conducted and provide training on PR and VI boa identification. A pre-construction

meeting will be conducted to inform all project personnel about the need to avoid harming these species. All personnel will be advised that there are civil and criminal penalties for harming, harassing, or killing species protected under the Endangered Species Act of 1973. An educational poster or sign with photo or illustration of these species will be displayed at the project site. 2. Prior to any construction activity, including removal of vegetation and earth movement, the boundaries of the project area and any area to be excluded and protected will be clearly marked in the project plan and in the field to avoid further habitat degradation outside of the footprint of the project. 3. Once areas are clearly marked, and right before the use of heavy machinery and any construction activity (including removal of vegetation and earth movement), biologist or designated project personnel with experience on these species will survey the areas to be cleared to verify the presence of any PR or VI boa within the Action Area. If a PR or VI boa is found during the search, it should be captured and managed as per #6 below. Once the removal of vegetation begins, the biologist or designated personnel must remain at the work site and be ready to capture any boa that might be in harms way as the result of the habitat disturbance (see #6).

- 4. For VI boas, once the Action Area has been searched, vegetation will be cut about one meter above ground prior to the use of heavy machinery for land clearing. Cutting vegetation by hand will allow VI boas present on site to move away on their own to adjacent available habitat. If there is no suitable habitat adjacent to the project site, any VI boa found will be relocated accordingly (see #6). 5. For all boa sightings (dead or alive), record the time and date of the sighting and the specific location where it was found. Data will also include a photo of the animal (dead or alive), relocation site GPS coordinates, time and date of the relocation, and comments on how the animal was detected and its behavior. 6. If any PR or VI boa (dead or alive) is found within the Action Area and on harms way, the action will stop, and information will be recorded (see #5). All attempts will be made to immediately safely capture and relocate the animal within suitable habitat (forested) at least 1km from the Action Area and away from construction areas. PR boa relocation sites will be pre-determined before the project starts and sites shared with the Service for revision and concurrence. Relocation of PR boas will be conducted by trained, designated personnel ensuring the animal is not harmed or injured during the capture and relocation process. 7. Measures will be taken to avoid and minimize PR boa and VI boa casualties by heavy machinery or motor vehicles being left in the Action Area.
- - Any heavy machinery left on site (staging areas) or near potential PR or VI boa habitat will be thoroughly inspected each morning before work starts to ensure that no boas have sheltered within engine compartments or other areas of the heavy machinery. If a PR boa or VI boa is found within vehicles or heavy machinery, boas will be safely captured accordingly. If not possible, the animal will be left alone until it leaves the vehicle or machine by itself. - The PR boa and VI boa may seek shelter within debris piles. Measures should be taken to avoid and minimize boa casualties associated with sheltering in new debris piles as a result of project activities. New debris piles should be placed in areas as far as possible from forested areas. Prior to moving, disposing, or shredding, debris piles should be carefully inspected for the presence of PR boas and VI boas. If debris piles will be left on site, we recommend they be placed in an undisturbed area. - In the event a PR boa and VI boa is found dead within the project area, the Federal Agency and the Recipient must contact the Service to appropriately dispose the animal. - If a PR boa or a VI boa is accidentally injured or killed during capture and relocation activities during the Action, the Federal Agency and the Recipient shall terminate the authorized activities and contact the Service within 24 hours to reinitiate consultation. The Federal Agency will consult with the Service to determine whether authorized activities should continue as proposed and whether modifications are warranted. - Should the forms of take reach the amount of exempted take during the Action, the Federal Agency and the Recipient shall terminate the authorized activities and contact the Service within 24 hours to reinitiate consultation. The Federal Agency will consult with the Service to determine whether authorized activities should continue as proposed and whether modifications are warranted.
- For questions and to submit reports, the Services Point of Contact (POC) is Jose Cruz-Burgos, Endangered Species Coordinator, and can be contacted at: Mobile: 305-304-1386 Office phone: 786-244-0081 Office Direct Line: 939-320-3120
- For Sea Turtles There is potential for sea turtle nesting activity on all ocean-facing sand beaches in Puerto Rico and the U.S. Virgin Islands, including mixed sand and gravel (shell, coral rubble) beaches. The following measures are applicable to green, loggerhead, leatherback, and hawksbill sea turtles. During sea turtle nesting season (March 1 to November 30), a qualified sea turtle monitor must survey beach work areas each morning for possible nests. Nests found in the area should be marked or flagged in place. Outside of nesting season, these areas should be surveyed at least twice a week. Debris removal or construction on beaches may only begin after morning surveys are completed by the sea turtle monitor, and nests are clearly marked. - All personnel will be advised that there are civil and criminal penalties for harming, harassing, or killing species protected under the Endangered Species Act of 1973, as amended. - Surveys shall be conducted by sea turtle permit holders or trained personnel following PRDNER/DPNR-DFW protocols. (See image and list of contacts below.) - Nests located adjacent to the work area should be marked with flagging, creating a 10-foot square roped-off buffer with an unobstructed path leading from the nest to the water. - Nest surveys must be conducted in the mornings, immediately before any construction activity commences. - Sea turtle monitoring groups should possess site-specific information for nests in their designated areas and should communicate these details to work crews to ensure avoidance.
- For Puerto Rico contact: ATMAR: 787-448-8627 Chelonia: 787-306-0916 DRNA Loiza: 787-453-6484 DRNA Rio Grande: 787-646-9689 Reserva Natural de Humacao: 787-594-6568 Siete Quillas: 787-688-6763 TICATOVE Vieques: 787-438-4493 Tortugueros del CEN: 787-635-4493 Tortugueros de Culebra: 787-685-7820 Tortugueros de Isla Verde: 787-604-4959 Tortugeros del Sur: 787-341-8888 Vida Marina: 787-380-5254, 787-206-6800 Yo Amo el Tinglar: 939-276-9901
- During the sea turtle nesting season, repair or replacement of structures shall occur in the same location or footprint of the previously permitted structure. If the current projects footprint does not stay within previously permitted structures footprint, then the Service must be consulted. Relocation of sea turtle nests to accommodate construction is not authorized. All project activity shall be confined to daylight hours following the completion of all necessary marine turtle surveys and conservation activities. The

sea turtle monitor shall be available via telephone after the initial inspection throughout the workday. If planting will occur, only native plant species are authorized to be planted. Existing native dune vegetation shall be disturbed to the minimum extent necessary. Removal of standing and live coastal vegetation (e.g., sea grapes, mangroves) that are not a hazard is unauthorized. No sea grass, sea weeds, algae nor beach sand shall be removed during beach debris removal efforts. Any vegetation planting shall be installed by hand labor and tools. Irrigation systems shall not be installed within nesting habitat. Prior to any planting, the Applicant will submit a vegetation plan to the Service at: caribbean_es@fws.gov. If a sea turtle nest is disturbed or uncovered during vegetation planting activity or project excavation, all work shall cease, and the sea turtle monitor shall be immediately contacted to assess the situation and provide guidance on the appropriate steps to safeguard the nest. If a nest(s) cannot be safely avoided during construction, all activity within the affected project area shall be delayed until complete hatching and emergence of the nest.

- Placement of fill shall not occur within 10 feet of or in any area seaward of a marked sea turtle nest. Nests shall be marked in place with a roped off 10-foot buffer. Dependent upon the fill volume and slope, distance offset from marked turtle nests may be required to be larger to avoid indirect impacts (e.g., fill slumping) to the nest. If the turtle nest cannot be avoided by this distance due to the scope of the project, all work near the nest must be postponed until nestlings emerge from the nest and make their way safely to the sea. If a sea turtle nest is found after November, work should be postponed until the nestlings have safely hatched and made their way to the sea. All excavations and temporary alteration of beach topography shall be contoured or leveled to the natural beach profile prior to dusk each day. This includes raking of tire ruts, filling pits or holes where debris was removed, etc. Any potential obstructions such as debris piles, equipment, etc. shall also be removed from the beach by the end of each workday. Fill must be placed as landward as practicable to establish or repair dune features. The existing or pre-disaster beach and dune profile must be considered when determining the appropriate siting of fill to provide reasonable longevity of the project. No vehicles, equipment, staging or debris should be used, parked, or stored landward of the primary dune or in vegetated areas. Staging/parking/storage areas shall be located on paved surfaces as much as possible and outside of vegetated areas. Lightweight, all-terrain style vehicles, with tire pressures of 10 psi or less can operate on the beach and are the preferred transportation method. However, use of heavy equipment on the beach can be allowed provided it is taken off the beach by 1600 AST local time every night using an approved and designated beach access. All driving on the beach shall be between the high-water mark and the waters edge. Removal of vegetation, fence installation, construction activities, and light installation shall be limited within 50 meters from the high tide line.
- No construction involving lights shall be used during the nesting season. Outside of the nesting season, in Puerto Rico and the U.S. Virgin Islands, it is mandatory to have a lighting plan that incorporates sea turtle-friendly lights for coastal areas whenever lights are being repaired or newly installed. For projects in Puerto Rico, compliance with Puerto Rico Law 218 of 2008, which addresses the Control and Prevention of Lighting Pollution in Puerto Rico, and the PR EQB 2016 Regulation to Control and Prevent Light Contamination, is also required. These lighting plans should be submitted to the Service at caribbean_es@fws.gov for review. When submitting the lighting plan, please include: The name and location of the project. A brief description of the project. An associated tracking number (if available). A Point of Contact. After the plan has been fully implemented, the Applicant is responsible for conducting a lighting inspection to identify and correct any remaining problematic lights. If an unmarked sea turtle crawl is encountered during or prior to project activity, the work crew shall not disturb the integrity of the crawl. Project personnel shall follow the crawl up the beach or into the dune and contact the qualified sea turtle monitor to inform of the location of the crawl. Care shall be taken to avoid walking or driving equipment over or near a crawl so that a potential nest is not damaged.
- Any collision(s) with and/or injury to any sea turtle in water, occurring during the construction of a project, shall be reported immediately to PRDNER/DPNR-DFW and the National Marine Fisheries Services (NMFS) Protected Resources Division (PRD) at (1-727-824-5312) or by email to takereport.nmfsser@noaa.gov and SAJ-RD- Enforcement@usace.army.mil. All sea turtle sightings and incidents involving nesting sea turtles or hatchlings shall be reported to PRDNER/DPNR-DFW and the Service. The Services point of contact is Jose Cruz-Burgos, Endangered Species Program Coordinator: Mobile: 305-304-1386 Office phone: 786-244-0081 Office Direct Line: 939-320-3120 caribbean_es@fws.gov or jose_cruz-burgos@fws.gov
- For Buxus vahlii: Before initiating any work within the range of listed plant species and in areas with suitable habitat, applicants must conduct plant surveys. In the event that listed species are discovered at the project site, the Service must be notified. The Applicant must develop conservation measures to minimize or avoid impacts on those species and share those measures with the Service for evaluation and approval. If no listed plants are found during surveys, no further action is required. However, if a listed plant species is found while the project is being conducted, project personnel shall stop work, and the Service should be contacted for further technical assistance. Services point of contacts: Jose Cruz-Burgos, Endangered Species Program Coordinator, Mobile: 305-304-1386, Office: 786-244-0081, jose_cruz-burgos@fws.gov. Omar Monsegur, Fish and Wildlife Biologist, Mobile: (305) 304-0292, omar_monsegur@fws.gov.
- Additional staging areas and/or work pads within work site area havent been identified yet. The Recipient/Subrecipient and/or private operator must provide the information of any additional staging areas or work pads for EHP evaluation as soon as available specially if any construction activity will be necessary to prepare the site(s). Information for staging areas and/or work pads confined to hardened surfaces can be provided at close-out.

EHP Additional Info

There is no additional environmental historical preservation on **FAASt [Rincón Streetlighting] (Distribution) (Cost Only)**.

Final Reviews

Final Review

Reviewed By LEFRANC-GARCIA, CARLOS L. **Reviewed On** 07/14/2026 8:11 PM PDT

Review Comments

REC still applies. Project has been reviewed, found eligible and reasonable. Subrecipient and its agents are responsible for complying with all grants and subgrant conditions. CLG 07.14.2026

Recipient Review

Reviewed By Mulero, Noel **Reviewed On** 07/22/2026 3:53 PM PDT

Review Comments

Recipient review completed. Applicant must ensure to compliance with all regulatory requirements, Record of Environmental Consideration (REC) Special Conditions and PA policy. Project is ready for applicant review. This project does not comply with the DOE executive order. This means that FEMA is the lead agency for environmental matters.

Project Signatures

Reviewed By Unsigned **Reviewed On** Unsigned

General Info

Project #	714641 **P/W #** 11630	**Project Type**	Specialized
Project Category	F - Utilities	**Applicant**	PR Electric Power Authority (000-UA2QU-00)
Project Title	FAASt [Rincón Streetlighting] (Distribution) (Cost Only)	**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 #1317631; FAASt [Distribution Streetlighting - Rincón]

General Facility Information:

- **Facility Type:** Power generation, transmission, and distribution facilities
- **Facility:** Distribution Streetlighting - Rincón
- **Facility Description:** The Rincón municipality has a total of 3236 luminaires of which damage was estimated for 70% of these luminaires.Additional descriptions of typical components of a streetlight system are described below: • Pole – This can be either a standalone structure intended to house a streetlight, or a utility pole shared with other overhead utilities. • Arm – A piece of hardware affixed to a pole to which a luminaire is mounted. The arm serves to position the streetlight over the street for optimal lighting. • Luminaire/Light Bulb – The light emitting part of a streetlight • Light controller (e.g., photocell) – A hardware device affixed to the luminaire which controls the operating mode • Communication network – A wired or wireless system that allows the smart streetlight to communicate with other devices and the control system • Technology control system – A software platform that allows a remote operator to set the operating parameters for the smart streetlight or manually override the parameter if needed.
- **Approx. Year Built:** 1970
- **GPS Latitude/Longitude:** [redacted]

Final Scope

1317631 **FAASt [Distribution Streetlighting - Rincón]**

********** **Version 2** **********

Version 2 has been created as an administrative amendment due to limitations in IFMIS (The Finance system), which cannot currently accommodate two separate accounting streams within a single transaction. This administrative amendment includes the cost changes that were pending in the previous project version. Refer to document: Sub-FAAST Transactions - allocation process.pdf

Introduction

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

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

This document contains the detailed SOW for FEMA PA Project 714641 FAASt [Rincón Streetlighting] (Distribution) under DR-4339-PR Public Assistance. The document provides a detailed description of the project, scope of PA construction activities to be completed, common EHP review information, proposed hazard mitigation measures, and project cost estimates. LUMA is seeking approval from COR3 and FEMA for PA funding for the scope described in this document.

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

Project Description

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

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

Facilities

FACILITIES LIST – BUILDINGS AND SUBSTATIONS

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

- None

FACILITIES LIST – OTHER FACILITIES

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

Name	Damage Number	GPS Location
Rincón Municipality	1317631	Please refer to Appendix B for a list of all GPS locations to be impacted by this project.

Existing Lighting Components

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

Existing Streetlight Poles

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

PROJECT AREA MAP WITH BOUNDARIES OF CONSTRUCTION

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

SECTION 428 SCOPE OF WORK

The proposed type of work for this project:

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

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

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

__Recipient's approval letter included, see **Appendix __**.

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

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

__Recipient's approval letter included, see **Appendix __**.

DESCRIPTION OF PROPOSED WORK TO BE PERFORMED

Scope of Work Description	Number of Points
Components only do not require pole replacement, installation, removal	1,833
Secondary pole replacement, installation, removal, with third-party attachments	876
Secondary pole replacement, installation, removal, without third-party attachments	246
Secondary pole, removal, with third party attachments, Luminaire Location Change (LLC)	45
Streetlight pole replacement, installation, removal	8
Grand Total	**3,008**

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

Lighting Components Replaced

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

Pole Replacement

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

CODES & STANDARDS

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

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

COMMON EHP REVIEW INFORMATION

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

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

- All work for this program will be performed within the existing electrical easement of the municipality. Poles are near the roads and are site accessible.
- **Streetlights Poles**: Appendix C and Appendix D contain coordinates for streetlight poles where ground disturbance is required. The replacement of poles has a standard diameter for ground disturbance of 18 inches. The depth of the poles to be

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installed is stated in Appendix D (see "Soil area and depth impact" column).

- Equipment to be used includes Skid Steer, Excavator, Dump trucks, Man lifts, 120-ton Motor Crane, Boom Trucks, 45-ton Crane, Zoom Boom, Air compressor, Truck Digger, Water truck, Pump Truck, Concrete Vibrator, Filtering Machine, and Flatbed platform.

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

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

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

- Vegetation clearance will be performed solely to the extent that it allows crews to conduct work and will be limited to a 10 ft radius surrounding the surface of the pole, but not to exceed the width of the easement. This is for the exclusive purpose of gaining access to the pole to conduct repairs. The costs related to vegetation clearance procedures are covered in **727562 FAASt [Region 5 - Mayaguez Group C] (Vegetation) and 750068 FAASt [Region 5 - Mayaguez Group A] Low Density (Vegetation)**. The vegetation removal process will be managed in accordance with federal and state regulations.

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

- **Construction Debris**: The debris that will be produced during removal includes luminaires, polearms, photocells, metal scrap, wiring, concrete, steel, and wood poles. The debris will be separated and taken to an authorized waste disposal facility.
- Luminaires are considered universal waste and will be disposed of by the contractor in authorized facilities.
- The Project does not include removal and/or disposal of transformers because they are secondary voltage facilities, and transformer removal pertains to primary voltage facilities.
- The GPS location of temporary debris storage sites, the final debris disposal location, and

the final debris disposal method has not been identified yet.

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

- **Staging Areas**: Staging areas within the work site have not been identified at this moment. The contractor must provide the information on the staging areas as soon as available. Staging areas are confined to previously disturbed or hardened surfaces.
  - All materials are stored and dispatched from the assigned LUMA Regional Warehouse. The location assigned for this project is the Mayaguez Warehouse [redacted]
- **Access Roads**: The construction of access roads is not required for this scope of work. (Refer to **Appendix D** in the "Site Accessible" column).

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

- Fill, gravel, and sand materials will be obtained from a preferred vendor as referenced in the *Approved Supplier List Directory PR* (see Applicant Profile).

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

PROJECT COST ESTIMATE (PCE)

The estimated costs (compliant with **Class 3 Accuracy +/-30%**) to complete the project are summarized in the table(s) below. The cost estimate(s) was developed utilizing preliminary Architectural and Engineering ("A&E") design information. For a more detailed cost estimate refer to t *Appendix A- LUMA Project Cost Estimate*.

Distribution Streetlights Estimate Summary - Rincón					
	Total Cost Estimate	**Cost Factor**	**FAASt Project 714641 (428 Cost Estimate)**	**FAASt Project 714641 (406 Cost Estimate)**	**A&E FAASt Project 335168 (428)**

Planning, Permits and Applications (A&E)	$ 98,627.57	1.00%	$ 0.00	$ 5,113.47	$ 93,514.10
Environmental Management (A&E)	$ 295,882.71	3.00%	$ 0.00	$ 15,340.40	$ 280,542.31
Project Management (A&E)	$ 98,627.57	1.00%	$ 0.00	$ 5,113.47	$ 93,514.10
Engineering - A&E Estimate	$ 671,862.00	6.81%	$ 0.00	$ 34,833.50	$ 637,028.50
Engineering - Owners Engineering (A&E)	$ 493,137.86	5.00%	$ 0.00	$ 25,567.33	$ 467,570.53
Construction - Labor & Materials	$ 9,862,757.11	100.00%	$ 9,351,410.55	$ 11,346.56	$ 0.00
Construction - Project Management	$ 394,510.28	4.00%	$ 374,056.42	$ 20,453.86	$ 0.00
Construction - Site Management	$ 493,137.86	5.00%	$ 67,570.53	$ 25,567.33	$ 0.00
Construction - Quality Inspections	$ 295,882.71	3.00%	$ 280,542.31	$ 15,340.40	$ 0.00
Construction - Contingency	$ 690,393.00	7.00%	$ 654,598.74	$ 35,794.26	$ 0.00
Lodging & Per Diem & Travel	$ 838,835.13	50.00%	$ 838,835.13	$ 0.00	$ 0.00
TOTAL PROJECT COST ESTIMATE	**$ 14,233,653.80**		**$ 11,967,013.68**	**$ 694,470.58**	**$ 1,572,169.54**

428 Project Summary, Version 2:

Work to Be Completed (WTBC): $11,967,013.68

E&M Deduction (#673691) 428: -$0.00 (See project note # 6)

A&E Deduction (Global A&E FAASt 335168): -$0.00 (See project note #6)

Project Total Cost: $11,967,013.68

Change requested Version 2: $11,967,013.68 (version 2) - $13,539,183.23 (Version 1) = -$1,572,169.55

VERSION SUMMARY OF KEY CHANGES:

V0: $10,842,339.26 (WTBC, A&E, E&M Deduction)

V1: $13,539,183.23 (WTBC, A&E Deduction, E&M Deduction, Reconcile funding from De-obligation of V0)

V2: -$1,572,169.55 (Reconcile funding)

Project Notes:

1. Refer to detailed SOW provided in document: *714641-Rincon Streetlighting-Version 1 Rev.0 Detailed Scope of Work-April 2026.pdf*

2. Refer to detailed cost estimate in document: *714641-Rincon Streetlighting-Version 1 Rev.0 Cost Estimate-April 2026.xlsx.*

3. In the previous version, the Architecture and Engineering (A&E) and Equipment and Materials (E&M) dollar amounts were deducted. Accordingly, a positive value in the same amount has been added in Version 1 to zero out these costs. This adjustment was made to prevent duplication of A&E and E&M funds in Version 0, as requested by the Applicant, to modify the project cost estimate to reflect accurate allocations of A&E cost to FAASt #335168, and E&M cost to FAASt #673691. Refer to document file: *SP714641 - DR4339PR - AE and E&M Cost Clarification.pdf and "Sub-FAAST Transactions - allocation process.pdf"*

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

5. Attachments:

For reference documents Appendix A through E, see the files labeled:

- Appendix A – Rincón Work Zones Map
- Appendix B – Rincón Municipality Work Zones FIDs SIDs and Coordinates
- Appendix C – Cost Estimate Rincón Municipality
- Appendix D – Project Considerations Rincón Municipality
- Appendix E – FEMA 406 Justification: Streetlight Program

6. Regarding the Equipment and Materials(E&M) and A&E cost in this project see the PDMG clarification in the document labeled: "714641-DR4339PR-Clarification.pdf"

406 HMP Scope

Project number: 714641; FAASt [Distribution Streetlighting - Rincón] (Distribution)

Damage # 1317631; FAASt [Distribution Streetlighting - Rincón]

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

Location: Rincón, Puerto Rico

GPS Latitude/Longitude: [redacted]

Hazard Mitigation Narrative

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

In the Rincón Municipality, PREPA has a total of 3,008 ea. streetlights luminaries. The Method of Repair (MOR) include the replacement of the damage lighting components including photocells, luminaires, arms, and associated hardware. Also include the replacement of the damage distribution and streetlight poles (wood, concrete, galvanized & aluminum), the replacement of the aerial secondary wiring connections, and the construction of new concrete base for the aluminum streetlight poles. According to the information provided by the Applicant, due to the high velocity hurricane winds, wind-blown debris, and prolonged heavy rain, were the main cause of the damages of the facilities.

In order to minimize the damages in a future event, the Applicant is proposing as a mitigation measure, increase the strength of the poles, aluminum poles breakaway bases, and foundations (concrete bases) by increasing the wind tolerance of all materials to 160mph. Note: The FEMA Accelerated Award Strategy (FAASt) MOR included the PREPA distribution standards and specifications that were based on a 90mph sustained winds for all materials. Although in PREPA Technical Communication #13-02 (August 22, 2013) a design-criteria of 145mph winds were published,

the specifications for streetlighting material were never revised, and in the specification documents, the 90mph winds stayed as the requirement for procurement purposes of all streetlighting materials. The 160mph wind tolerance mitigation measure, will protect and make the affected infrastructure more resistant, stronger, and resilient to similar hazards.

Hazard Mitigation Proposal (HMP) Scope of Work:

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

Mitigation Measures *(Replacement)*

1. To avoid damage in a future event, the Applicant is proposing as a mitigation measure, increase the strength of aluminum and concrete poles, breakaway bases, and foundations (concrete bases) by increasing the wind tolerance of all materials to 160mph. The FAASt MOR used PREPA distribution standards and specifications that were based on a 90mph sustained winds for all materials. Although in PREPA Technical Communication #13-02 (August 22, 2013) a design-criteria of 145mph winds were published, the specifications for streetlighting material were never revised, and in the specification documents, the 90mph winds stayed as the requirement for procurement purposes of all streetlighting materials. The above mitigation measures will protect and make the affected infrastructure more resistant, stronger, and resilient to similar hazards. Refer to Appendix J: Section VI.D.1 of the PAPPG V3.1.

406 Mitigation Scope of Work:

- Replace (8 ea.) 33ft octagonal concrete poles by (8 ea.) 39ft octagonal concrete poles.
- Replace (1,122 ea.) 35ft galvanized poles by (1,122 ea.) 35ft S3.5 galvanized poles.

Hazard Mitigation Proposal (HMP) Cost:

Total Net Hazard Mitigation Cost (Base Cost) = $511,346.56

+ HM (Applicant A&E, Management & General Conditions) = $183,124.02

Hazard Mitigation Total Cost = $694,470.58

Hazard Mitigation Proposal (HMP) Cost Distribution:

Equopment and Materials (E&M) =	$506,022.00
Architecture and Engineering (A&E =	$106,422.03
Construction Cost =	$82,026.55
Hazard Mitigation Total Cost =	$694,470.58

HMP Cost-Effectiveness Calculations:

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

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

The IWBCA established a maximum potential mitigation benefit for the PREPA system of $7.6 billion. This figure represents the estimated total potential mitigation benefit with the highest confidence and was developed using the incurred costs of the PREPA FEMA Accelerated Award Strategy, FAASt, fixed cost estimate, FCE, the mission assignments used for the reconnection effort, and costs associated with loss of service. The IWBCA results were developed by the PA Mitigation team using the best available data and were further refined and concurred with by FEMA

Region 2 PA Mitigation team members and FEMA HQ groups, including the Community Infrastructure Resilience, CIR, Branch and Disaster Implementation, DI, Branch. This maximum potential benefit must be tracked to ensure that the combined cost of all approved mitigation proposals does not exceed the maximum potential benefit.

The Hazard Mitigation Proposal, HMP, described herein has a total Hazard Mitigation cost of $694,470.58. In accordance with FEMA's internal IWBCA benefit tracking, the maximum potential benefit remaining in the IWBCA is $4,984,185,664.68. The cost of this HMP, when combined with all other approved IWBCA-related proposals funded, does not exceed the remaining available IWBCA benefit. Therefore, this HMP is deemed cost-effective under the FEMA PAPPG Version 3.1, April 2018, Chapter 2, Section VII.C, BCA Rule, because the IWBCA demonstrates an acceptable BCA with a Benefit-Cost Ratio equal to or greater than 1.0.

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

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

Cost

Code	Quantity	Unit	Total Cost	Section
3510	1	Lump Sum	($1,946,225.97)	Uncompleted
9001	1	Lump Sum	$13,539,183.23	Uncompleted
9008	1	Lump Sum	($750,618.00)	Uncompleted
9201	1	Lump Sum	$0.00	Completed
9001	1	Lump Sum	($13,539,183.23)	Uncompleted
9001	1	Lump Sum	$13,539,183.23	Uncompleted
3510	1	Lump Sum	$1,946,225.97	Uncompleted
9001	1	Lump Sum	$750,618.00	Uncompleted
9001	1	Lump Sum	$11,967,013.68	Uncompleted
9001	1	Lump Sum	($13,539,183.23)	Uncompleted

CRC Gross Cost	$11,967,013.68
Total 406 HMP Cost	$694,470.58
Total Insurance Reductions	$0.00
CRC Net Cost	$12,661,484.26
Federal Share (90.00%)	$11,395,335.84
Non-Federal Share (10.00%)	$1,266,148.42

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

9/3/2026

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

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

7/3/2025

Does the Applicant have a Commercial Policy: Yes.

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

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

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

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

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

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

Olga Renta, PA Insurance Specialist

CRC Atlantic, Guaynabo, PR

O&M Requirements

There are no Obtain and Maintain Requirements on **FAASt [Rincón Streetlighting] (Distribution) (Cost Only)**.

406 Mitigation

There is no additional mitigation information on **FAASt [Rincón Streetlighting] (Distribution) (Cost Only)**.

Environmental Historical Preservation

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

EHP Conditions

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

- a. The Subrecipient and/or Subrecipient's contractor shall follow the Low Impact Debris Removal Stipulations (LIDRS) as stated in Appendix E of the Project-Specific Programmatic Agreement Among FEMA, the SHPO, ACHP, COR3, and PREPA (PSPA), executed on August 2, 2022. b. Unexpected Discoveries: Pursuant to Stipulation III.B of the PSPA, if, in the course of implementing this Individual Undertaking(s), previously unidentified structures, sites, buildings, objects, districts, or archaeological deposits, that may be eligible for listing in the National Register, or human remains are uncovered, or if it appears that an Individual Undertaking has affected or will affect a previously identified historic property in an unanticipated manner, the contractor must notify Subrecipient who will immediately notify the Recipient. Work must stop in the vicinity of the discovery and measures must be taken to protect the discovery and avoid additional harm. c. Additional staging areas and/or work pads within work site area haven't been identified yet. The Recipient/Subrecipient and/or private operator must provide the information of any additional staging areas or work pads for EHP evaluation as soon as available specially if any construction activity will be necessary to prepare the site(s). Information for staging areas and/or work pads confined to hardened surfaces can be provided at closeout. d. FEMA will require that an archaeologist, who meets the Secretary of the Interior (SOI) Qualification Standards (36 CFR Part 61) for archaeology, be present to monitor all trenching activities within the Traditional Urban Center of Rinc&#65533;n and for trenches within 200m of the coordinates of RN-1/RC0100001 Yacimiento Ensenada/Fussa I, RN-9-A Puentes o Atarjeas, and any trenching along Calle Parque in Rinc&#65533;n (See Appendix B for complete Archeological Monitoring Plan). e. In the event that historically or archaeologically significant materials (or evidence thereof) are discovered during the implementation of this project, the Sub-Recipient and the Recipient shall proceed as indicated in Stipulation III.B. of the Programmatic Agreement, and the project shall be halted until such time as FEMA, in consultation with the PRSHPO, determines that appropriate measures have been taken to ensure that the project is in compliance with the NHPA. f. Archaeological monitoring of the activities will be documented by the SOI-qualified archaeologist in a report that must be submitted to FEMA's EHP Section for review. The level of description and documentation in the report submitted to FEMA for review shall be consistent with The Secretary of the Interior's Standards and Guidelines for Archaeological Documentation (http://www.nps.gov/history/local-law/arch_stnds_7.htm). After approval, FEMA EHP will submit the report to PRSHPO for comments and concurrence.
- ***DISREGARD PREVIOUS NHPAA CONDITIONS*** a. The Subrecipient and/or Subrecipient's contractor shall follow the Low Impact Debris Removal Stipulations (LIDRS) as stated in Appendix E of the Project-Specific Programmatic Agreement Among FEMA, the SHPO, ACHP, COR3, and PREPA (PSPA), executed on August 2, 2022. b. Unexpected Discoveries: Pursuant to Stipulation III.B of the PSPA, if, in the course of implementing this Individual Undertaking(s), previously unidentified structures, sites, buildings, objects, districts, or archaeological deposits, that may be eligible for listing in the National Register, or human remains are uncovered, or if it appears that an Individual Undertaking has affected or will affect a previously identified historic property in an unanticipated manner, the contractor must notify Subrecipient who will immediately notify the Recipient. Work must stop in the vicinity of the discovery and measures must be taken to protect the discovery and avoid additional harm. c. Additional staging areas and/or work pads within work site area haven't been identified yet. The Recipient/Subrecipient and/or private operator must provide the information of any additional staging areas or work pads for EHP evaluation as soon as available specially if any construction activity will be necessary to prepare the site(s). Information for staging areas and/or work pads confined to previously disturbed or hardened surfaces can be provided at close-out. d. All borrow or fill material must come from pre-existing stockpiles, material reclaimed from maintained roadside ditches (provided the designed width or depth of the ditch is not increased), or commercially procured material from a source existing prior to the event. For any FEMA-funded project requiring the use of a non-commercial source or a commercial source that was not permitted to operate prior to the event (e.g. a new pit, agricultural fields, road ROWs, etc.) in Recipient prior to extracting material. FEMA must review the source for compliance with all applicable federal environmental planning and historic preservation laws and execute orders prior to a subrecipient or their contractor commencing borrow extraction. Consultation and regulatory permitting may be required. Non-compliance with this requirement may jeopardize receipt of federal funding. Documentation of borrow sources utilized is required at closeout.
- The Applicant shall handle, manage, and dispose of all types of hazardous waste in accordance with requirements of local, state, and federal laws, regulations, and ordinances. In addition, the Applicant shall ensure that all debris is separated and disposed of in a manner consistent with the PR DNER guidelines at a permitted site or landfill. The contractor/applicant will be responsible for the proper disposition of construction debris in authorized landfills providing the name, location, coordinates and permits of the facility to the corresponding authorities.
- Unusable equipment, debris, white goods, scrap metal any other material shall be disposed in approved manner and location. In the event significant items are discovered during the implementation or development of the project the Applicant shall handle, manage, and dispose petroleum products, hazardous materials, and toxic waste in accordance with the requirements of the local and federal agencies. Noncompliance with these requirements may jeopardize receipt of federal funds.
- For Rincon Streetlighting only: Applicant must obtain any required permits from the Puerto Rico Permits Management Office (OGPe) prior to initiating work and comply with any conditions of the permit established by the Planning Board (JP) for constructions in floodplains. All coordination (emails, letters, documented phone calls) pertaining to these activities and compliance must be provided and maintained in the Applicant&#65533;s permanent files.
- The Applicant must provide documentation at close-out that proves completion of required Conservation Measures. For PR Boa (Chilabothrus inornatus) In 2023, the Service amended a Programmatic Biological Opinion (PBO) for the Puerto Rican boa and the Virgin Islands tree boa. The below measures are included as Terms and Conditions (T&Cs) in the amended PBO (USFWS 2023). 1. Inform all project personnel about the potential presence of the Puerto Rican (PR) boa and Virgin Islands (VI) boa in areas where the proposed work will be conducted and provide training on PR and VI boa identification. A pre-construction

meeting will be conducted to inform all project personnel about the need to avoid harming these species. All personnel will be advised that there are civil and criminal penalties for harming, harassing, or killing species protected under the Endangered Species Act of 1973. An educational poster or sign with photo or illustration of these species will be displayed at the project site. 2. Prior to any construction activity, including removal of vegetation and earth movement, the boundaries of the project area and any area to be excluded and protected will be clearly marked in the project plan and in the field to avoid further habitat degradation outside of the footprint of the project. 3. Once areas are clearly marked, and right before the use of heavy machinery and any construction activity (including removal of vegetation and earth movement), biologist or designated project personnel with experience on these species will survey the areas to be cleared to verify the presence of any PR or VI boa within the Action Area. If a PR or VI boa is found during the search, it should be captured and managed as per #6 below. Once the removal of vegetation begins, the biologist or designated personnel must remain at the work site and be ready to capture any boa that might be in harms way as the result of the habitat disturbance (see #6).

- 4. For VI boas, once the Action Area has been searched, vegetation will be cut about one meter above ground prior to the use of heavy machinery for land clearing. Cutting vegetation by hand will allow VI boas present on site to move away on their own to adjacent available habitat. If there is no suitable habitat adjacent to the project site, any VI boa found will be relocated accordingly (see #6). 5. For all boa sightings (dead or alive), record the time and date of the sighting and the specific location where it was found. Data will also include a photo of the animal (dead or alive), relocation site GPS coordinates, time and date of the relocation, and comments on how the animal was detected and its behavior. 6. If any PR or VI boa (dead or alive) is found within the Action Area and on harms way, the action will stop, and information will be recorded (see #5). All attempts will be made to immediately safely capture and relocate the animal within suitable habitat (forested) at least 1km from the Action Area and away from construction areas. PR boa relocation sites will be pre-determined before the project starts and sites shared with the Service for revision and concurrence. Relocation of PR boas will be conducted by trained, designated personnel ensuring the animal is not harmed or injured during the capture and relocation process. 7. Measures will be taken to avoid and minimize PR boa and VI boa casualties by heavy machinery or motor vehicles being left in the Action Area.
- - Any heavy machinery left on site (staging areas) or near potential PR or VI boa habitat will be thoroughly inspected each morning before work starts to ensure that no boas have sheltered within engine compartments or other areas of the heavy machinery. If a PR boa or VI boa is found within vehicles or heavy machinery, boas will be safely captured accordingly. If not possible, the animal will be left alone until it leaves the vehicle or machine by itself. - The PR boa and VI boa may seek shelter within debris piles. Measures should be taken to avoid and minimize boa casualties associated with sheltering in new debris piles as a result of project activities. New debris piles should be placed in areas as far as possible from forested areas. Prior to moving, disposing, or shredding, debris piles should be carefully inspected for the presence of PR boas and VI boas. If debris piles will be left on site, we recommend they be placed in an undisturbed area. - In the event a PR boa and VI boa is found dead within the project area, the Federal Agency and the Recipient must contact the Service to appropriately dispose the animal. - If a PR boa or a VI boa is accidentally injured or killed during capture and relocation activities during the Action, the Federal Agency and the Recipient shall terminate the authorized activities and contact the Service within 24 hours to reinitiate consultation. The Federal Agency will consult with the Service to determine whether authorized activities should continue as proposed and whether modifications are warranted. - Should the forms of take reach the amount of exempted take during the Action, the Federal Agency and the Recipient shall terminate the authorized activities and contact the Service within 24 hours to reinitiate consultation. The Federal Agency will consult with the Service to determine whether authorized activities should continue as proposed and whether modifications are warranted.
- For questions and to submit reports, the Services Point of Contact (POC) is Jose Cruz-Burgos, Endangered Species Coordinator, and can be contacted at: Mobile: 305-304-1386 Office phone: 786-244-0081 Office Direct Line: 939-320-3120
- For Sea Turtles There is potential for sea turtle nesting activity on all ocean-facing sand beaches in Puerto Rico and the U.S. Virgin Islands, including mixed sand and gravel (shell, coral rubble) beaches. The following measures are applicable to green, loggerhead, leatherback, and hawksbill sea turtles. During sea turtle nesting season (March 1 to November 30), a qualified sea turtle monitor must survey beach work areas each morning for possible nests. Nests found in the area should be marked or flagged in place. Outside of nesting season, these areas should be surveyed at least twice a week. Debris removal or construction on beaches may only begin after morning surveys are completed by the sea turtle monitor, and nests are clearly marked. - All personnel will be advised that there are civil and criminal penalties for harming, harassing, or killing species protected under the Endangered Species Act of 1973, as amended. - Surveys shall be conducted by sea turtle permit holders or trained personnel following PRDNER/DPNR-DFW protocols. (See image and list of contacts below.) - Nests located adjacent to the work area should be marked with flagging, creating a 10-foot square roped-off buffer with an unobstructed path leading from the nest to the water. - Nest surveys must be conducted in the mornings, immediately before any construction activity commences. - Sea turtle monitoring groups should possess site-specific information for nests in their designated areas and should communicate these details to work crews to ensure avoidance.
- For Puerto Rico contact: ATMAR: 787-448-8627 Chelonia: 787-306-0916 DRNA Loiza: 787-453-6484 DRNA Rio Grande: 787-646-9689 Reserva Natural de Humacao: 787-594-6568 Siete Quillas: 787-688-6763 TICATOVE Vieques: 787-438-4493 Tortugueros del CEN: 787-635-4493 Tortugueros de Culebra: 787-685-7820 Tortugueros de Isla Verde: 787-604-4959 Tortugeros del Sur: 787-341-8888 Vida Marina: 787-380-5254, 787-206-6800 Yo Amo el Tinglar: 939-276-9901
- During the sea turtle nesting season, repair or replacement of structures shall occur in the same location or footprint of the previously permitted structure. If the current projects footprint does not stay within previously permitted structures footprint, then the Service must be consulted. Relocation of sea turtle nests to accommodate construction is not authorized. All project activity shall be confined to daylight hours following the completion of all necessary marine turtle surveys and conservation activities. The

sea turtle monitor shall be available via telephone after the initial inspection throughout the workday. If planting will occur, only native plant species are authorized to be planted. Existing native dune vegetation shall be disturbed to the minimum extent necessary. Removal of standing and live coastal vegetation (e.g., sea grapes, mangroves) that are not a hazard is unauthorized. No sea grass, sea weeds, algae nor beach sand shall be removed during beach debris removal efforts. Any vegetation planting shall be installed by hand labor and tools. Irrigation systems shall not be installed within nesting habitat. Prior to any planting, the Applicant will submit a vegetation plan to the Service at: caribbean_es@fws.gov. If a sea turtle nest is disturbed or uncovered during vegetation planting activity or project excavation, all work shall cease, and the sea turtle monitor shall be immediately contacted to assess the situation and provide guidance on the appropriate steps to safeguard the nest. If a nest(s) cannot be safely avoided during construction, all activity within the affected project area shall be delayed until complete hatching and emergence of the nest.

- Placement of fill shall not occur within 10 feet of or in any area seaward of a marked sea turtle nest. Nests shall be marked in place with a roped off 10-foot buffer. Dependent upon the fill volume and slope, distance offset from marked turtle nests may be required to be larger to avoid indirect impacts (e.g., fill slumping) to the nest. If the turtle nest cannot be avoided by this distance due to the scope of the project, all work near the nest must be postponed until nestlings emerge from the nest and make their way safely to the sea. If a sea turtle nest is found after November, work should be postponed until the nestlings have safely hatched and made their way to the sea. All excavations and temporary alteration of beach topography shall be contoured or leveled to the natural beach profile prior to dusk each day. This includes raking of tire ruts, filling pits or holes where debris was removed, etc. Any potential obstructions such as debris piles, equipment, etc. shall also be removed from the beach by the end of each workday. Fill must be placed as landward as practicable to establish or repair dune features. The existing or pre-disaster beach and dune profile must be considered when determining the appropriate siting of fill to provide reasonable longevity of the project. No vehicles, equipment, staging or debris should be used, parked, or stored landward of the primary dune or in vegetated areas. Staging/parking/storage areas shall be located on paved surfaces as much as possible and outside of vegetated areas. Lightweight, all-terrain style vehicles, with tire pressures of 10 psi or less can operate on the beach and are the preferred transportation method. However, use of heavy equipment on the beach can be allowed provided it is taken off the beach by 1600 AST local time every night using an approved and designated beach access. All driving on the beach shall be between the high-water mark and the waters edge. Removal of vegetation, fence installation, construction activities, and light installation shall be limited within 50 meters from the high tide line.
- No construction involving lights shall be used during the nesting season. Outside of the nesting season, in Puerto Rico and the U.S. Virgin Islands, it is mandatory to have a lighting plan that incorporates sea turtle-friendly lights for coastal areas whenever lights are being repaired or newly installed. For projects in Puerto Rico, compliance with Puerto Rico Law 218 of 2008, which addresses the Control and Prevention of Lighting Pollution in Puerto Rico, and the PR EQB 2016 Regulation to Control and Prevent Light Contamination, is also required. These lighting plans should be submitted to the Service at caribbean_es@fws.gov for review. When submitting the lighting plan, please include: The name and location of the project. A brief description of the project. An associated tracking number (if available). A Point of Contact. After the plan has been fully implemented, the Applicant is responsible for conducting a lighting inspection to identify and correct any remaining problematic lights. If an unmarked sea turtle crawl is encountered during or prior to project activity, the work crew shall not disturb the integrity of the crawl. Project personnel shall follow the crawl up the beach or into the dune and contact the qualified sea turtle monitor to inform of the location of the crawl. Care shall be taken to avoid walking or driving equipment over or near a crawl so that a potential nest is not damaged.
- Any collision(s) with and/or injury to any sea turtle in water, occurring during the construction of a project, shall be reported immediately to PRDNER/DPNR-DFW and the National Marine Fisheries Services (NMFS) Protected Resources Division (PRD) at (1-727-824-5312) or by email to takereport.nmfsser@noaa.gov and SAJ-RD- Enforcement@usace.army.mil. All sea turtle sightings and incidents involving nesting sea turtles or hatchlings shall be reported to PRDNER/DPNR-DFW and the Service. The Services point of contact is Jose Cruz-Burgos, Endangered Species Program Coordinator: Mobile: 305-304-1386 Office phone: 786-244-0081 Office Direct Line: 939-320-3120 caribbean_es@fws.gov or jose_cruz-burgos@fws.gov
- For Buxus vahlii: Before initiating any work within the range of listed plant species and in areas with suitable habitat, applicants must conduct plant surveys. In the event that listed species are discovered at the project site, the Service must be notified. The Applicant must develop conservation measures to minimize or avoid impacts on those species and share those measures with the Service for evaluation and approval. If no listed plants are found during surveys, no further action is required. However, if a listed plant species is found while the project is being conducted, project personnel shall stop work, and the Service should be contacted for further technical assistance. Services point of contacts: Jose Cruz-Burgos, Endangered Species Program Coordinator, Mobile: 305-304-1386, Office: 786-244-0081, jose_cruz-burgos@fws.gov. Omar Monsegur, Fish and Wildlife Biologist, Mobile: (305) 304-0292, omar_monsegur@fws.gov.
- Additional staging areas and/or work pads within work site area havent been identified yet. The Recipient/Subrecipient and/or private operator must provide the information of any additional staging areas or work pads for EHP evaluation as soon as available specially if any construction activity will be necessary to prepare the site(s). Information for staging areas and/or work pads confined to hardened surfaces can be provided at close-out.

EHP Additional Info

There is no additional environmental historical preservation on **FAASt [Rincón Streetlighting] (Distribution) (Cost Only)**.

Final Reviews

Final Review

Reviewed By LEFRANC-GARCIA, CARLOS L. **Reviewed On** 09/11/2026 9:00 PM PDT

Review Comments

PA/HM reconciliation completed.

Recipient Review

Reviewed By Mulero, Noel **Reviewed On** 09/16/2026 9:44 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 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 $12,661,484.26 for subaward number 11630 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	Pending	In Review		$12,467,409.38	90%	$0.00	

Drawdown History

EMMIE Drawdown Status As of Date	IFMIS Obligation #	Expenditure Number	Expended Date	Expended Amount
8/25/2026	4339DRPRP00116301	20174AUB-08242026	8/21/2026	$1,195,082.10

Obligation History

Version #	Date Obligated	Obligated Cost	Cost Share	IFMIS Status	IFMIS Obligation #
0	3/1/2026	$10,383,128.86	90%	Accepted	4339DRPRP00116301
1	8/3/2026	$2,427,159.57	90%	Accepted	4339DRPRP00116301
2	9/25/2026	($1,414,952.59)	90%	Accepted	4339DRPRP00116301

Department of Homeland Security
Federal Emergency Management Agency

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General Info

Project #	745861 **P/W #** 107957	**Project Type**	Specialized
Project Category	F - Utilities	**Applicant**	PR Electric Power Authority (000-UA2QU-00)
Project Title	FAASt [Automation Program Group 12] (Distribution) (Cost Only)	**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 #1374353; FAASt [Transmission and Distribution Automation Program Installation of Intelligent Reclosers, Single Phase Reclosers and Fault Current Indicators Group 12: DAR – ARECIBO 7402, 7403, 7702 FY24

General Facility Information:

- **Facility Type:** Power generation, transmission, and distribution facilities
- **Facility:** Transmission and Distribution Automation Program Installation of Intelligent Reclosers, Single Phase Reclosers and Fault Current Indicators Group 12: DAR – ARECIBO 7402, 7403, 7702 FY24
- **Facility Description:** Transmission and Distribution Automation - Feeders ARECIBO 7402, 7403, 7702 FY24
- **Approx. Year Built:** 1980
- **Start GPS Latitude/Longitude:** [redacted]
- **End GPS Latitude/Longitude:** [redacted]

Final Scope

1374353

FAASt [Transmission and Distribution Automation Program Installation of Intelligent Reclosers, Single Phase Reclosers and Fault Current Indicators Group 12: DAR – ARECIBO 7402, 7403, 7702 FY24

INTRODUCTION AND BACKGROUND

Introduction

This document is to submit for approval a Detailed Scope of Work ("SOW") to COR3 and FEMA for the Transmission and Distribution Automation Program under DR-4339-PR Public Assistance. The document provides a description of the project, including scope, schedule, and cost estimates. 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 according 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 following the Consent to Federal Funding Letter issued by PREPA and P3A, which collectively provides thenecessary 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.

Background

In order to rebuild the entire electrical grid, the Transmission & Distribution Automation Program ("Program") installs advanced technology equipment (*i.e.*, reclosers and communicating fault current indicators) to reduce service interruptions to the electrical grid caused by disaster-related damage. The multiple projects within this Program are designed to fortify the electrical system's resilience, safeguard its infrastructure, and enhance service reliability. The strategy is to deploy full automation equipment to the transmission and to the distribution systems. While the individual projects are interconnected and enhance each other, each can also be implemented independent of each other, and each confers benefits independently. The Program includes multiple projects being implemented across the island on both systems. Automation is one of several initiatives to complete final restoration of the transmission and distribution systems. The 3.5 million residents throughout Puerto Rico are dependent upon the successful completion of the Program and its ability to sustain the power grid in future disasters.

Project 745861 is one of the Program's distribution-level projects. It installs hardened poles, advanced technology equipment (specifically three-phase reclosers and communicating fault current indicators), and online protection devices to reduce service interruptions to the distribution grid that could be caused by disaster-related damage. Implementing reclosers and communicating fault current indicators is critical for the Energy Management System

("EMS") and related components to function at their full capabilities and mitigate loss of service and potential damages for upcoming occurrences. This project is necessary for the EMS to maintain the continuity of the distribution power grid on Feeders of this project.

Key components of this project are (1) pole replacement, (2) the installation of three-phase and single-phase reclosers, and (3) the installation of communicating fault current indicators. Each of these components and their benefit to the grid are described further below:

Pole Replacement to Accommodate the Installation of Reclosers

The addition of three-phase reclosers imposes additional load on poles due to the weight and operational components of the devices and it also increases the wind area exposed to extreme weather conditions, such as hurricanes, thereby augmenting the structural load these poles must withstand. Pole loading analysis will be used to determine whether a recloser pole and/or pole adjacent to the recloser will maintain structural integrity. If the pole cannot maintain structural integrity, higher-class (strength) structures/poles made of steel or concrete will be installed to comply with codes and standards. This includes adjacent poles (*i.e.*, poles that are on either side of the recloser pole supporting the overhead line conductors). Any new structure and foundation will be designed to LUMA design and industry standards so they can support the pole, recloser, and its attachments.

In addition, LUMA is using a per-location approach to pole replacement because of the intricate dynamics of deploying three-phase reclosers. Furthermore, the integration of more connections, switches, and related infrastructure often necessitates taller poles to meet phase spacing and circuit-to-circuit spacing requirements. Therefore, LUMA will replace all wood poles where three-phase reclosers are being installed, irrespective of their current condition, to address the compound structural demands and spacing prerequisites, and ensure the resilience and reliability of the electrical grid infrastructure.

Feeder Reclosers

Reclosers are sophisticated devices that remotely detect faults within distribution lines, enable the isolation of circuit breakers linked to those faults—whether due to independent failures or breakdowns—and facilitate the swift restoration of power, often within milliseconds. This project will install three-phase and single-phase reclosers on a distribution feeder.

Three-Phase Reclosers: A three-phase recloser is a protection device that is used on three-phase distribution feeders with high fault currents at the location. It is a single device with three switches that can open to interrupt fault currents and automatically reclose to restore power. Three-phase reclosers are communication-ready to enable remote control and visualization.

Implementation of reclosers will preserve the continuity of electric services by pre-empting or minimizing power disruptions. The three-phase reclosers can be triggered remotely and provide data back to the operations center,enabling LUMA to prioritize restoration activities, reduce customer outage time, and minimize the potential for cascading infrastructure damage. Installation of the three-phase reclosers and associated hardware is critical for the EMS and associated components to function with full capabilities and to prevent loss of service and potential damages in future disasters.

Single-Phase Reclosers: A single-phase recloser performs the same functions as a three-phase recloser, but it does not have the ability to communicate with the EMS.This project will install single-phase reclosers on the distribution feeder and distribution lines branching from the feeder. It is a protection device that is used on a single-phase or a two- phase distribution feeder. Single-phase reclosers are used on feeders with three-phases if fault currents are low at the location. A single-phase recloser is a single device with one switch that can open to interrupt fault currents and automatically reclose to restore power.

Communicating Fault Current Indicators

Install communicating fault current indicators ("cFCI") at strategic locations to improve the outage management, restoration, and recovery process, specifically by decreasing the time required to detect and locate faults. cFCI operate independent of the feeder reclosers. cFCI help identify permanent and incipient faults in the distribution system and collect voltage and current data which can be used to detect system imbalance, prevent future issues due to harmonics and help in building a predictive failure models. That data is used by the grid operator to make decisions on operations, management and restoration. The cFCI can be programmed to send automatic notification/alarms based on user set parameters. This allows for quick dispatch of field crews to specific sections of the feeders and reduces the total restoration time during an outage event which saves. Installation of the three-phase reclosers and associated hardware, the communicating fault current indicators (communications ready) are critical for the Energy Management System ("EMS") and associated components to function with full capabilities and to mitigate theloss of service and potential damages in future disasters.

This project is distinguishable from projects where the reclosers are installed on microgrids, such as those in Vieques and Culebra. Microgrids require extremely fast communications that fiber optics can provide; other advanced technology such as Phasor Measurement Units may also require such high speed/bandwidth communications. That speed/bandwidth is not required on a standard feeder and would significantly increase the cost. LUMA has developed this scope for reclosers and their associated hardware only. CFCIs and reclosers can communicate through a few different modes of communications, so the lack of fiber optics in this scope of work does not prevent or limit the monitoring capabilities of reclosers and cFCIs or the automation capabilities of reclosers. Furthermor, it does not prohibit the incorporation of fiber optics at a later date.

Facilities Description

The facilities listed below are part of the electrical distribution system. All feeders originate from a substation (start) and serve customers along the route to various locations (end). The coordinates shown below represent the mainline backbone of each feeder. Please refer to the **APPENDIX D – LUMA's Active Projects** to show

no duplication of scope elements.

Facilities List

Name	Damage Number	Feeder Number	GPS Location
Arecibo	1374353	7402-01	[redacted]
Arecibo	1374353	7403-02	
Arecibo	1374353	7702-02	
Arecibo	1374353	7702-03	

Note: Please refer to **APPENDIX *C— Project Considerations* for a list of all GPS locations that this project will impact**.

Project Scope of Work

Below is a list of the "Proposed 428 Public Assistance Scope of Work" proposed for feeders of this group.

Proposed 428 Public Assistance Scope of Work

Feeder 7402-01

FID	COORDINATES LAT, LONG	Existing	Install	SCOPE OF WORK
21664670	[redacted]	(60' WOOD POLE) (38KV SC DE VERT) (CP-C6- XARM) (T-1) (STL- 10) (S-1)	(70' S8 12-SIDED GALVANIZED STEEL POLE) (38KV SC DE VERT) (CP-C6- XARM)) (K-7-4) (STL-10) (3/0 TPX(QTY=400FT)) (REC-2)	• Remove and dispose of 60' wood pole. • Replace with 70' S8 12- sided galvanized ste pole. • Replace primary framings. • Remove and dispose spacer framing and ckt. • Replace secondary framing. • Replace streetlight. • Transfer transformer to pole fid: 1001475449 • Install triplex from source side pole fid: 10014 due to three phase recloser 7402-01A. • Install (1) Three-Phase

FID	COORDINATES LAT, LONG	Existing	Install	SCOPE OF WORK
				Reclser 7402-01A on a radial circuit.
1001475449	[redacted]	(CP-C6-XARM) (K-6) (STL-10) (S-1)	(CP-C12-XARM) (T-1) (K-6) (STL-10) (SOLID CUTOUT BLADES(QTY=3)) (3/0 TPX(QTY=300FT))	• Reuse 60' h6 concrete pole. • Adjust 38kv framing to standard. • Replace primary framing. • Replace secondary framing. • Remove and dispose streetlight from stub pol • Install streetlight. • Install transformer (37.5kva/ 4.16kv, 120/240v). • Install solid cutout Blades in cutout fuse asse

28651889	[redacted]	(45' H4 CONCRETE POLE) (S-6) (K-7)	(50' S8 12-SIDED GALVANIZED STEEL POLE) (S-6) (REC - 2 - 2) (K-7-B) (3/0 TPX(QTY=500FT))	• Remove and dispose 45' H4 Concrete pole. • Replace with 50' S8 12- sided galvanized ste pole. • Remove and dispose and dispose wood stub • Replace primary framing. • Replace secondary framing Feed recloser fro existing source side secondary. • Install (1) Three-Phase recloser 7402-01B o radial circuit
28651876		N/A	(SOLID CUTOUT BLADES(QTY=3)) (ASSY- 1509 (QTY=3)) (ASSY-1505 FIG. C)	• Install stand-off bracket assembly. • Install solid cutout blades (qty=3) on existing
1000331641		(ASSY-1509 (QTY=2)	(LABOR TO CLOSE JUMPERS(QTY=2))	• Remove and dispose fuse fid: 1001367496 (c and close jumpers due to three phase recloser 7402- 01b installation.
33190825		(ASSY-1509 (QTY=3))	(LABOR TO CLOSE JUMPERS(QTY=3))	• Remove and dispose fuse fid: 33823856 (and close jumpers due to three phase recloser 01b installation.
28654052		(ASSY-1509 (QTY=3))	(LABOR TO CLOSE JUMPERS(QTY=3))	• Remove and dispose fuse fid: 33824437 (and close jumpers due to three phase recloser 7402-01b installation.
28651625		(45' CLASS 3 WOOD POLE) (S- 6) (K-5) (E-1-2-3) (F-1-3) (T-2)	(50' S8 12-SIDED GALVANIZED STEEL POLE) (S-6) (REC-2-2) (K-7-B) (3/0 TPX(QTY=300FT))	• Remove 45' Class 3 wood pole. • Replace with 50' S8 12- sided galvanized ste and relocate 5ft outside of private property fer • Replace primary framing. • Replace secondary

FID	COORDINATES LAT, LONG	Existing	Install	SCOPE OF WORK
	[redacted]			framing. • Install triplex from source side pole fid: 22077 • Remove and dispose downguy. • Relocate transformer two spans downstrean pole fid: 28651671. • Install (1) Three-Phase recloser 7402-01C on radial circuit.
22077816		N/A	(K-5)	• Install secondary framing to feed recloser 74
28651671		N/A	(T-2)	• Transfer transformer from pole fid: 2865162 to three phase recloser • 7402-01c.
22077813		(LABOR, FUSE REMOVAL (QTY=3))	(LABOR, SOLID CUTOUT BLADES(QTY=3)	• Replace fuses (qty=3) with cutout blades (qty on existing 70' s8 steel pole.
28652000		(ASSY- 1509(QTY=3))	(LABOR TO CLOSE JUMPERS(QTY=3)	• Remove and dispose fuse fid: 33823352 (and close jumpers due to three phase recloser 01c installation.
28654587		(ASSY-1509 (QTY=3)) (STAND- OFF BRACKET ASSY 1505-FIG. C)	(LABOR TO CLOSE JUMPERS(QTY=3))	• Remove and dispose fuse fid: 1002131726 (c and close jumpers due to three phase recloser 01c installation.

NEW POLE	[redacted]	N/A	(50' S8 12-SIDED GALVANIZED STEEL POLE) (S-6) (REC-2-2) (K-7-B) (3/0 TPX(QTY=250FT)	• Install a new 50' S8 12- sided galvanized stee pole. • Install primary framing. • Install secondary framing. • Install triplex from source side pole fid: 22074 • Install (1) Three-Phase recloser 7402-01D on radial circuit.
21663664		(ASSY-1509 (QTY=3))	(SOLID CUTOUT BLADES(QTY=3)) (ASSY- 1509 (QTY=3)) (ASSY-1505 FIG. C) (K-2)	• Straighten and reuse existing 45' h4 concrete pole. • Adjust guy wire tension. • Install secondary framing to feed three phase recloser 7402- 01d. • Replace existing crossarm with stand-off bra assembly. • Replace fuse fid: 33824826 (qty=3) with cutc blade (qty=3) due to three phase recloser 7402 01D installation.
22074602		N/A	(K-5)	• Install secondary framing to feed three phase recloser 7402-01d.

FID	COORDINATES LAT, LONG	Existing	Install	SCOPE OF WORK
1000580231	[redacted]	(ASSY-1509 (QTY=3))	(LABOR TO CLOSE JUMPERS(QTY=3)	• Remove and dispose fuse fid: 1000580237 (c and close jumpers due to three phase recloser 7402-01d Installation.
21664915		(ASSY-1509 (QTY=3))	(LABOR TO CLOSE JUMPERS(QTY=3)	• Remove and dispose fuse fid: 1001475321 (c and close jumpers due to three phase recloser 7402-01d • Installation.
21665387		(ASSY-1509 (QTY=3))	(LABOR TO CLOSE JUMPERS(QTY=3)	• Remove and dispose fuse fid: 1002128988 (c and close jumpers due to three phase recloser 7402-01D installation.
21663839		(CP-C6-XARM) (S- 6) (T-1)	(CP-C6-XARM) (REC-2) (K7-B) (3/0 TPX(QTY=250FT))	• Reuse 70' S8 steel pole. • Replace primary framing. • Replace secondary framing. • Remove and dispose transformer. • Install triplex cable from source side pole fid: 21663842 due to three phase recloser 7402-0 • Install (1) Three-Phase recloser 7402-01E
21663842		N/A	(K-5)	• Install secondary framing to feed Three-phas recloser 7402-01E
21663849		(S-5)	(SOLID CUTOUT BLADES(QTY=3)) (ASSY-1509 (QTY=3))	• Reuse 72" crossarm. Install cutout Blades (qt on existing 70' s8 steel Pole.
21664232		(ASSY-1509 (QTY=3))	(LABOR TO CLOSE JUMPERS(QTY=3))	• Remove and dispose fuse fid: 33826922 (qty and Close jumpers due to three phase Reclose 7402-01E installation.
21664540		N/A	(LABOR, cFCI) (QTY=3)	• Labor to install Communicating fault current indicator (cFCIs)

12137275	[redacted]	N/A	(LABOR, cFCI) (QTY=3)	• Labor to install Communicating fault current indicator (cFCIs)

Feeder 7403-02

FID	COORDINATES LAT, LONG	Existing	Install	SCOPE OF WORK
17203195	[redacted]	(35 FT H3	(50' S8 12-SIDED	• Remove and dispose of 35'
		CONCRETE POLE)	GALVANIZED STEEL POLE)	H3 concrete pole
		(S-3)	(REC-2-2)	• Replace with 50' S8 12-
			(S-6)	sided galvanized steel pole.
			(E-1-2-3(QTY=2)) (F-1-3(QTY=2))	• Install primary framing. • Install downguys.
				• Install anchors.
				• Install 1 kva transformers
				(2.40/7.62kv-120v) from
				source side.
				• Install three phase recloser
				7403-02A.
17205736		(ASSY-1509 (QTY=2))	(LABOR TO CLOSE	• Remove and dispose fuse
			JUMPERS(QTY=2))	fid: 1001811666 (qty=2) and
				close jumpers due to three
				phase recloser 7403-02A
				installation.
		(ASSY-1509 (QTY=2))	(LABOR TO CLOSE	• Remove and dispose fuse
17205744			JUMPERS(QTY=2))	fid: 33631235 (qty=2) and
				close jumpers due to three
				phase recloser 7403-02A
				installation.
17207532		(35' C4 WOOD POLE)	(45' S5.7 12-SIDED	• Remove and dispose the

	[redacted]	(ASSY-1509 (QTY=2))	GALVANIZED STEEL POLE)	35' C4 wood pole.
		(42" CROSSARM) (CP- B6-XARM)	(CP-B6) (CP-B5)	• Replace with 45' S5.7 12- sided galvanized s pole.
		(CP-B5-XARM) (K-7) (STL- 10) (T-1)	(CUTOUT BLADES(QTY=2)) (ASSY- 1509(QTY=2)) (ASSY-1505 FIG. B) (K-7) (STL-10) (T-1)	• Install primary framing. • Replace secondary framing. • Replace streetlight. • Remove and dispose downguy. Remove and
				dispose anchor.
				• Transfer transformer to
				new pole.
				• Remove and dispose
				fuse fid: 33629050 (qty=2)
				and install cutout blades
				(qty=2) due to three phase
				recloser 7403-02A
				installation.
17203210		N/A	(CUTOUT BLADES(QTY=3))	• Install stand-off bracket
			(ASSY-1509 (QTY=3))	assembly.
			(ASSY-1505 FIG. C)	• Install cutout blades
				(qty=3) on existing 40' h3
				concrete pole due to three
				phase recloser **7403-02A**
				Installation.
17203200		(40' CLASS 3 WOOD	(45' S5.7 12-SIDED	• Remove and dispose 40'
		POLE)	GALVANIZED STEEL POLE)	class 3 wood pole.
		(CP- C6-XARM)	(CP-C6-XARM)	• Replace with 45' S5.7 12-
		(T-2)	(T-2)	sided galvanized steel pole.
		(K- 5) (ASSY 1509 (QTY=3))	(K-5) (ASSY-1505-FIG. C) (REC-3-C)	• Replace primary framing. • Replace secondary framing.
				• Transfer transformers.
				• Install (3) single-phase

FID	COORDINATES LAT, LONG	Existing	Install	SCOPE OF WORK
	[redacted]			recloser 200A • Remove and dispose fuse fid: 1001744062 (due to single-phase recloser 200a Installation.
33189780		(ASSY-1509 (QTY=3))	(LABOR TO CLOSE JUMPERS	• Remove and dispose fuse
		(42" CROSSARM)	(QTY=3))	fid: 1001743346 (qty=3)
				and close jumpers due to
				three (3) single- phase
				recloser 200A installation.
33190400		(35' C4 WOOD	(45' S5.7 12-SIDED	• Remove and dispose 35' C4 wood pole
		POLE)	GALVANIZED STEEL POLE)	• Replace with 45' S5.7 12- sided galvanized s pole.
		(CP-C2)	(CP-C6-XARM)	• Replace primary framing.
		(K-7-B)	(T-2)	• Replace secondary framing.
		(T-2)	(K-7-B)	• Transfer transformer. • Install (3) single-phase recloser 200A.
		(42"CROSSARM)	(ASSY 1505 FIG. C)	
		(72" CROSSARM)	(REC-3-C)	
		(E-1-2-3)		
		(F-1-3)		
33190452		(ASSY-1509 (QTY=3))	(LABOR TO CLOSE	• Remove and dispose fuse
			JUMPERS(QTY=3))	fid: 33628522 (qty=3) and
				close jumpers due to
				three(3) three-phase
				recloser 200a Installation.
33190595		(ASSY-1509 (QTY=3))	(LABOR TO CLOSE	• Remove and dispose fuse
			JUMPERS(QTY=3))	fid: 3628373 (qty=3) and
				close jumpers due to
				three(3) single-phase
				recloser 200a Installation.
17206664		(35' C5 WOOD POLE)	(45'S5.7 12-SIDED	• Remove and dispose 35'

	[redacted]	(CP-B6-XARM)	GALVANIZED STEEL POLE)	C5 wood pole.
		(K-7-4) (ASSY-1509 (QTY=2))	(CP-B6-XARM) (REC-3-B)	• Replace with 45' S5.7 12- sided galvanized s pole.
		(E-1-2-3) (F-1-3)	(T-2) (K-7-4) (ASSY 1505 FIG. B)	• Replace primary framing. • Transfer transformer from fid: 17206667 pole
				• Replace secondary
				framing.
				• Remove and dispose
				downguy.
				• Remove and dispose
				anchor.
				• Remove and dispose fuse
				fid: 1001811684 (qty=2) due
				to single-Phase recloser
				installation.
				• Install (2) single-phase
				recloser 200a
17206667		(40' C3 WOOD POLE)		• Remove and dispose 40'
		(CP-B6- XARM)	N/A	C3 wood pole.
		(T-8)		• Remove and dispose
		(T-2)		primary framing.
				• Remove and dispose
				voltage regulator.
				• Transfer transformer to
				fid:17206664.
1001568083		(ASSY-1509 (QTY=2))	(LABOR TO CLOSE	• Remove and dispose fuse
		(42" CROSSARM)	JUMPERS(QTY=2))	fid: 1001568089 (qty=2)

FID	COORDINATES LAT, LONG	Existing	Install	SCOPE OF WORK
	[redacted]			and close jumpers due to two (2) single-phase recloser 200a Installation.
17207189		(40' S3 STEEL POLE) (CP-B5-XARM (QTY=2)) (T-2 (QTY=2)) (K-7-4) (ASSY 1509 (QTY=2)) (E-1-2-3) (F-1-3)	(45' S5.7 12-SIDED GALVANIZED STEEL POLE) (CP-B4) (T-2 (QTY=2)) (K-7-4) (E-1-2-3) (F-1-3) (REC-3-B)	• Remove and dispose of 40' S3 steel pole. • Replace with 45' S5.7 12-Sided galvanized s pole. • Replace primary framing. • Replace secondary framing. • Transfer transformers. • Remove and dispose fuse fid: 1001813964 (due to single-phase recloser 200a Installation. • Install (2) single-phase recloser 200A.
12137489		N/A	(LABOR, cFCI(QTY=3))	• Labor to install communicating Fault Current Indicator.
17203167		N/A	(LABOR, cFCI(QTY=3))	• Labor to install communicating Fault Current Indicator.

Feeder 7702-02

FID	COORDINATES LAT, LONG	Existing	Install	SCOPE OF WORK
19988467	[redacted]	(35' C4 WOOD POLE) (CP-C1) (K-7-4) (E-1-2-3)	(50' S8 12-SIDED GALVANIZED STEEL POLE) (CP- C6-XARM) (K-6) (REC-2)	• Remove and dispose 35' C4 wood pole. • Replace with 50' S8 12-sided Galvanized Steel pole. • Replace primary framing. • Replace secondary framing. • Remove and dispose Down guy. • Remove and dispose Anchor. • Feed three phase recloser 7702- 02A from source side secondary. • Install (1) three phase recloser 7702-02A in radial circuit.
33187098		(CP-C1) (STL-10)	(CP-C6-XARM) (STL-10) (ASSY 1505 FIG.C(QTY=3)) (ASSY 1509 (QTY=3)) (CUTOUT BLADES (QTY=3))	• Replace primary framing. • Replace streetlight. • Lower transformer. • Install cutout blades (qty=3) on existing pole due to three ph recloser 7702-02A installation.
19988533		(ASSY-1509 (QTY=3)) (42" CROSSARM (QTY=2)	(LABOR TO CLOSE JUMPERS(QTY=3))	• Remove and dispose fuse fid: 33612446 (qty=3) and close jumpers due to three phase recloser **7702-02a** installation.
19982999		(ASSY-1509 (QTY=3))	(LABOR TO CLOSE JUMPERS(QTY=3))	• Remove and dispose fuse fid: 1000213366 (qty=3) and clo jumpers due to three phase recloser **7702-02a** installation.
19983519		(40' CLASS 2 WOOD	(50'S8 12-SIDED	• Remove and dispose of 40' class

FID	COORDINATES LAT, LONG	Existing	Install	SCOPE OF WORK

	[redacted]	POLE) (K-7-4) (ASSY- 1509 (QTY=3)) (STL-10) (E-1-2-3) (F-1-3)	GALVANIZED STEEL POLE) (CP-C6-XARM) (K-7-4) (STL-10) (REC-2)	2 wood pole. • Replace with 50'S8 12-Sided Galvanized steel pole. • Replace primary framing. • Replace secondary framing. • Remove and dispose downguy. • Replace streetlight. • Remove and dispose fuse fid:33612283 (qty=3) due to thre phase recloser 7702-02B installation. • Feed three-phase Recloser 7702- 02B from source side Secondary. • Install (1) three-phase Recloser 7702-02B in radial circuit.
19983514		(40' H4 CONCRETE POLE) (S-5) (S-6-2) (K-7-4)	(50'S8 12-SIDED GALVANIZED STEEL POLE) (S- 5) (S-6-2) (E-1-2-3) (F-1-3) (LABOR, CUTOUT BLADES(QTY=3)) (ASSY- 1509 (QTY=3)) (ASSY-1505 FIG. C(QTY=3)) (K-7-4)	• Remove and dispose of 40' h4 concrete pole. • Replace with 50' S8 12-Sided Galvanized steel pole. • Replace primary framing. • Replace secondary framing. Install anchor. • Install downguy. • Install cutout blades (qty=3) due to three phase recloser **02b** installation.
19985281		(40' H4 CONCRETE POLE) (S-6)	(50' S8 12-SIDED GALVANIZED STEEL POLE) (S- 6) (3/0 TPX(QTY=160FT)) (REC-2)	• Remove and dispose 40' h4 concrete pole. • Replace with 50' S8 12-sided galvanized steel pole. • Replace primary framing. • Install triplex from pole fid: 19985275. • Install (1) three-phase recloser 7702-02c.
19985275		(S-1)	(S-6) (LABOR, CUTOUT BLADES(QTY=3)) (ASSY- 1509 (QTY=3)) (ASSY-1505FIG. (QTY=3))	• Replace primary framing. • Splice conductor. • Lower transformer • Install cutout blades (qty=3) on existing concrete pole due t three phase recloser **7702-02c** Installation.
19986073		(ASSY-1509 (QTY=3))	(LABOR TO CLOSE JUMPERS(QTY=3))	• Remove and dispose fuse fid: 1001728390 (qty=3) and clo jumpers due to three phase recloser **7702-02c** Installation.
19986110		(ASSY-1509 (QTY=2))	(LABOR TO CLOSE JUMPERS(QTY=2))	• Remove and dispose fuse fid: 33612199 (qty=2) and close jumpers due to three phase recloser **7702-02c** Installation.
19983537		(ASSY-1509 (QTY=3))	(LABOR TO CLOSE JUMPERS(QTY=3))	• Remove and dispose fuse fid: 1001103336 (qty=3) and clo jumpers due to three phase recloser **7702-02c** • nstallation.

FID	COORDINATES LAT, LONG	Existing	Install	SCOPE OF WORK

19983781	[redacted]	(35' C4 WOOD POLE) (CP-C1) (T-3-2) (STL-10) (K-7- B)	(45' S5.7 12-SIDED GALVANIZED STEEL POLE) (CP-C6-XARM) (T-3-2) (STL-10) (K-7-B) (ASSY1505 FIG. C) (REC-3-C)	• Remove and dispose of 35' C4 wood pole. • Replace with 45' S5.7 12-Sided Galvanized steel pole. • Replace primary framing. • Replace secondary framing. • Replace streetlight. • Transfer transformer. • Install (3) Single-Phase Reclosers.
19983780		(ASSY-1509 (QTY=3))	(LABOR TO CLOSE JUMPERS(QTY=3))	• Remove and dispose fuse fid: 33612947 (qty=3) and close jumpers due to single-phase recloser installation.
19984650		(ASSY-1509 (QTY=3))	(LABOR TO CLOSE JUMPERS(QTY=3))	• Remove and dispose fuse fid: 33612752 (qty=3) and close jumpers due to s i n g l e - phase recloser installation.
19984278		(ASSY-1509 (QTY=3))	(LABOR TO CLOSE JUMPERS(QTY=3))	• Remove and dispose fuse fid: 33612755 (qty=3) and close jumpers due to single-phase recloser installation.
19985282		(40' H4 CONCRETE POLE) (S-1) (S-5) ASSY 1509 (QTY=3))	(50 S8 12-SIDED GALVANIZED STEEL POLE) (S- 6) (S-5) (ASSY 1505 FIG. C) (REC-3-C)	• Remove and dispose of 40' h4 concrete pole. • Replace with 50' S8 12-sided galvanized steel pole. • Replace primary framings. • Remove and dispose Fuse fid: 33613082 (qty=3). • Install (3) Single-Phase reclosers.
19988674		(40' C3 WOOD POLE) (CP-C1) (E-1-2-3) (F-1-3)	(45' S5.7 12-SIDED GALVANIZED STEEL POLE) (CP-C6-XARM) (ABS-3- XARM) (LABOR, cFCI) (QTY=3)	• Remove and dispose of 40' c3 wood pole. • Replace with 45' S5.7 12-sided galvanized steel pole. • Replace primary framing. • Remove and dispose down guy. • Remove and dispose anchor. • Install air break switch. • Labor to install communicating fault current indicator.
1001640533		n/a	(LABOR, cFCI) (QTY=3)	• Labor to install communicating fault current indicator.

Feeder 7702-03

FID	COORDINATES LAT, LONG	Existing	Install	SCOPE OF WORK
27385857	[redacted]	(40 FT C2 WOOD POLE) (S-2) (E-1-2- 3) (F-1-3)	50' S8 12-SIDED GALVANIZED STEEL POLE) (S- 6) (K-6) REC-2-2	• Remove and dispose of 40 ft c2 wood pole. • Replace with to 50' S8 12-sided galvanized steel pole. • Install primary framing. • Install secondary framing. • Install 1 kva transformer (2.40/4.16kv-120/240v) for sour side. • Install three phase recloser 7702- 03A In radial circuit.

FID	COORDINATES LAT, LONG	Existing	Install	SCOPE OF WORK
27386240	[redacted]	(ASSY-1509 (QTY=3)) (ASSY 1510 FIG. C)	(LABOR TO CLOSE JUMPERS(QTY=3))	• Remove and dispose fuse fid: 33633908 (qty=3) and clos jumpers due to three phase recloser **7702-03A** installation.
27385855		(ASSY-1509 (QTY=3)) (ASSY 1510 FIG. C)	(LABOR TO CLOSE JUMPERS(QTY=3))	• Remove and dispose fuse fid: 33636412 (qty=3) and clos jumpers due to three phase recloser **7702-03A** installation.

27385861	[redacted]	(S-1)	(S-6) (SOLID CUTOUT BLADES(QTY=3)) (ASSY- 1509(QTY=3)) (ASSY-1505 FIG. C)	• Replace primary framing. • Install cutout blades (qty=3) on existing pole due to t phase Recloser **7702-03A** installation.
27387694		(40' H3 CONCRETE POLE) (CP-C6-XARM) (K-7-B) (STL-10) (ASSY 1509 (QTY=3)) (42" CROSSARM)	(45' S5.7 12-SIDED GALVANIZED STEEL POLE) (CP-C6-XARM) (K-7-B) (ASSY-1505-FIG. C) (STL-10) (REC-3-C)	• Removed and dispose of 40' h3 concrete pole with 45' 12- sided galvanized steel pole. • Replace primary framing. • Replace secondary framing. • Replace streetlight. • Remove and dispose fuse fid: 33635525 (qty=3) due to single- phase recloser installation. • Install three (3) single-phase recloser 200 a.
27387698		(ASSY 1509 (QTY=1))	(CP-C6-XARM) (CP-A5) (ASSY-1505- FIG. A) (REC-3-A)	• Replace primary framings. • Remove and dispose fuse fid: 33635501 (qty=1) due to single- Phase recloser installation. • Install (1) single- phase Recloser 200A on existing 45' H4 concrete pole
27386961		(CP-C1) (CP-A5)	(CP-C6-XARM) (CP-A5) (REC-3-A) (ASSY-1505- FIG. A)	• Replace primary framing. • Relocate transformer fuse cut- out to other face of pole. • Install (1) single-phase Recloser 200A on existing 45' H4 concrete pole.
27386974		(ASSY 1509 (QTY=2))	(LABOR TO CLOSE JUMPERS(QTY=1))	• Remove and dispose fuse fid: 33635472 (qty=1) and clos jumpers due to single-phase recloser 200a installation.
27383583		(45' H4 CONCRETE POLE) (CP-B1) (CP-A6) (K-7) (STL-10)	(45' S5.7 12-SIDED GALVANIZED STEEL POLE) (CP-C6-XARM) (K-7) (STL-10) (ASSY-1505-FIG. C) (REC-3-C)	• Remove and dispose of 45' h4 concrete pole. • Replace with 45' S5.7 12-Sided Galvanized Steel pole and install outside of private fence. • Replace primary framing. • Replace secondary framing. Replace streetlight. • Install (3) single-phase reclosers 200A.
27384491		(ASSY 1509 (QTY=2)) (42" CROSSARM)	(LABOR TO CLOSE JUMPERS(QTY=2))	• Remove and dispose fuse fid: 33638346 (qty=2) and clos jumpers due to single-phase recloser 200a installation.
27383616		(ASSY 1509 (QTY=3))	(LABOR TO CLOSE JUMPERS(QTY=3))	• Remove and dispose fuse fid: 33638358 (qty=3) and clos jumpers due to single-phase recloser 200a installation.

FID	COORDINATES LAT, LONG	Existing	Install	SCOPE OF WORK
12137020	[redacted]	n/a	(LABOR, cFCI(QTY=3))	• Labor to install communicating Fault Current Indicators.
27386235		n/a	(LABOR, cFCI(QTY=3))	• Labor to install communicating Fault Current Indicators. • Replace a spacer at section FID 33636114

For more detailed information about the scope of work please refer to the ***APPENDIX B- LUMA Project Cost Estimate.***

Scope Notes:

1) The work will be performed in accordance with the notes below, the Distribution Construction Standards (Concrete Base Standard) and LUMA Overhead Electrical Distribution System Manual V4, and APPENDIX C – Project Considerations.

Pole Replacement

a. Remove and dispose and replace poles, including hardware in the same location. If unable to install the replacement in the same location, the pole will be installed within 3 feet.

b. Most pole installations are to replace existing pole locations; there is one new pole location included in this scope of work. Refer to APPENDIX C – Project Considerations, column C (soil area and depth impact) for the depths of the poles to be installed.

c. Adjacent poles will be installed, in locations noted in table above, in conformance with LUMA and industry standards.

d. New guy wire/ anchors are to be installed in compliance with the LUMA Overhead Electrical Distribution System Manual within 3ft of the existing anchor. The maximum distance an anchor will be installed for a 50ft pole is 25ft from the base of the pole, within the right-of-way.

e. The brushing of vegetation will be limited to a 10 ft radius that surrounds the surface of the pole without exceeding the width of the right-of-way. No tree removal will occur as part of this scope. Refer to **APPENDIX C- Project Considerations** for locations where vegetation brushing is anticipated. The vegetation removal process will be managed according to applicable federal and state regulations.

f. All existing overhead conductors, poles, assemblies, and attached components will be disconnected, removed, disposed, and replaced as outlined in the scope of work. When poles, assemblies, and attached components are not being replaced per the scope of work, all assemblies and components will be re-installed to the pole, with the overhead conductor re-attached to complete the installation and reconstruction of the feeder.

g. All work for this program will be performed within the current electrical right- of-way.

2) Debris will be separated and taken to an approved waste disposal facility in compliance with applicable federal and local regulations.

3) The construction of **access roads** is not required for this scope of work. Poles are close to the roads and are site accessible.

4) **Staging area** requirements were considered for the new equipment to be installed and the equipment to be retired. All materials will be stored and dispatched from the assigned LUMA's Regional Warehouse. The warehouse assigned is the Arecibo Regional Warehouse, whose address is Carr 861 Km
0.1 Islote Ward, Arecibo, PR. Coordinates are [redacted] Refer to document *Warehouse Locations*

5) Fill, Gravel, and Sand **materials** will be obtained from an approved supplier as referenced in the document *LUMA Vendor Directory List.*

6) The **equipment** to be used is *a Skid Steer, Excavator, Dump truck, Manlift, 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 Remove and disposed utilizing a *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.

7) Specific List of Permits Required:

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

Project Cost Estimate (PCE):

The estimated costs (compliant with Class 3 Accuracy +/-30%) to complete the project are captured in the table(s) 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 to mitigate potential known risks. For more details, refer to **APPENDIX B- Detailed Cost Estimate.**

COST ESTIMATE			
COST ELEMENT	**428**	**406**	**PROJECT TOTAL**
PLANNING	**$301,564.86**	**0**	**$301,564.86**
MANAGEMENT	**$176,388.69**	**0**	**$176,388.69**

Group 12- DAR – Arecibo 7402, 7403, 7702 - FY24	**$2,966,268.09**	**0**	**$2,966,268.09**
GENERAL CONDITIONS	**$190,483.18**	**0**	**$190,483.18**
CONTINGENCY	**$507,458.83**	**0**	**$507,458.83**
COST TOTALS	**$4,142,163.65**	**0**	**$4,142,163.65**
DEDUCTIONS	**TOTAL INSURANCE PROCEEDS RECEIVED**		**$0**
FAASt ALLOCATIONS	**FAASt Project # 745861 TOTAL**		**$3,664,210.10**
	FAASt A&E # 335168 TOTAL		**$477,953.55**

FEMA Project Cost Summary, Version 0

Work to be Completed (WTBC): $4,142,163.65

A&E Deduction (Global A&E FAASt 335168): -$477,953.55

Project Total: $3,664,210.10

Project Notes:

1. For SOW detailed information, refer to documents/attachments labeled: 745861 - DR4339PR - DSOW- Group 12- DAR - ARECIBO Rev 3.pdf
2. For Cost Estimate detailed information, refer to documents/attachments labeled: 745861-DR4339PR-APPENDIX B - Detailed Cost Estimate Rev 003 .xlsx
3. This project is part of Donor FAASt 136271 – MEPA078 Puerto Rico Electrical Power Authority (PREPA) Island Wide FAASt Project.
4. Architectural and Engineering (A&E) costs are deducted given previously obligated PREPA FAASt Global A&E 335168 project.
5. Attachments:

- 745861-DR4339PR-APPENDIX A - Initial Scope of Work
- 745861-DR4339PR-APPENDIX B - Detailed Cost Estimate
- 745861-DR4339PR-APPENDIX C - Project Considerations
- 745861-DR4339PR-APPENDIX D - LUMA Active Project

406 HMP Scope

406 Hazard Mitigation measures were not requested by the subrecipient for this project in Version 0. However, the mitigation opportunities will be applied in a future version (V1) of the Permanent Work Project. The project is ready for Insurance completion.

Cost

Code	Quantity	Unit	Total Cost	Section
9001	1	Lump Sum	$4,142,163.65	Uncompleted
3510	1	Lump Sum	($477,953.55)	Uncompleted
9201	1	Lump Sum	$0.00	Completed

CRC Gross Cost	$3,664,210.10
Total 406 HMP Cost	$0.00
Total Insurance Reductions	$0.00
CRC Net Cost	$3,664,210.10
Federal Share (90.00%)	$3,297,789.09
Non-Federal Share (10.00%)	$366,421.01

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

9/1/2026

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

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

4/30/2026

Does the Applicant have a Commercial Policy: Yes.

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

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

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

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

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

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

O&M Requirements

There are no Obtain and Maintain Requirements on **FAASt [Automation Program Group 12] (Distribution) (Cost Only)**.

406 Mitigation

There is no additional mitigation information on **FAASt [Automation Program Group 12] (Distribution) (Cost Only)**.

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.
- Conditions for Puerto Rican Boa applicable to 7402 01, 7403 02, 7702 02, and 7702 03: 1. Inform all project personnel about the potential presence of the Puerto Rican (PR) boa and Virgin Islands (VI) boa in areas where the proposed work will be conducted and provide training on PR and VI boa identification. A pre-construction meeting will be conducted to inform all project personnel about the need to avoid harming these species. All personnel will be advised that there are civil and criminal penalties for harming, harassing, or killing species protected under the Endangered Species Act of 1973. An educational poster or sign with photo or illustration of these species will be displayed at the project site. 2. Prior to any construction activity, including removal of vegetation and earth movement, the boundaries of the project area and any area to be excluded and protected will be clearly marked in the project plan and in the field to avoid further habitat degradation outside of the footprint of the project. 3. Once areas are clearly marked, and right before the use of heavy machinery and any construction activity (including removal of vegetation and earth movement), biologist or designated project personnel with experience on these species will survey the areas to be cleared to verify the presence of any PR or VI boa within the Action Area. If a PR or VI boa is found during the search, it should be captured and managed as per #6 below. Once the removal of vegetation begins, the biologist or designated personnel must remain at the work site and be ready to capture any boa that might be in harm way as the result of the habitat disturbance (see #6). 4. For VI boas, once the Action Area has been searched, vegetation will be cut about one meter above ground prior to the use of heavy machinery for land clearing. Cutting vegetation by hand will allow VI boas present on site to move away on their own to adjacent available habitat. If there is no suitable habitat adjacent to the project site, any VI boa found will be relocated accordingly (see #6).
- Conditions for (Chilabothrus inornatus) 5. For all boa sightings (dead or alive), record the time and date of the sighting and the specific location where it was found. Data will also include a photo of the animal (dead or alive), relocation site GPS coordinates, time and date of the relocation, and comments on how the animal was detected and its behavior. 6. If any PR or VI boa (dead or alive) is found within the Action Area and on harm way, the action will stop, and information will be recorded (see #5). All attempts will be made to immediately safely capture and relocate the animal within suitable habitat (forested) at least 1km from the Action Area and away from construction areas. PR boa relocation sites will be pre-determined before the project starts and sites shared with the Service for revision and concurrence. Relocation of PR boas will be conducted by trained, designated personnel ensuring the animal is not harmed or injured during the capture and relocation process. 7. Measures will be taken to avoid and minimize PR boa and VI boa casualties by heavy machinery or motor vehicles being left in the Action Area. Any heavy machinery left on site (staging areas) or near potential PR or VI boa habitat will be thoroughly inspected each morning before work starts to ensure that no boas have sheltered within engine compartments or other areas of the heavy machinery. If a PR boa or VI boa is found within vehicles or heavy machinery, boas will be safely captured accordingly. If not possible, the animal will be left alone until it leaves the vehicle or machine by itself. The PR boa and VI boa may seek shelter within debris piles. Measures should be taken to avoid and minimize boa casualties associated with sheltering in new debris piles as a result of project activities. New debris piles should be placed in areas as far as possible from forested areas. Prior to moving, disposing, or shredding, debris piles should be carefully inspected for the presence of PR boas and VI boas. If debris piles will be left on site, we recommend they be placed in an undisturbed area. In the event a PR boa and VI boa is found dead within the project area, the Federal Agency and the Recipient must contact the Service to appropriately dispose the animal. If a PR boa or a VI boa is accidentally injured or killed during capture and relocation activities during the Action, the Federal Agency and the Recipient shall terminate the authorized activities and contact the Service within 24 hours to reinitiate consultation. The Federal Agency will consult with the Service to determine whether authorized activities should continue as proposed and whether modifications are warranted. Should the forms of take reach the amount of exempted take during the Action, the Federal Agency and the Recipient shall terminate the authorized activities and contact the Service within 24 hours to reinitiate consultation. The Federal Agency will consult with the Service to determine whether authorized activities should continue as proposed and whether modifications are warranted. For questions and to submit reports, the Service Point of Contact (POC) is Jose Cruz-Burgos, Endangered Species Coordinator, and can be contacted at: Mobile: 305-304-1386 Office phone: 786-244-0081 Office Direct Line: 939-320-3120 Email: Caribbean_es@fws.gov or jose cruz-burgos@fws.gov
- Conditions for Puerto Rican Harlequin butterfly applicable to feeders 7402 01, 7403 02, 7702 02, and 7702 34. The Puerto Rican harlequin butterfly (Atlantea tulita) is endemic to Puerto Rico, occurring in the western portion of the island, in the northern karst region, and in the west-central volcanic-serpentine region. The following measures apply to the Puerto Rican harlequin butterfly through its current range: a. The contractor must inform all personnel about the potential presence of the Puerto Rican harlequin butterfly and its host plant, prickly bush (Oplonia spinosa), in the project areas. A pre-work meeting should inform all project personnel about the need to avoid harming this butterfly and its occupied host plant. All personnel will be advised that there are civil and criminal penalties for harming, harassing, or killing species protected under the Endangered Species Act of 1973, as amended. Educational material (e.g., posters, flyers, or signs with photos or illustrations of all the life stages of the Puerto Rican harlequin butterfly (i.e., eggs, caterpillar, chrysalids, and adult, and its host plant) should be prepared and available to all personnel for reference. b. Before starting any project activity, including removal of vegetation and earth movement, the contractor

must clearly delineate the boundaries of the working area in the field to avoid unnecessary habitat impacts. Once the project areas are clearly marked, and before any work activity, including site preparation, personnel with knowledge and ability to identify the Puerto Rican harlequin butterfly (all life stages) and the prickly bush must survey the areas where the work will be performed for the presence of the species and its host plant. It is important to note that the Puerto Rican harlequin butterfly can be observed year-round in all life stages; thus, oviposition (egg-laying) may occur at any time during the year. c. If the prickly bush is present on the project site, try to avoid cutting the plant, even if no eggs, caterpillars, or chrysalids are present. d. If there is no prickly bush within the project area, but the butterfly is observed flying within the project area, do not harass, harm, pursue, wound, kill, trap, capture, collect, or attempt to engage in any such conduct, the species. e. Adult butterflies are often observed flying near the host plant as part of their mating behavior and for laying eggs. Project-related activities must stop if the prickle bush is found in the project area and the Puerto Rican harlequin butterfly is observed flying in that same area. A temporary 50-meter (164 feet) buffer zone of no activity or human disturbance should be established and clearly marked around that prickly bush until the butterfly moves out on its own.

- Conditions for Puerto Rican Harlequin butterfly applicable to feeders 7402 01, 7403 02, 7702 02, and 7702 f. Once the Puerto Rican harlequin butterfly has moved away, within a period of 24 to 36 hours, a search of the prickly bush that has been buffered should be conducted to determine the presence of any eggs, caterpillars, or chrysalids of the butterfly on the plant. The contractor or the Applicant should send a report of the observation and its findings to caribbean_es@fws.gov after the 36-hour search is concluded. g. If, after the initial search or after the 24 to 36-hour search, any life stage of the Puerto Rican harlequin butterfly is found in the prickly bush, take the following actions: o Clearly mark the host plant with flagging tape. o Establish a 10-meter (32-foot) buffer zone around the bush for its protection. o Eggs are typically found on the prickly bush's newly grown, tender branches. Once the egg hatch, the caterpillar moves and feeds throughout the bush. Therefore, avoid cutting off the prickly bush within the project site even if no eggs, caterpillars, or chrysalids are present. o Work within the 10-meter buffered area may resume when no signs of any live life stage of the butterfly are detected, which usually takes approximately 60 to 120 days. h. For all Puerto Rican harlequin butterfly sightings (all life stages), the time and date of the sighting and the specific location where the butterfly was found must be recorded. Data should also include a photo of the butterfly (if possible) and the habitat where it was observed, site GPS coordinates, and comments on how the butterfly was detected and its behavior. All Puerto Rican harlequin butterfly sighting reports should be sent to the Services Caribbean Ecological Service Field Office at caribbean_es@fws.gov. j. For questions regarding the Puerto Rican harlequin butterfly, the Point of Contacts are: o José Cruz-Burgos, Endangered Species Coordinator Mobile: 305-304-1386 Office phone: 786-244-0081 Office Direct Line: 939-320-3120 Email: jose_cruz-burgos@fws.gov o Carlos Pacheco, Fish and Wildlife Biologist Mobile: 786-847-5951 Office Direct Line: 939-320-3113 Email: carlos_pacheco@fws.gov
- The Applicant must provide documentation at close-out that proves completion of required Conservation Measures.
- 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.
- 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 with the requirements of the local and federal agencies. Noncompliance with these requirements may jeopardize receipt of federal funds.
- a. The Subrecipient and/or Subrecipient's contractor shall follow the Low Impact Debris Removal Stipulations (LIDRS) as stated in Appendix E of the Project-Specific Programmatic Agreement Among FEMA, the SHPO, ACHP, COR3, and PREPA (PSPA), executed on August 2, 2022. b. Unexpected Discoveries: Pursuant to Stipulation III.B of the PSPA, if, in the course of implementing this Individual Undertaking(s), previously unidentified structures, sites, buildings, objects, districts, or archaeological deposits, that may be eligible for listing in the National Register, or human remains are uncovered, or if it appears that an Individual Undertaking has affected or will affect a previously identified historic property in an unanticipated manner, the contractor must notify Subrecipient who will immediately notify the Recipient. Work must stop in the vicinity of the discovery and measures must be taken to protect the discovery and avoid additional harm. c. Additional staging areas and/or work pads within work site area haven't been identified yet. The Recipient/Subrecipient and/or private operator must provide the information of any additional staging areas or work pads for EHP evaluation as soon as available specially if any construction activity will be necessary to prepare the site(s). Information for staging areas and/or work pads confined to previously disturbed or hardened surfaces can be provided at close-out d. All borrow or fill material must come from pre-existing stockpiles, material reclaimed from maintained roadside ditches (provided the designed width or depth of the ditch is not increased), or commercially procured material from a source existing prior to the event. For any FEMA-funded project requiring the use of a non-commercial source or a commercial source that was not permitted to operate prior to the event (e.g., a new pit, agricultural fields, road ROWs, etc.) in whole or in part, regardless of cost, the Applicant must notify FEMA and the Recipient prior to extracting material. FEMA must review the source for compliance with all applicable federal environmental planning and historic preservation laws and executive orders prior to a Sub-recipient or their contractor beginning borrow extraction. Consultation and regulatory permitting may be required. Non-compliance with this requirement may jeopardize receipt of federal funding. Documentation of borrow sources utilized is required at close-out and must include fill type (private, commercial, etc.), name, fill site GPS coordinates (not of the company/governmental office), address, and type of material.
- Additional staging areas and/or work pads within work site area have not been identified yet. The Recipient/Subrecipient and/or private operator must provide the information of any additional staging areas or work pads for EHP evaluation as soon as available specially if any construction activity will be necessary to prepare the site(s). Information for staging areas and/or work pads confined to previously disturbed or hardened surfaces can be provided at close-out.

EHP Additional Info

There is no additional environmental historical preservation on **FAASt [Automation Program Group 12] (Distribution) (Cost Only)**.

Final Reviews

Final Review

Reviewed By Amaro, Luis N. **Reviewed On** 12/18/2024 6:48 PM PDT

Review Comments

LNA 12/18/24. This project has been reviewed, found eligible and cost reasonable, and it is ready to continue the award process.

Recipient Review

Reviewed By Salgado, Gabriel **Reviewed On** 12/19/2024 5:31 PM PDT

Review Comments

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

Project Signatures

Reviewed By Unsigned **Reviewed On** Unsigned

General Info

Project #	745861 **P/W #** 107957	**Project Type**	Specialized
Project Category	F - Utilities	**Applicant**	PR Electric Power Authority (000-UA2QU-00)
Project Title	FAASt [Automation Program Group 12] (Distribution) (Cost Only)	**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 #1374353; FAASt [Transmission and Distribution Automation Program Installation of Intelligent Reclosers, Single Phase Reclosers and Fault Current Indicators Group 12: DAR – ARECIBO 7402, 7403, 7702 FY24

General Facility Information:

- **Facility Type:** Power generation, transmission, and distribution facilities
- **Facility:** Transmission and Distribution Automation Program Installation of Intelligent Reclosers, Single Phase Reclosers and Fault Current Indicators Group 12: DAR – ARECIBO 7402, 7403, 7702 FY24
- **Facility Description:** Transmission and Distribution Automation - Feeders ARECIBO 7402, 7403, 7702 FY24
- **Approx. Year Built:** 1980
- **Start GPS Latitude/Longitude:** [redacted]
- **End GPS Latitude/Longitude:** [redacted]

Final Scope

1374353

FAASt [Transmission and Distribution Automation Program Installation of Intelligent Reclosers, Single Phase Reclosers and Fault Current Indicators Group 12: DAR – ARECIBO 7402, 7403, 7702 FY24

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

Version 1 created to align the scope and cost in PA and HM. 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. SOW from previous Versions has been removed from current SOW. It can be found in the "Versioning and Amendments" tab in GM.

SOW from previous version 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 defines the activities that will be performed using Public Assistance ("PA") funding and it may include § 406 hazard mitigation proposals ("HMPs").

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

This document contains the detailed SOW for FEMA PA project 745861 Automation Program Group 12 (Distribution) under DR-4339-PR Public Assistance. The document provides a detailed description of the project, the scope of PA construction activities to be completed, common EHP review information, and project cost estimates. LUMA is seeking approval from COR3 and FEMA for PA funding for the scope described in this document.

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

PROJECT DESCRIPTION

As part of the electrical grid rebuild, LUMA developed a Transmission & Distribution Automation Program ("Program") through which it will install advanced technology equipment (i.e., reclosers and communicating fault current indicators ("cFCIs")) to reduce both physical damage and service interruptions to the electrical grid caused by disasters. Although the intent is to deploy automation equipment throughout PREPA's transmission and distribution ("T&D") system, the Program will be implemented through multiple projects across the island on both T&D systems. The multiple projects within this Program are designed to fortify the electrical system's resilience, safeguard its infrastructure, and enhance service reliability during a disaster. The individual projects are interconnected and enhance each other, but each confers benefits independently. Automation is necessary to add modern resiliency capabilities to the T&D system. The 3.2 million residents throughout Puerto Rico are dependent upon the successful completion of the Program and its ability to sustain the power grid in future disasters.

Project 745861 is one of the Program's distribution-level projects. It installs hardened poles and advanced technology equipment (specifically reclosers and cFCIs) to reduce physical damage and service interruptions to the distribution grid that could be caused by a disaster. Implementing reclosers, their communication kits, and cFCIs is critical for the Energy Management System ("EMS") and related components to function at their full capabilities and mitigate loss of service and physical damage in the event of future hurricanes. This project is necessary for the EMS to maintain the continuity of the distribution power grid on 7402-01, 7403-02,7702-02 and 7702-03.

Key components of this project are: (1) pole replacement, (2) the three-phase reclosers and single-phase reclosers, and (3) the installation of cFCIs. Each of these components and their benefit to the grid are described further below:

(1) Pole Replacement to Accommodate the Installation of Reclosers

The addition of three-phase reclosers imposes additional load on poles due to the weight of the devices and their components. It also increases the area exposed to extreme weather conditions, such as hurricanes, thereby increasing the structural load requirements these poles must meet. Where an existing pole cannot accommodate a recloser, it will be substituted with a higher-class pole constructed from steel or concrete to ensure compatibility with the recloser and adherence to design criteria. This includes adjacent poles (i.e., poles that are on either side of the recloser pole supporting the overhead line conductors). Any new structure and foundation will be designed to LUMA design criteria and industry standards to support the pole, recloser, and its attachments.

In addition, LUMA is using a per-location approach to pole replacement because of the intricate dynamics of deploying three-phase reclosers. Furthermore, the integration of more connections, switches, and related infrastructure often necessitates taller poles to meet phase spacing and circuit-to-circuit spacing requirements. The locations of three-phase reclosers are determined by an electrical analysis performed by the design engineers. In those instances where the recloser would be located on an existing wood pole, that pole will be replaced with a pole that meets the compounded structural demands presented by that recloser.

(2) Feeder Reclosers

Reclosers are sophisticated devices that remotely detect faults within distribution lines, enable the isolation of circuit breakers linked to those faults—whether due to independent failures or breakdowns—and facilitate the swift restoration of power, often within milliseconds. This project will install three-phase and single-phase reclosers.

Three-Phase Recloser: A three-phase recloser is a protection device that is used on three-phase distribution feeders with high fault currents at the location. It is a single device with three switches that can open to interrupt fault currents and automatically reclose to restore power. Three-phase reclosers are communication-ready to enable remote control and visualization. The recloser's wireless communication capability will provide connectivity to LUMA's EMS so the system operator knows their status and can remotely control them. Deployment of the wireless communication devices includes configuration, testing, and commissioning of the wireless communication device, all networking devices, data acquisition, and control systems that form the connectivity path of the recloser to the EMS.

The implementation of three-phase reclosers will preserve the continuity of electric services and avoid physical damage by pre-empting or minimizing disruptions. The three-phase reclosers can be triggered remotely and provide data back to the operations center, enabling LUMA to prioritize restoration activities, reduce customer outage time, and minimize the potential for cascading infrastructure damage. Installation of the three-phase reclosers and associated hardware is critical for the EMS and associated components to function with full capabilities, and to prevent loss of service and potential damage from future disasters. In this project we are installing eleven three-phase reclosers.

Single-Phase Reclosers: A single-phase recloser is a single protection device with one switch that can open to interrupt fault currents and automatically reclose to restore power. A single-phase recloser performs the same functions as a three-phase recloser, but it does not have the ability to communicate with the EMS. This project will install single-phase reclosers on single-phase or twophase distribution feeder and distribution lines branching from the feeder. Single-phase reclosers will also be used on feeders with three phases if fault currents are low at the location. In this project we are installing a total of 37 single-phase reclosers.

(3) Communicating Fault Current Indicators

Install communicating fault current indicators ("cFCI") at strategic locations to improve the outage management, restoration, and recovery process, specifically by decreasing the time required to detect and locate faults. cFCI operate independently of the feeder reclosers. cFCIs help identify permanent and incipient faults in the distribution system and collect voltage and current data which can be used to detect system imbalance, prevent future issues due to harmonics and help in building a predictive failure model. Data sent to the EMS aids the grid operator in making decisions on operations, management and restoration. The cFCI can be programmed to send automatic notifications/alarms based on user-set parameters. This allows for quick dispatch of field crews to specific sections of the feeders and reduces the total restoration time during an outage event. Installation of the three-phase reclosers and the communicating fault current indicators (communications ready) is critical for the EMS to efficiently mitigate the loss of service and potential damages in future disasters.

This project's scope does not contain fiber optics or communication capability that is included in other projects. This project is distinguishable from projects that include fiber optics, as these feeders are using cellular technology for communications with the operations center. LUMA has developed this scope for reclosers and their associated hardware only. The lack of fiber optics as a method of transmitting information in this scope of work does not prevent or limit the monitoring capabilities of the reclosers and cFCIs or the automation capabilities of the reclosers on these feeders, nor does it prohibit the incorporation of fiber optics at a later date.

FACILITIES

FACILITIES LIST

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

A. Facilities for Automation Group 12 Feeder Lines

Name	Feeder Number	GPS Start	GPS End

Arecibo	7402-01	[redacted]
Arecibo	7403-02	
Arecibo	7702-02	
Arecibo	7702-03	

Note: Please refer to APPENDIX B - Project Considerations for a list of all GPS locations that this project will impact.

B. Staging Area

All materials will be stored and dispatched from the existing LUMA Regional Warehouses. The warehouse that will be used for this project is the Arecibo Regional Warehouse, whose address is # 681 Street, 0.1 KM, Islote Ward. The warehouse coordinates are [redacted] The staging area will be located in the Técnica Quebradillas in the following coordinates: [redacted]

SECTION 428 SCOPE OF WORK

The proposed type of work for this project:

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

? 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 ___.

In the obligated submission (Version 0), LUMA proposed:

- Removal and replacement of twenty (20) damaged poles.
- Install ten (10) Three Phase Reclosers.
- Install twenty-four (24) Single Phase Reclosers, remove fuses and close jumpers.
- Install twenty-four (24) communicating Fault Indicators (cFCIs).

LUMA requests the alignment of the scope and cost of Project 745861 with the approved 406 mitigation proposal from Project 746309 FAASt [Automation Program Group 30], including:

- Pole replacement to accommodate recloser installation: 406 mitigation will fund the additional cost for pole strengthening (i.e., 428: remove the existing pole and replace with a round galvanized, 406 install a 12-sided galvanized).
- Feeder reclosers: 406 Mitigation will fund 100% of the cost of three-phase reclosers on the feeder backbone and the additional cost (delta) for the replacement of fuse cutouts for a single-phase reclosers on lateral circuit lines.
- Communicating Fault Current Indicators: 406 mitigation will fund the additional cost for the replacement of Fault Current Indicators ("FCIs") with communicating Fault Current Indicators ("cFCIs").
- Distribution Transformers: 406 mitigation will fund the installation of 1kVA stainless steel transformers to serve either the load or source side of the three-phase recloser.

The obligated DSOW included a new pole installation. This DSOW aligns the scope of this pole with a 406 mitigation proposal approved by FEMA.

As detailed in Appendix A of the amendment request letter, LUMA requests the following component additions to the project scope of work and cost estimate that were not included in the obligated project:

- Radio Communications Kit:
  - LUMA originally planned to transmit data to and from Three-Phase Reclosers using fiber optic cable, which also required the installation of additional poles. LUMA now proposes installing radio communication kits to enable communication with the Three-Phase Reclosers and the PREPA SCADA system ("EMS").
- Air Break Bypass Switches
  - Air Break Bypass Switches are essential equipment of LUMA design standards for the Three-Phase Recloser. The cost of these switches was involuntarily omitted in the previous estimate. They are included in this proposed version. The purpose of this equipment is to isolate the recloser in case of failure or maintenance and keep the three-phase circuit energized while the situation is resolved.

- Due to engineering changes to the feeders in the project, this DSOW now includes seven (7) poles that were not part of Version 0 of the project.
  - Five (5) new pole installations at new locations.
  - Two (2) poles to be removed and replaced as part of the revised design.
  - These changes align the scope with the 406 Mitigation proposal approved by FEMA, where applicable.

DESCRIPTION OF PROPOSED WORK TO BE PERFORMED

Feeder 7402-01

POLE FID	COORDINATES LAT, LONG	EXISTING (REMOVE)	428 REPLACEMENT	SCOPE OF WORK
21664670	[redacted]	(60' WOOD POLE) (38KV SC DE VERT) (CP-C6- XARM) (T-1) (STL- 10) (S-1)	(70' ROUND TAPERED POLE) (38KV SC DE VERT) (CP-C6- XARM)) (K-7-4) (STL-10) (3/0 TPX(QTY=400FT) (ABS-3-XARM QTY=3)	• Remove and dispose of 60ft wood pole and replace with 70ft. galvanized round tapered pole. • Remove, dispose and replace 38kV and distribution primary framin • Remove and dispose distribution spacer framing and circuit. • Remove, dispose and replace secondary framing (K-7-4). • Remove, dispose and replace streetlight (LED Type). • Transfer existing transformer to pole FID: 1001475449. • Install and connect one (1) set of Air Break Bypass Switch (A XARM) and the framing hardware to support them.
1001475449		(CP-C6-XARM) (K-6) (STL-10) (S-1)	(CP-C12-XARM) (T-1) (K-6) (STL-10) (SOLID CUTOUT BLADES(QTY=3)) (3/0 TPX(QTY=300FT))	• On existing pole, readjust 38kV framing to standard. • Remove, dispose and replace primary framing. • Remove and dispose primary (S-1) framing. • Remove, dispose and replace secondary framing (K-6). • Relocate existing streetlight (LED Type) from a stub pole to this pol • Install (3) solid cutout blades in cutout fuse assembly. • Install galvanized steel transformer (37.5kVA/ 4.16kV, 120/240V). • Install 3/0 TPX cable qty=300
28651889		(45' H4 CONCRETE POLE) (S-6) (K-7)	(50' GALVANIZED ROUND TAPERED POLE) (S-6) (K-7-B) (ABS-3-XARM QTY=3)	• Remove and dispose 45' H4 concrete pole. • Replace with 50' galvanized round tapered pole and replace wit galvanized steel round tapered pole. • Remove and dispose wood stub pole. • Remove, dispose and replace primary framing. • Remove, dispose and replace secondary framing (K-7-B). • Install and connect one (1) set of Air Break Bypass Switch (A XARM) and the framing hardware to support them.
28651876		N/A	(SOLID CUTOUT BLADES(QTY=3)) (ASSY- 1509 (QTY=3)) (ASSY- 1505 FIG. C)	• Install stand-off bracket assembly. • Install (3) solid cutout blades.
1000331641		(ASSY-1509 (QTY=2)	(LABOR TO CLOSE JUMPERS(QTY=2))	• Remove and dispose (2) Fuse Cutouts. • Close Jumpers
33190825		(ASSY-1509 (QTY=3))	(LABOR TO CLOSE JUMPERS(QTY=3))	• Remove and dispose (3) Fuse Cutouts. • Close Jumpers.
28654052		(ASSY-1509 (QTY=3))	(LABOR TO CLOSE JUMPERS(QTY=3))	• Remove and dispose (3) Fuse Cutouts. • Close Jumpers

28651625	[redacted]	(45' CLASS 3 WOOD POLE) (S- 6) (K-5) (E-1-2-3) (F-1-3) (T-2)	(50' ROUND TAPERED POLE) (S-6) (K-7-B) (3/0 TPX(QTY=300FT) (ABS-3-XARM QTY=3)	• Remove 45' Class 3 wood pole. • Replace with 50' galvanized round tapered pole. Relocate 5ft c of private property fence. • Remove, dispose and replace primary framing. • Remove, dispose and replace secondary framing (K-7-B). • Remove and dispose anchor and downguy. • Relocate existing transformer and to pole FID 28651671. Install and connect one (1) set of Air Break Bypass Switch (A XARM) and the framing hardware to support them.
22077816		N/A	(K-5)	• Install secondary framing to feed recloser 7402-0C on FID 28651625.
28651671		N/A	(T-2)	• Install the existing transformer from pole FID: 28651625.
22077813		(LABOR, FUSE REMOVAL (QTY=3))	(LABOR, SOLID CUTOUT BLADES(QTY=3)	• Remove and dispose (3) Fuse Cutouts. • Replace with (3) Cutout Blades.
28652000		(ASSY- 1509(QTY=3))	(LABOR TO CLOSE JUMPERS(QTY=3)	• Remove and dispose (3) Fuse Cutouts. • Close Jumpers
28654587		(ASSY- 1509 (QTY=3)) (STAND- OFF BRACKET ASSY 1505-FIG. C)	(LABOR TO CLOSE JUMPERS(QTY=3))	• Remove and dispose (3) Fuse Cutouts. Replace with (3) Cutout Blades.
NEW POLE		N/A	(50' GALVANIZED ROUND TAPERED POLE) (S-6)	• Install a new 50' galvanized round tapered pole. • Install primary framing. • Install and connect one (1) set of Air Break Bypass Switch (ABS-3 XARM) and the framing hardware to support them.
21663664		(ASSY-1509 (QTY=3))	(SOLID CUTOUT BLADES(QTY=3)) (ASSY- 1509 (QTY=3)) (ASSY-1505 FIG. C) (K-2)	• Straighten and reuse existing pole. • Adjust guy wire tension. • Install secondary framing to feed three phase recloser 7402-01D. • Remove, dispose and replace existing crossarm with stand-off bracket assembly. • Remove and dispose (3) Fuse Cutouts. Replace with (3) Cutout Blades.
22074602		N/A	(K-5)	• Install secondary framing to feed three phase recloser 7402-01D on new pole in coordinates 18.459062, -66.918267.
1000580231		(ASSY-1509 (QTY=3))	(LABOR TO CLOSE JUMPERS(QTY=3)	• Remove and dispose (3) Fuse Cutouts. • Close Jumpers
21664915		(ASSY-1509 (QTY=3))	(LABOR TO CLOSE JUMPERS(QTY=3)	• Remove and dispose (3) Fuse Cutouts. • Close Jumpers
21665387		(ASSY-1509 (QTY=3))	(LABOR TO CLOSE JUMPERS(QTY=3)	• Remove and dispose (3) Fuse Cutouts. • Close Jumpers
21663839		(CP-C6-XARM) (S- 6) (T-1)	(CP-C6-XARM)	Existing pole. • Remove, dispose and replace primary framing. • Remove, dispose and replace Secondary framing (K-7-B). • Remove and dispose of transformer. • Install and connect one (1) set of Air Break Bypass Switch Swi (ABS-3- XARM) and the framing hardware to support them.

21663842	[redacted]	N/A	(K-5)	• Install secondary framing to feed Three-phase recloser 7402-01E FID 21663839.
21663849		(S-5)	(SOLID CUTOUT BLADES(QTY=3)) (ASSY-1509 (QTY=3))	• Reuse 72" crossarm • Install (3) Cutout Blades.
21664232		(ASSY-1509 (QTY=3))	(LABOR TO CLOSE JUMPERS(QTY=3))	• Remove and dispose (3) Fuse Cutouts. Close Jumpers.
21664540		N/A	(LABOR, FCI) (QTY=3)	• Install (3) Fault Current Indicators (FCIs).
12137275		N/A	(LABOR, FCI) (QTY=3)	• Install (3) Fault Current Indicators (FCIs).

Feeder 7403-02

POLE FID	COORDINATES LAT, LONG	EXISTING (REMOVE)	428 REPLACEMENT	SCOPE OF WORK
17203195	[redacted]	(35 FT H3 CONCRETE POLE) (S-3) (E-1-2-3) (F-1-3)	(50' GALVANIZED ROUND TAPERED POLE) (S-6) (E-1-2-3(QTY=2)) (F-4-2) (ABS-3-XARM QTY=3)	• Remove and dispose of 35' H3 concrete pole and replac 50' galvanized round tapered pole. • Remove, dispose and replace primary framing. • Remove, dispose and replace (1) anchor. • Remove and dispose (1) downguy and install (2) downguy • Install and connect one (1) set of Air Break Bypass Switch (ABS-3-XARM) and the framing hardware to support them.
17205736		(ASSY-1509 (QTY=2))	(LABOR TO CLOSE JUMPERS(QTY=2))	• Remove and dispose (2) Fuse Cutouts. • Close Jumpers.
17205744		(ASSY-1509 (QTY=2))	(LABOR TO CLOSE JUMPERS(QTY=2))	• Remove and dispose (2) Fuse Cutouts. • Close Jumpers.
17207532		(35 FT C4 WOOD POLE) (ASSY-1509 (QTY=2)) (CP-B6-XARM) (CP-B5-XARM) (K-7) (STL-10) (E-1-2-3) (F-1- 3) (T-2)	(50' ROUND TAPERED POLE) (CP-B6) (CP-B5) (CUTOUT BLADES(QTY=2)) (ASSY- 1509(QTY=2)) (ASSY-1505 FIG. B) (K-7) (STL-10) (T-1)	• Remove 35' wood pole and replace with a 50' galvani round tapered pole. • Remove, dispose and replace (2) primary. • Remove, dispose and replace streetlight (LED Type). • Remove and dispose downguy and anchor. • Relocate existing transformer and framing to the new pole. • Relocate existing fuse cutouts (FID:33629051) to the new pole. • Remove and dispose (2) fuse cutouts (FID:33629050) and replace with (2) cutout blades.
17203210		N/A	(CUTOUT BLADES(QTY=3)) (ASSY- 1509 (QTY=3)) (ASSY-1505 FIG. C)	• Install stand-off bracket assembly. • Install (3) Cutout blades.
17203200		(40' CLASS 3 WOOD POLE) (CP- C6-XARM) (T-2) (K- 5) (ASSY 1509 (QTY=3))	(50 FT GALVANIZED ROUND TAPERED POLE) (CP-C6-XARM) (T-2) (K-5) (E-1-2-3) (F-1-3)	• Remove and dispose 40' class 3 wood pole and replace w 50' galvanized round tapered pole. • Remove, dispose and replace primary and secondary fram • Relocate existing transformer to the new pole. • Remove, dispose (2) downguys and (2) anchors and insta downguy and anchor. • Remove, dispose and replace (3) Fuse Cutouts.

33189780	(ASSY-1509 (QTY=3)) (42" CROSSARM)	(LABOR TO CLOSE JUMPERS (QTY=3))	• Remove and dispose 42" Crossarm. • Remove and dispose (3) Fuse Cutouts.
33190400	35 FT C4 WOOD POLE) (CP-C2) (K-7-B) (T-2) (E-1-2-3)	(50 ROUND TAPERED POLE) (CP-C6-XARM) (T-2) (K-7-B) (3/0	• Remove and dispose 35' wood pole and replace with round tapered pole.
	(F-1-3)	TPX (QTY=125))	• Remove, dispose and replace primary and secondary fram • Remove, dispose and replace open wire cable with secon triplex cable. • Relocate existing transformer and framing to the new pole. • Remove and dispose downguy and anchor.
33190452	(ASSY-1509 (QTY=3))	(LABOR TO CLOSE JUMPERS(QTY=3))	• Remove, dispose and replace (3) Fuse Cutouts. • Close Jumpers.
33190595	(ASSY-1509 (QTY=3))	(LABOR TO CLOSE JUMPERS(QTY=3))	• Remove and dispose (3) Fuse Cutouts. • Close Jumpers.
17206664	(35 FT C5 WOOD POLE) (CP-B6- XARM) (K-7-4) (STL-10) ASSY-1509 (QTY=2)) (E-1-2-3) (F-1-3)	(50' ROUND TAPERED POLE) (CP-B6-XARM) (T-2) (K-7-4) (STL-10)	• Remove and dispose 35' wood pole and replace with a 50' galvanized steel tapered pole. • Remove, dispose and replace primary and secondary framir • Relocate existing transformer and framing from FID: 172066 to this pole. • Remove, dispose and replace streetlight (LED Type). • Remove and dispose downguy and anchor. • Remove, dispose and replace (2) Fuse Cutouts.
17206667	40' C3 WOOD POLE) (CP-B6- XARM) (T-8) (T-2)	N/A	• Remove and dispose 40' C3 wood pole. • Remove and dispose primary framing. • Remove and dispose voltage regulator. • Transfer transformer to FID:17206664.
1001568083	(ASSY-1509 (QTY=2)) (42" CROSSARM)	(LABOR TO CLOSE JUMPERS(QTY=2))	• Remove, dispose and replace (2) Fuse Cutouts. • Close jumpers.
1001568082	45 FT H4 CONCRETE POLE) (OPS-CP-B1)	(50 FT GALVANIZE ROUND TAPERED POLE) (CP-B6-XARM)	• Remove and dispose 45' H4 concrete pole and replace with galvanized round tapered pole. • Remove, dispose and replace primary framing.
1001013297	(45 FT H4 CONCRETE POLE) (40 FT C2 WOOD POLE) (S-6) (CP-B1(QTY=2)) (CP-C5-XARM) (CP-B5-XARM) (CP-B5-XARM) (F-1-3(QTY=2))	(50 FT GALVANIZED ROUND TAPERED POLE) (S-5) (CP-B5-XARM) (CP-B6-XARM) (E-1-2-3) (F-1-3)	• Remove and dispose 45' H4 concrete pole and replace with galvanized round tapered pole. • Remove, dispose and replace (3) primary framings. • Remove and dispose (2) downguys and (2) anchors. • Replace (1) downguy and (1) anchor. • Install (2) Fuse Cutouts.
12137489	N/A	(LABOR, FCI(QTY=3))	Install (3) Fault Current Indicators (FCIs).
17203167	N/A	(LABOR, FCI(QTY=3))	Install (3) Fault Current Indicators (FCIs).

17206720	[redacted]	N/A	(LABOR, FCI(QTY=3))	Install (3) Fault Current Indicators (FCIs).

Feeder 7702-02

FID	COORDINATES LAT, LONG	EXISTING (REMOVE)	428 REPLACEMENT	SCOPE OF WORK
19988467	[redacted]	(35' C4 WOOD POLE) (CP-C1) (K-7-4) (E-1-2-3)	(50 FT GALVANIZED ROUND TAPERED POLE) (CP-C6-XARM) (K-7-B) (3/0 TPX(QTY=75FT)) (ABS-3-XARM QTY=3)	• Remove and dispose 35' C4 wood pole and replace with 50' galv round tapered pole. • Remove, dispose and replace primary framing. • Remove, dispose and replace secondary framing (K-7). • Remove, dispose and replace 75 ft open wire cable with 3/0 secondary triplex conductor. • Remove and dispose downguy and anchor. Install and connect one (1) set of Air Break Bypass Switch (ABS-3-XARM) and the framing hardware to support them.
33187098		(CP-C1) (STL-10)	(CP-C6-XARM) (STL-10) (ASSY 1505 FIG.C(QTY=3))	• Remove, dispose and replace primary framing. • Remove, dispose and replace streetlight (LED Type).
	[redacted]		(ASSY 1509 (QTY=3)) (CUTOUT BLADES (QTY=3))	• Lower transformer. · Install (3) cutout blades.
19988533		(ASSY-1509 (QTY=3)) (42" CROSSARM (QTY=2)	(LABOR TO CLOSE JUMPERS(QTY=3))	• Remove and dispose (3) Fuse Cutouts. • Close Jumpers. • Remove and dispose (2) 42" crossarms.
19982999		(ASSY-1509 (QTY=3))	(LABOR TO CLOSE JUMPERS(QTY=3))	• Remove and dispose (3) Fuse Cutouts. • Close Jumpers.
19983519		(40' C2 WOOD POLE) (OPS-CP-C4-XARM) (K- 7-B) (ASSY-1509 (QTY=3)) (WOOD CROSSARM) (STL-10) (E-1-2-3) (F-1-3) (E-2-1)	(50' S8 STEEL POLE) (OPS-CP-C4-XARM) (K-7-B) (STL-10)	• Remove and dispose of 40ft Class 2 wood pole and re with 50' galvanized round tapered pole. • Remove, dispose and replace primary framing. • Remove, dispose and replace secondary framing (K-7-B). • Remove and dispose downguy and anchor. • Remove, dispose and replace streetlight (LED Type). • Remove and dispose crossarm. • Remove and dispose (3) Fuse Cutouts. • Install and connect one (1) set of Air Break Bypass Switch (A XARM) and the framing hardware to support them.
19983514		(40' H4 CONCRETE POLE) (S-5) (S-6-2) (K-7-4) (E-1-2-3) (F-1-3) (E-2-1)	(50 FT GALVANIZED ' ROUND TAPERED POLE) (S-5) (S-6-2) (K-7-4) (E-1-2-3) (F-1-3) (CUTOUT BLADES(QTY=3)) (ASSY 1509 (QTY=3)) (ASSY-1505 FIG. C	• Remove and dispose 40' H4 concrete pole and replace with 50'galvanized round tapered pole. • Remove, dispose and replace primary and secondary framing. • Remove, dispose and replace downguy and anchor. • Install stand-off bracket assembly.

			• Install (3) cutout blades.
19985281	(40' H4 CONCRETE POLE) (S-6)	(50 FT GALVANIZED ROUND TAPERED POLE) (S-6) (K-5) (3/0 TPX(QTY=160FT) (ABS-3-XARM QTY=3)	• Remove and dispose 40' H4 concrete pole and replace with galvanized round tapered pole. • Remove, dispose and replace primary framing. • Install and connect one (1) set of Air Break Bypass Switch XARM) and the framing hardware to support them.
19985275	(S-3)	(S-6) (K-5) (LABOR, CUTOUT BLADES(QTY=3)) (ASSY- 1509 (QTY=3)) (ASSY-1505 FIG. C)	• Remove, dispose and replace primary framing. • Install stand-off bracket assembly. • Remove and dispose exiting transformer. • Install (3) cutout blades.
19986073	(ASSY-1509 (QTY=3))	(LABOR TO CLOSE JUMPERS(QTY=3))	• Remove and dispose (3) Fuse Cutouts. • Close Jumpers.
19986110	(ASSY-1509 (QTY=2))	(LABOR TO CLOSE JUMPERS(QTY=2))	• Remove and dispose (2) Fuse Cutouts. • Close Jumpers.
19983537	(ASSY-1509 (QTY=3))	(LABOR TO CLOSE JUMPERS(QTY=3))	• Remove and dispose (3) Fuse Cutouts. • Close Jumpers.
19985273	(T-1) LABOR TO REMOVE EXISTING 37.5 KVA, 2.4/4.16 KV, 20/240 V TRANSFORMER	50 kVA, 2.4/4.16 kV, 120/240 TRANSFORMER	• On Existing Pole: Remove and dispose 37.5 KVA, 2.4/4.16 KV, 120/240 V transformer • Replace with 50 kVA, 2.4/4.16 kV, 120/240 transformer
NEW POLE	NONE	(50 FT GALVANIZED ROUND TAPERED POLE) (CP-C6-XARM) (K-1) (ASSY 1505 FIG C)	• Install new midspan 50 FT galvanized round tapered pole. • Install primary and secondary framing.
19983780	(ASSY-1509 (QTY=3))	(LABOR TO CLOSE JUMPERS(QTY=3))	• Remove, dispose and replace (3) Fuse Cutouts. • Close Jumpers.

19984650	(ASSY-1509 (QTY=3))	(LABOR TO CLOSE JUMPERS(QTY=3))	• Remove and dispose (3) Fuse Cutouts. • Close Jumpers.
19984278	(ASSY-1509 (QTY=3))	(LABOR TO CLOSE JUMPERS(QTY=3))	• Remove and dispose (3) Fuse Cutouts. • Close Jumpers.
19985282	(40' H4 CONCRETE POLE) (S-1) (S-5) ASSY 1509 (QTY=3))	(50 FT GALVANIZED ROUND TAPERED POLE) (S- 6) (S-5) (ASSY 1505 FIG. C)	• Remove and dispose of 40' H4 concrete pole and replace with 50' galvanized round tapered pole. • Remove, dispose and replace primary framings. • Remove, dispose and replace (3) Fuse Cutouts.
19988674	(40' C3 WOOD POLE) (CP-C1) (E-1-2-3) (F-1-3)	(50 FT GALVANIZED ROUND TAPERED POLE) (CP-C6-XARM) (ABS-3- XARM) (LABOR, FCIs) (QTY=3)	• Remove and dispose of 40ft C3 wood pole and replace with 50ft galvanized round tapered po • Remove, dispose and replace primary framing. • Remove and dispose down guy and anchor. • Install air-break switch. • Install (3) Fault Current Indicators (FCIs).

1001640533	[redacted]	n/a	(LABOR, FCI) (QTY=3)	• Install (3) Fault Current Indicators (FCIs).

Feeder 7702-03

FID	COORDINATES LAT, LONG	EXISTING (REMOVE)	428 REPLACEMENT	SCOPE OF WORK
27385668	[redacted]	(45 FT H4 CONCRETE POLE) (S-6) (E-1-2-3) (F-1-3)	(50 FT GALVANIZED ROUND TAPERED POLE) (S-6) (ABS-3-XARM QTY=3)	• Remove and dispose 45' H4 concrete pole and replace 50' round tapered pole. • Remove, dispose and replace primary framing. • Remove and dispose downguy and anchor. • Install and connect one (1) set of Air Break Bypass S (ABS-3-XARM) and the framing hardware to support them.
27386240	[redacted]	(ASSY-1509 (QTY=3))	(LABOR TO CLOSE JUMPERS(QTY=3))	• Remove and dispose 42" crossarm. • Remove and dispose (3) Fuse Cutouts. • Close Jumpers.
27386429		(40 FT H6 CONCRETE POLE) (S-6) (E-1-2-3) (F-1- 3	(50'ROUND TAPERED POLE) (S-6)	• Remove and dispose 40' H6 concrete pole and replace with 50' galvanized round tapere pole. • Remove, dispose and replace primary framing. • Remove and dispose downguy and anchor.
27383425		(ASSY-1509 (QTY=3))	(LABOR TO CLOSE JUMPERS(QTY=3))	• Remove and dispose (3) Fuse Cutouts. • Close Jumpers.
27387694		(40 FT H3 CONCRETE POLE) (CP-C6-XARM) (K-7-FIG.B) (E-1-2-3 (QTY=3)) (E-1-3 (QTY=3)) (STL-10) (ASSY-1509 (QTY=3))	(50FT GALVANIZED ROUND TAPERED POLE) (CP-C6-XARM) (K-7-FIG.B) (STL-10)	• Remove and dispose 40' H3 concrete pole and replace with a 50' galvanized tapered po • Remove, dispose and replace primary and secondary framing. • Remove and dispose downguys and anchors. • Remove, dispose and replace Streetlight (LED Type). • Remove and dispose 42" crossarm. • Remove, dispose and replace (3) Fuse Cutouts.
NEW POLE		NONE	(50 FT GALVANIZED ROUND TAPERED POLE) (CP-C6-XARM)	• Install 50' galvanized round tapered pole. • Install primary framing.
27390168		(ASSY-1509 (QTY=3))	(LABOR TO CLOSE JUMPERS (QTY=3)	• Remove and dispose 72" crossarm. • Remove, dispose and replace (3) Fuse Cutouts. • Close Jumpers.
1001628301		(35 FT C9 WOOD POLE) (K-6) (STL-10)	(50FT GALVANIZED ROUND TAPERED POLE) (CP-C6-XARM) (K-6) (STL-10)	• Remove and dispose 35' wood pole and replace with a 50ft round tapered pole. • Remove, dispose and replace primary and secondary framings. • Remove, dispose and replace

	[redacted]			streetlight (LED Type).
27383625		(35 FT C7 WOOD POLE) (CP-C1-XARM) (K-5)	(45'ROUND TAPERED POLE) (CP-C6-XARM) (K-5) (1/0 TPX (QTY=150 FT))	• Remove and dispose 35' C7 wood pole and replace with a 45' galvanized round tapered pole. • Remove, dispose and replace primary and secondary framing. • Remove, dispose and replace open wire with secondary triplex conductor.
27383616		(ASSY-1509 (QTY=3))	(LABOR TO CLOSE JUMPERS (QTY=3))	• Remove, dispose and replace (3) Fuse Cutouts. • Close Jumpers.

NEW POLE	[redacted]	NONE	(50FT GALVANIZED ROUND TAPERED POLE) (CP-B6-XARM)	• Install a new 50ft galvanized round tapered pole. • Install framings.
27384514		(CP-B2-XARM)	NONE	• Remove and dispose primary framing. • Top-off to secondary framing height.
27384491		(ASSY-1509 (QTY=2))	(LABOR TO CLOSE JUMPERS (QTY=2))	• Remove, dispose and replace (2) Fuse Cutouts. • Close Jumpers.
NEW POLE		NONE	(50FT GALVANIZED ROUND TAPERED POLE) (CP-C6-XARM)	• Install 50ft galvanized round tapered pole. • Install primary framing.
27385855		(ASSY-1509 (QTY=3))	(LABOR TO CLOSE JUMPERS (QTY=3))	• Remove and dispose (3) of Fuse Cutouts. • Close Jumpers. • Remove and dispose 42" crossarm.
27388964		(35 FT C4 WOOD POLE) (CP-C6- XARM) (CP-C5- XARM) (K-7-4) (E-1-2-3) (F-1-3) (ASSY-1509 (QTY=3))	(50 FT GALVANIZED ROUND TAPERED POLE) (CP-C6-XARM) (CP-C5-XARM) (K-7-4)	• Remove and dispose 35' C4 wood pole and replace with 50ft galvanized round tapered pole. • Remove, dispose and replace (2) primary and (1) secondary framings. • Remove and dispose downguy and anchor. • Remove, dispose and replace (3) Fuse Cutouts.
27389307		(ASSY-1505-FIG.A) (ASSY-1509 (QTY=3))	(LABOR TO CLOSE JUMPER (QTY=3))	• Remove and dispose 42" crossarm. • Remove and dispose (3) Fuse Cutouts. • Close Jumpers.

27386961	[redacted]	LABOR	NONE	• Re-adjust clearances of existing primary lines on pole. Relocate transformer Fuse Cutout to other side of pole.
27386974		(ASSY-1509 (QTY=2))	(LABOR TO CLOSE JUMPER)	• Remove, dispose and replace (2) Fuse Cutouts. • Close Jumpers.
27387698		LABOR (ASSY-1509 QTY=1)	(ASSY-1509 QTY=1)	• Re-adjust clearances of existing primary lines on pole. • Remove, dispose and replace (1) Fuse Cutouts.
12137020		NONE	(LABOR, FCI(QTY=3))	• Install (3) Fault Current Indicators (FCIs).
27386235		NONE	(LABOR, FCI(QTY=3))	• Install (3) Fault Current Indicators (FCIs). • Remove, dispose and replace a spacer at section FID.33636114. • Remove, dispose, replace and reconnect (1) right side bypass switch.

Notes Regarding Proposed Work

1. Remove and replace poles, including hardware in the same location. If unable to install the replacement in the same location, the pole will be installed within the easement for overhead distribution lines. Easements are established with the purpose of providing LUMA reasonable access to its facilities, in order to maintain, repair, improve, operate, and expand facilities.

2. Existing wood poles are to be replaced by galvanized tapered poles, at the locations identi?ed in the tables above. Refer to APPENDIX B - Project Considerations, column C (soil area and depth impact) for the depths of the galvanized tapered poles.

3. New guy wires and anchors are to be installed within the easement for guys. The maximum distance an anchor will be installed for a 50ft pole is 25ft from the base of the pole, within the easement for guys.

4. Existing overhead conductors, poles, assemblies, and attached components will be disconnected, removed, and replaced as outlined in the Scope of Work column in the tables above. When existing overhead conductor, assemblies, and attached components are not being replaced, they will be re-attached to the pole to complete the scope of work.

CODES & STANDARDS

The following will be referenced when applying specific codes, specifications, and standards to the project design:

A. LUMA Overhead Electrical Distribution System Manual 4301.001 version 4, available in Grants Portal - Applicant Event Profiles

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

C. 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.

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

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

SECTION 406 HAZARD MITIGATION PROPOSAL (Refer to DSOW pp. 28-59)

COMMON EHP REVIEW INFORMATION

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

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

- Poles - Refer to APPENDIX B - Project Considerations, column C (soil area and depth impact), for the depths of the poles to be installed.

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

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

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

- Vegetation clearance will be performed solely to the extent that it allows crews to conduct work and will be limited to a 10 ft radius surrounding the surface of the pole, but not to exceed the width of the easement. This is for the exclusive purpose of gaining access to the pole to conduct repairs. The vegetation removal process will be managed in accordance with federal and state regulations. The costs related to vegetation clearance procedures are covered in the following Projects:
    - 750067 FAASt [Region 2 -Arecibo Group A] Low Density (Vegetation)
    - 728827 FAASt [Region 2- Arecibo Group A] High Density (Vegetation)

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

- Debris will be separated and taken to an authorized waste disposal facility. Information on location of temporary debris storage sites, ?nal debris disposal location, and ?nal debris disposal method is not yet available.

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

- Staging Area: All materials will be stored and dispatched from the existing LUMA Regional Warehouses. The warehouse locations are described in Section 7.2 above. LUMA has not yet identi?ed any other additional staging areas that it will require.
- Access Roads: New access roads are not needed for this project. All poles to be installed, or removed and replaced, are adjacent to a road and work will be performed within the road easement.

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

- Fill, gravel, and sand materials will be obtained from an approved supplier as referenced in the following document: LUMA Vendor Directory List.

_ 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 ("A&E") design information. For a more detailed cost estimate refer to t Appendix A- LUMA Project Cost Estimate.

COST ESTIMATE

Cost Element	428	406	PROJECT TOTAL
PLANNING	$182,554.76		$182,554.76
MANAGEMENT	$120,865.23		$120,865.23
LPCE Distribution **Automation Group 12**	$2,176,636.93		$2,176,636.93
GENERAL CONDITIONS	$112,920.10		$112,920.10
COST TOTALS	**$2,593,378.22**		**$2,593,378.22**
DEDUCTIONS	**TOTAL INSURANCE PROCEEDS RECEIVED**		
	DE-OBLIGATION TO FAASt IF APPLICABLE		
FAASt ALLOCATIONS	FAAST PROJECT # 745861 - 428		$2,168,647.62
	FAASt A&E # 335168 - 428		$196,183.24
	FAASt E&M #673691 - 428		$228,547.36

Project Cost Summary, Version 1

Work to be Completed (WTBC): $2,593,378.22 - $2,593,378.22 = $0.00 (See project note #7)

A&E Deduction: - $196,183.24 + 196,183.24 = $0.00 (See project note #7)

E&M Deduction: - $228,547.36 + $228,547.36 = $0.00 (See project note #7)

Total Cost: $2,168,647.62 - 2,168,647.62 = $0.00 (See project note #7)

VERSION SUMMARY OF KEY CHANGES:

V0: $3,664,210.10 (WTBC, A&E Deduction)

V1: $0.00 (WTBC)

Project Cost Estimate Notes

1. 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 costs associated with individual FAASt projects.

2. Equipment and material costs included in this project will be reduced from this project and obligated under FAASt Project #673691, Equipment and Materials, as shown in the table above. Only the base costs 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.

3. Refer to detailed SOW provided in document: *745861- DR4339PR- DSOW Group 12 Revision 006- V1.pdf.*

4. Refer to detailed cost estimate in document: *745861-DR4339PR-APPENDIX A- Detailed Cost Estimate Rev 06.xlsx.*

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

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

7. 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 the positive funds (whether 406 HMP or 428), and Version 2 (amendment) will de-obligate the negative portion. This guidance applies only to Sub-FAASt transactions; non-FAASt transactions remain unchanged. See document file: 'SP 167446- DR4339PR - Email Confirmation Sub-FAASt Transaction Guidance.pdf.'"

ATTACHMENTS/APPENDICES

The following attachments and appendices are provided with this DSOW:

Item	Document Description or Filename

A	LUMA Project Cost Estimate
B	Project Considerations
C	LUMA's Active Projects

406 HMP Scope

Project number: 745861; FAASt [Automation Program Group 12] (TL/Distribution)

Damage #1374353; FAASt [Automation Program Group 12: Arecibo Feeders: 7402-01, 7403-02, 7702-02, 7702-03] (Distribution)

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

Location: Arecibo, Puerto Rico

GPS Latitude/Longitude: [redacted]

Hazard Mitigation Narrative

During the incident period from September 17, 2017, to November 15, 2017, the Commonwealth of Puerto Rico experienced hurricane-force winds, heavy rain, flooding, and power outage from Hurricane Maria. The incident caused damage to the electrical system, such as 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).

As part of the electrical grid rebuild, the subrecipient developed a Transmission & Distribution Automation Program ("Program") through which it will install advanced technology equipment (i.e., reclosers and communicating fault current indicators (cFCIs)) to reduce both physical damage and service interruptions to the electrical grid caused by disasters. Although the intent is to deploy automation equipment throughout PREPA's Transmission and Distribution ("T&D") system, the Program will be implemented through multiple projects across the island on both T&D systems.

The multiple projects within this Program are designed to fortify the electrical system's resilience, safeguard its infrastructure, and enhance service reliability during a disaster. The individual projects are interconnected and enhance each other, but each confers benefits independently. Distribution Automation (DA) projects will be submitted regionally as components of the real time monitoring and automation network being installed on island. DA projects are physically incorporated into the distribution line network.

Project Overview:

DA Group 12 is one of the Program's distribution-level projects. It installs hardened poles and advanced technology equipment (specifically reclosers and cFCIs) to reduce physical damage and service interruptions to the distribution grid that could be caused by a natural disaster. Implementing reclosers, their communication kits, and cFCIs is critical for the Energy Management System ("EMS") and related components to function at their full capabilities and mitigate loss of service and physical damage in the event of future hurricanes. This project is necessary for the EMS to maintain the continuity of the distribution power grid on Feeders 7402-01, 7403-02, 7702-02 and 7702-03.

The purpose of this project is to install real time monitoring to mitigate cascading effects and physical damage to critical components, protects federal investments, and reduces outage times to facilities. Key components of this project are: (1) pole replacement, (2) three-phase and single-phase reclosers, and (3) the installation of cFCIs.

Mitigation Approach:

The mitigation strategy to reduce or eliminate cascading effects and physical damage to critical components, and outage times at Feeders 7402-01, 7403-02, 7702-02 and 7702-03 is accomplished by replacing round galvanized steel poles with a 12-sided galvanized steel poles as it is stronger than the round poles; replacing the fault current indicator (FCI) with a communication fault current indicator (cFCI) for real-time monitoring to prevent and communicate the location of the fault; and replacing fuse cutouts and manual disconnect switches with a single-phase and three-phase recloser on the feeder backbone. Additionally, install 1kVA transformers to power the reclosers; and install communication radios for the operation of the three-phase reclosers (wireless connection).

In order to minimize the damage and increase resilience, the subrecipient is proposing the installation of complementary equipment, technologies, and software systems that will provide visibility to the system, grid intelligence and automation. DA is a mitigation measure designed to protect the Puerto Rico Electric Power Authority's (PREPA) critical electric grid infrastructure and reduce risk to public health and safety from power outages caused by a natural disaster.

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)*

1. **Pole Replacement to Accommodate the Installation of Reclosers:**

The addition of three-phase reclosers imposes additional load on poles due to the weight of the devices and their components. It also increases the area exposed to extreme weather conditions, such as hurricanes, thereby increasing the structural load requirements these poles must meet. Where an existing pole cannot accommodate a recloser, it will be substituted with a higher-class pole constructed from steel or concrete to ensure compatibility with the recloser and adherence to design criteria. Any new structure and foundation will be designed to LUMA design criteria and industry standards to support the pole, recloser, and its attachments. In addition, LUMA is using a per-location approach to pole replacement because of the intricate dynamics of deploying three-phase reclosers. Furthermore, the integration of more connections, switches, and related infrastructure often necessitates taller poles to meet phase spacing and circuit-to-circuit spacing requirements. The locations of three-phase reclosers are determined by an electrical analysis performed by the design engineers.

As a mitigation strategy, 406 HM will fund the additional cost (delta) for **27ea** poles strengthening (pole class, concrete base, and additional guywire).

Pole Description:

a) 45ft S5.7 12-sided galvanized steel poles = 12ea
b) 50ft S8.5 12-sided galvanized steel poles = 14ea
c) 70 ft S10 12-sided galvanized steel poles = 1ea.

2. Feeder Reclosers:

Reclosers are sophisticated devices that remotely detect faults within distribution lines, enable the isolation of circuit breakers linked to those faults—whether due to independent failures or breakdowns—and facilitate the swift restoration of power, often within milliseconds.

Three-Phase Recloser: A three-phase recloser is a protection device that is used on three-phase distribution feeders with high fault currents at the location. It is a single device with three switches that can open to interrupt fault currents and automatically reclose to restore power. Three-phase reclosers are communication-ready to enable remote control and visualization. The recloser's wireless communication capability will provide connectivity to LUMA's EMS so the system operator knows their status and can remotely control them.

The implementation of three-phase reclosers will preserve the continuity of electric services and avoid physical damage by pre-empting or minimizing disruptions. The three-phase reclosers can be triggered remotely and provide data back to the operations center, enabling LUMA to prioritize restoration activities, reduce customer outage time, and minimize the potential for cascading infrastructure damage. Installation of the three-phase reclosers and associated hardware is critical for the EMS and associated components to function with full capabilities, and to prevent loss of service and potential damage from future disasters. In this project we are installing three three-phase reclosers.

Single-Phase Reclosers: A single-phase recloser is a single protection device with one switch that can open to interrupt fault currents and automatically reclose to restore power. A single-phase recloser performs the same functions as a three-phase recloser, but it does not have the ability to communicate with the EMS. This project will install single-phase reclosers on single-phase or two-phase distribution feeder and distribution lines branching from the feeder. Single-phase reclosers will also be used on feeders with three phases if fault currents are low at the location. In this project we are installing a total of two single-phase reclosers.

As a mitigation strategy, 406 HM will fund the additional cost (delta) for the replacement of 28ea fuse cutouts with **37 ea** single-phase reclosers and the installation of **11ea** three-phase reclosers.

3.Communicating Fault Current Indicators:

Installation of communicating fault current indicators ("cFCI") at strategic locations improves the outage management, restoration, and recovery process, specifically by decreasing the time required to detect and locate faults. The cFCIs operate independently of the feeder reclosers and help identify permanent and incipient faults in the distribution system, as well as collect voltage and current data, which can be used to detect system imbalance, prevent future issues due to harmonics and help in building a predictive failure model.

cFCIs help reduce physical damage on the system by providing real-time monitoring and early detection of abnormal conditions. Essentially, cFCIs act as the eyes and ears of the system, reducing wear and tear by allowing quick, intelligent responses instead of waiting for catastrophic failure.

As a mitigation strategy, 406 HM will fund the additional cost (delta) for the replacement of 18ea fault current indicators (FCIs) by **27ea** communicating fault current indicators (cFCIs).

4.**Stainless Steel Transformer:**

Galvanized steel transformers are being upgraded to high-strength stainless steel. 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 prevents against debris impact better that 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.

As a mitigation strategy, 406 HM will fund the additional cost (delta) for the replacement of 2ea galvanized transformer by 2ea stainless steel transformer (**1 ea. 37.5 KVA and 1ea 50KVA**).

Mitigation Measures *(Supplementary)*

1. **Stainless Steel Transformer (1kVA):**

To enable the operation of three-phase reclosers, it is essential to connect a 120/240V AC voltage source. In areas where this voltage is accessible, the recloser will be linked to the existing secondary line, ensuring that these facilities possess the capability to handle the load produced by the recloser. In instances where the necessary infrastructure to supply voltage to the recloser 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, which includes protection, automation, and communication functionalities. This ensures that the intelligent features of the recloser operate reliably, even in the event of a medium-voltage power interruption.

As a mitigation strategy, 406 HM will fund the installation of 3**ea** 1kVA stainless steel transformers.

2. Radio Communication Kit for Three-Phase Reclosers:

The recloser's wireless communication capability will provide connectivity to LUMA's EMS in order to the system operator to know their status and can remotely control the three-phase reclosers. Deployment of the wireless communication devices includes configuration, testing, and commissioning of the wireless communication device, all networking devices, data acquisition, and control systems that form the connectivity path of the recloser to the EMS. Therefore, as part of the installation of the 2ea three-phase reclosers it will be necessary to install communication radios and commissioning for the operation of the reclosers (wireless connection).

As a mitigation strategy, 406 HM will fund the installation of **11ea** radio communication kit.

HMP Scope of Work:

a) **Distribution Feeder 7402-01:**

FID 21664670

1. Replace 70ft. round pole with 70ft.12-sided galvanized steel pole.
2. Install (1) Three-Phase Recloser 7402-01A on a radial circuit.
3. Install and commission radio communication kit for three-phase recloser.

4. Install 3/0 (TPX(QTY=400FT)) secondary triplex to feed Three-Phase Recloser from the source side.

FID 1001475449

5. Replace galvanized steel transformer with new stainless-steel transformer (37.5kVA/ 4.16kV, 120/240V).

FID 28651889

6. Replace 50ft. round pole with 50ft. S8.5 12-sided galvanized steel pole.
7. Install (1) Three-Phase Recloser 7402-01B on a radial circuit.
8. Install (TPX QT=500ft) of 3/0 triplex secondary line to feed three-phase recloser from the source side.
9. Install and commission radio communication kit for three-phase recloser.

FID 28651625

10. Replace 50ft. round pole with 50ft. S8.5 12-sided galvanized steel pole.
11. Install (1) Three-Phase Recloser 7402-01C on radial circuit.
12. Install (TPX QTY=300ft) 3/0 triplex to feed three-phase recloser source side.
13. Install and commission radio communication kit for Three-Phase Recloser.

FID NEW POLE

14. Replace 50ft. round pole with a 50ft. S8.5 12-sided galvanized steel pole.
15. Install (1) Three-Phase recloser 7402-01D on a radial circuit.
16. Install Secondary Framing (K-7-B).
17. Install (TPX QTY=250FT) 3/0 triplex to feed three-phase recloser from source side pole.
18. Install and commission radio communication kit for three-phase recloser.

FID 21663839

19. Install (1) Three-Phase recloser 7402-01E on a radial circuit.
20. Install (TPX QTY=250ft) 3/0 triplex cable to feed three-phase recloser from source side.
21. Install and commission radio communication kit for three-phase recloser.

FID 21664540

22. Replace FCIs and install (3) Communicating Fault Current Indicators (cFCIs).

FID 12137275

23. Replace FCIs and install (3) Communicating Fault Current Indicators (cFCIs).

b) **Distribution Feeder 7403-02:**

FID 17203195

24. Replace 50ft. round pole with 50ft. S8.5 12-sided galvanized steel pole.
25. Install (1) 1 kVA transformer (2.40/7.62kV-120V) from source side.
26. Install (1) Three-Phase Recloser 7403-02A in radial circuit.
27. Install and commission radio communication kit for three-phase recloser.

FID 17207532

28. Replace 50ft. round pole with a 45ft. S5.7 12-sided galvanized steel pole.

FID 17203200

29. Replace 50ft. round pole with 50ft, S8.5 12-sided galvanized steel pole.
30. Replace (3) Fuse Cutouts with the installation of (3) Single-Phase Recloser 200A.

FID 33190400 & 33190452

31. Replace 50ft. round pole with a 50ft. S8.5 12-sided galvanized steel pole.
32. Replace (3) Fuse Cutouts on FID: 33190452 with (3) Single-Phase Recloser 200A.

FID 17206664

33. Replace 50ft. round pole with a 45ft. S5.7 12-sided galvanized steel pole.
34. Replace (2) Fuse Cutouts with the installation of (2) Single-Phase Recloser 200A.

FID 1001568082 & 1001568083

35. Replace 50ft. round pole with 45 ft. S5.7 12-sided galvanized steel pole.
36. Replace (2) Fuse Cutouts on FID: 1001568083 with the installation of (2) Single-Phase Recloser 200A.

FID 1001013297

37. Replace 50ft. round pole with a 50ft. S8.5 12-sided galvanized steel pole.
38. Replace (2) Fuse Cutouts with the installation of (2) Single-Phase Reclosers 200A.

FID 12137489

39. Replace FCIs and install three (3) Communicating Fault Current Indicators (cFCIs).

FID 17203167

40. Replace FCIs and install three (3) Communicating Fault Current Indicators (cFCIs).

FID 17206720

41. Replace FCIs and install three (3) Communicating Fault Current Indicators (cFCIs).

c) Distribution Feeder 7702-02:

FID 19988467

42. Replace 50ft. round pole with a 50ft. S8.5 12-sided galvanized steel pole.
43. Install (1) Three- Phase Recloser 7702-02A in radial circuit.
44. Use existing secondary to feed three-phase recloser from source side.
45. Install and commission radio communication kit for Three-Phase Recloser.

FID 19983519

46. Replace 50ft. round pole with 50ft. S8.5 12-sided galvanized steel pole.
47. Install (1) Three-Phase Recloser 7702-02B in radial circuit.
48. Install and commission radio communication kit for Three-Phase Recloser.
49. Use Secondary line to Feed Three-Phase Recloser from source side.

FID 19983514

50. Replace 50ft. round pole with a 50ft. S8.5 12-sided galvanized steel pole.

FID 19985281

51. Replace 50ft. round pole with a 50ft S8.5 12-sided galvanized steel pole.
52. Install (1) Three-Phase Recloser 7702-02C in radial configuration.
53. Install secondary framing (K-5).
54. Install 3/0 triplex (TPX QTY=160FT) to feed three-phase recloser source side.
55. Install and commission radio communication kit for Three-Phase Recloser.

FID 19985273

56. Replace (1) 50 kVA, 2.4/4.16 kV, 120/240 transformer with a new 50 kVA, 2.4/4.16 kV, 120/240 stainless-steel transformer.

FID NEW POLE & 19983780

57. Replace 50ft. round pole with a 45ft. S5.7 12-sided galvanized steel pole.
58. Replace (3) Fuse Cutouts on FID: 19983780 (3) Single-Phase Reclosers.

FID 19985282

59. Replace 50ft. round pole with a 50ft. S8.5 12-sided galvanized steel pole.
60. Replace (3) Fuse Cutouts with the installation of (3) Single-Phase Reclosers.

FID 19988674

61. Replace 50ft. round pole with 45ft. S5.7 12-sided galvanized steel pole.
62. Replace FCIs and install three (3) Communicating Fault Current Indicators (cFCIs).

FID 1001640533

63. Replace FCIs and install three (3) Communicating Fault Current Indicators (cFCIs).

d) Distribution Feeder 7702-03

FID 27385668

64. Replace 50ft.round pole with a 50ft. S8.5 12-side galvanized steel pole.
65. Install (1) Three-Phase Recloser 7702-03A on a radial circuit.
66. Install and commission radio communication kit for Three-Phase Recloser.
67. Install (1) 1 kVA (2.40/7.62 kV-120V) transformer to feed recloser from source side.

FID 27386429

68. Replace 50ft. pole with a 50ft. S8.5 12-sided galvanized steel pole.
69. Install (1) Three- Phase Recloser 7702-03B on a radial circuit.
70. Install and commission radio communication kit for Three-Phase Recloser.
71. Install (1) 1 kVA (2.40/7.62 kV-120V) transformer to feed recloser from source side.

FID 27387694

72. Replace 50ft. round pole with a 45ft. S5.7 12-sided galvanized steel pole.
73. Replace (3) Fuse Cutouts with the installation of (3) Single-Phase reclosers 200A.

FID NEW POLE & 27390168

74. Replace 50ft. round pole with a 45ft. S5.7 12-sided galvanized steel pole.
75. Replace (3) Fuse Cutouts on FID: 27390168 with the installation of (3) Single-Phase Recloser 200A.

FID 1001628301 & 27383616

76. Replace 50ft. round pole with a 45ft S5.7 12-sided galvanized steel pole.
77. Replace (3) Fuse Cutouts from FID: 27383616 with the installation of (3) Single- Phase Reclosers 200A.

FID 27383625

78. Replace 50ft.round pole with a 45ft. S5.7 12-sided galvanized steel pole.

FID NEW POLE

79. Replace 50ft. round pole with a 45ft. S5.7 12-sided galvanized steel pole.

FID 27384491

80. Replace (2) Fuse Cutouts from FID: 27384491 with the installation of (2) Single-Phase Recloser 200A.

FID NEW POLE & 27385855

81. Replace 50ft. round pole with a 45ft. S5.7 12-sided galvanized steel pole.
82. Replace (3) Fuse Cutouts from FID: 27385855 with the installation of (3) Single-Phase Reclosers 200A.

FID 27388964

83. Replace 50ft. round pole with a 45ft. S5.7 12-sided galvanized steel pole.
84. Replace (3) Fuse Cutouts with the installation of (3) Single-Phase Recloser 200A.

FID 27386961& 27386974

85. Replace (2) Fuse Cutouts from FID: 27386974 with the installation of (1) Single-Phase Recloser 200A.

FID 27387698

86. Replace (1) Fuse Cutout with the installation of (1) Single-Phase Recloser 200A.

FID 12137020

87. Replace FCIs and install three (3) Communicating Fault Current Indicators (cFCIs).

FID 27386235

88. Replace FCIs and install three (3) Communicating Fault Current Indicators (cFCIs).

(III) Hazard Mitigation Proposal (HMP) Cost

Total Net Hazard Mitigation Cost (Base Cost) =	$ 1,097,098.98
+ HM (Subrecipient A&E, Management & General Conditions) =	$ 261,546.00
Hazard Mitigation Total Cost =	**$ 1,358,644.98**

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

Equipment and Materials (E&M) =	$ 557,560.64
Architecture and Engineering (A&E) =	$ 101,775.43
Construction Cost =	$ 699,308.92
Hazard Mitigation Total Cost =	**$ 1,358,644.98**

(V) HMP Cost-Effectiveness Calculations

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

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

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

The cost of the Hazard Mitigation Proposal (HMP) described herein is **$ 1,358,644.98 (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	$4,142,163.65	Uncompleted
3510	1	Lump Sum	($477,953.55)	Uncompleted
9201	1	Lump Sum	$0.00	Completed
9001	1	Lump Sum	$0.00	Uncompleted
3510	1	Lump Sum	$0.00	Uncompleted
9001	1	Lump Sum	$0.00	Uncompleted

CRC Gross Cost	$3,664,210.10
Total 406 HMP Cost	$1,358,644.98
Total Insurance Reductions	$0.00
CRC Net Cost	$5,022,855.08
Federal Share (90.00%)	$4,520,569.58
Non-Federal Share (10.00%)	$502,285.50

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

9/1/2026

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

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

4/30/2026

Does the Applicant have a Commercial Policy: Yes.

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

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

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

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

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

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

O&M Requirements

There are no Obtain and Maintain Requirements on **FAASt [Automation Program Group 12] (Distribution) (Cost Only)**.

406 Mitigation

There is no additional mitigation information on **FAASt [Automation Program Group 12] (Distribution) (Cost Only)**.

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.
- Conditions for Puerto Rican Boa applicable to 7402 01, 7403 02, 7702 02, and 7702 03: 1. Inform all project personnel about the potential presence of the Puerto Rican (PR) boa and Virgin Islands (VI) boa in areas where the proposed work will be conducted and provide training on PR and VI boa identification. A pre-construction meeting will be conducted to inform all project personnel about the need to avoid harming these species. All personnel will be advised that there are civil and criminal penalties for harming, harassing, or killing species protected under the Endangered Species Act of 1973. An educational poster or sign with photo or illustration of these species will be displayed at the project site. 2. Prior to any construction activity, including removal of vegetation and earth movement, the boundaries of the project area and any area to be excluded and protected will be clearly marked in the project plan and in the field to avoid further habitat degradation outside of the footprint of the project. 3. Once areas are clearly marked, and right before the use of heavy machinery and any construction activity (including removal of vegetation and earth movement), biologist or designated project personnel with experience on these species will survey the areas to be cleared to verify the presence of any PR or VI boa within the Action Area. If a PR or VI boa is found during the search, it should be captured and managed as per #6 below. Once the removal of vegetation begins, the biologist or designated personnel must remain at the work site and be ready to capture any boa that might be in harm way as the result of the habitat disturbance (see #6). 4. For VI boas, once the Action Area has been searched, vegetation will be cut about one meter above ground prior to the use of heavy machinery for land clearing. Cutting vegetation by hand will allow VI boas present on site to move away on their own to adjacent available habitat. If there is no suitable habitat adjacent to the project site, any VI boa found will be relocated accordingly (see #6).
- Conditions for (Chilabothrus inornatus) 5. For all boa sightings (dead or alive), record the time and date of the sighting and the specific location where it was found. Data will also include a photo of the animal (dead or alive), relocation site GPS coordinates, time and date of the relocation, and comments on how the animal was detected and its behavior. 6. If any PR or VI boa (dead or alive) is found within the Action Area and on harm way, the action will stop, and information will be recorded (see #5). All attempts will be made to immediately safely capture and relocate the animal within suitable habitat (forested) at least 1km from the Action Area and away from construction areas. PR boa relocation sites will be pre-determined before the project starts and sites shared with the Service for revision and concurrence. Relocation of PR boas will be conducted by trained, designated personnel ensuring the animal is not harmed or injured during the capture and relocation process. 7. Measures will be taken to avoid and minimize PR boa and VI boa casualties by heavy machinery or motor vehicles being left in the Action Area. Any heavy machinery left on site (staging areas) or near potential PR or VI boa habitat will be thoroughly inspected each morning before work starts to ensure that no boas have sheltered within engine compartments or other areas of the heavy machinery. If a PR boa or VI boa is found within vehicles or heavy machinery, boas will be safely captured accordingly. If not possible, the animal will be left alone until it leaves the vehicle or machine by itself. The PR boa and VI boa may seek shelter within debris piles. Measures should be taken to avoid and minimize boa casualties associated with sheltering in new debris piles as a result of project activities. New debris piles should be placed in areas as far as possible from forested areas. Prior to moving, disposing, or shredding, debris piles should be carefully inspected for the presence of PR boas and VI boas. If debris piles will be left on site, we recommend they be placed in an undisturbed area. In the event a PR boa and VI boa is found dead within the project area, the Federal Agency and the Recipient must contact the Service to appropriately dispose the animal. If a PR boa or a VI boa is accidentally injured or killed during capture and relocation activities during the Action, the Federal Agency and the Recipient shall terminate the authorized activities and contact the Service within 24 hours to reinitiate consultation. The Federal Agency will consult with the Service to determine whether authorized activities should continue as proposed and whether modifications are warranted. Should the forms of take reach the amount of exempted take during the Action, the Federal Agency and the Recipient shall terminate the authorized activities and contact the Service within 24 hours to reinitiate consultation. The Federal Agency will consult with the Service to determine whether authorized activities should continue as proposed and whether modifications are warranted. For questions and to submit reports, the Service Point of Contact (POC) is Jose Cruz-Burgos, Endangered Species Coordinator, and can be contacted at: Mobile: 305-304-1386 Office phone: 786-244-0081 Office Direct Line: 939-320-3120 Email: Caribbean_es@fws.gov or jose cruz-burgos@fws.gov
- Conditions for Puerto Rican Harlequin butterfly applicable to feeders 7402 01, 7403 02, 7702 02, and 7702 34. The Puerto Rican harlequin butterfly (Atlantea tulita) is endemic to Puerto Rico, occurring in the western portion of the island, in the northern karst region, and in the west-central volcanic-serpentine region. The following measures apply to the Puerto Rican harlequin butterfly through its current range: a. The contractor must inform all personnel about the potential presence of the Puerto Rican harlequin butterfly and its host plant, prickly bush (Oplonia spinosa), in the project areas. A pre-work meeting should inform all project personnel about the need to avoid harming this butterfly and its occupied host plant. All personnel will be advised that there are civil and criminal penalties for harming, harassing, or killing species protected under the Endangered Species Act of 1973, as amended. Educational material (e.g., posters, flyers, or signs with photos or illustrations of all the life stages of the Puerto Rican harlequin butterfly (i.e., eggs, caterpillar, chrysalids, and adult, and its host plant) should be prepared and available to all personnel for reference. b. Before starting any project activity, including removal of vegetation and earth movement, the contractor

must clearly delineate the boundaries of the working area in the field to avoid unnecessary habitat impacts. Once the project areas are clearly marked, and before any work activity, including site preparation, personnel with knowledge and ability to identify the Puerto Rican harlequin butterfly (all life stages) and the prickly bush must survey the areas where the work will be performed for the presence of the species and its host plant. It is important to note that the Puerto Rican harlequin butterfly can be observed year-round in all life stages; thus, oviposition (egg-laying) may occur at any time during the year. c. If the prickly bush is present on the project site, try to avoid cutting the plant, even if no eggs, caterpillars, or chrysalids are present. d. If there is no prickly bush within the project area, but the butterfly is observed flying within the project area, do not harass, harm, pursue, wound, kill, trap, capture, collect, or attempt to engage in any such conduct, the species. e. Adult butterflies are often observed flying near the host plant as part of their mating behavior and for laying eggs. Project-related activities must stop if the prickle bush is found in the project area and the Puerto Rican harlequin butterfly is observed flying in that same area. A temporary 50-meter (164 feet) buffer zone of no activity or human disturbance should be established and clearly marked around that prickly bush until the butterfly moves out on its own.

- Conditions for Puerto Rican Harlequin butterfly applicable to feeders 7402 01, 7403 02, 7702 02, and 7702 f. Once the Puerto Rican harlequin butterfly has moved away, within a period of 24 to 36 hours, a search of the prickly bush that has been buffered should be conducted to determine the presence of any eggs, caterpillars, or chrysalids of the butterfly on the plant. The contractor or the Applicant should send a report of the observation and its findings to caribbean_es@fws.gov after the 36-hour search is concluded. g. If, after the initial search or after the 24 to 36-hour search, any life stage of the Puerto Rican harlequin butterfly is found in the prickly bush, take the following actions: o Clearly mark the host plant with flagging tape. o Establish a 10-meter (32-foot) buffer zone around the bush for its protection. o Eggs are typically found on the prickly bush's newly grown, tender branches. Once the egg hatch, the caterpillar moves and feeds throughout the bush. Therefore, avoid cutting off the prickly bush within the project site even if no eggs, caterpillars, or chrysalids are present. o Work within the 10-meter buffered area may resume when no signs of any live life stage of the butterfly are detected, which usually takes approximately 60 to 120 days. h. For all Puerto Rican harlequin butterfly sightings (all life stages), the time and date of the sighting and the specific location where the butterfly was found must be recorded. Data should also include a photo of the butterfly (if possible) and the habitat where it was observed, site GPS coordinates, and comments on how the butterfly was detected and its behavior. All Puerto Rican harlequin butterfly sighting reports should be sent to the Services Caribbean Ecological Service Field Office at caribbean_es@fws.gov. j. For questions regarding the Puerto Rican harlequin butterfly, the Point of Contacts are: o José Cruz-Burgos, Endangered Species Coordinator Mobile: 305-304-1386 Office phone: 786-244-0081 Office Direct Line: 939-320-3120 Email: jose_cruz-burgos@fws.gov o Carlos Pacheco, Fish and Wildlife Biologist Mobile: 786-847-5951 Office Direct Line: 939-320-3113 Email: carlos_pacheco@fws.gov
- The Applicant must provide documentation at close-out that proves completion of required Conservation Measures.
- 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.
- 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 with the requirements of the local and federal agencies. Noncompliance with these requirements may jeopardize receipt of federal funds.
- a. The Subrecipient and/or Subrecipient's contractor shall follow the Low Impact Debris Removal Stipulations (LIDRS) as stated in Appendix E of the Project-Specific Programmatic Agreement Among FEMA, the SHPO, ACHP, COR3, and PREPA (PSPA), executed on August 2, 2022. b. Unexpected Discoveries: Pursuant to Stipulation III.B of the PSPA, if, in the course of implementing this Individual Undertaking(s), previously unidentified structures, sites, buildings, objects, districts, or archaeological deposits, that may be eligible for listing in the National Register, or human remains are uncovered, or if it appears that an Individual Undertaking has affected or will affect a previously identified historic property in an unanticipated manner, the contractor must notify Subrecipient who will immediately notify the Recipient. Work must stop in the vicinity of the discovery and measures must be taken to protect the discovery and avoid additional harm. c. Additional staging areas and/or work pads within work site area haven't been identified yet. The Recipient/Subrecipient and/or private operator must provide the information of any additional staging areas or work pads for EHP evaluation as soon as available specially if any construction activity will be necessary to prepare the site(s). Information for staging areas and/or work pads confined to previously disturbed or hardened surfaces can be provided at close-out d. All borrow or fill material must come from pre-existing stockpiles, material reclaimed from maintained roadside ditches (provided the designed width or depth of the ditch is not increased), or commercially procured material from a source existing prior to the event. For any FEMA-funded project requiring the use of a non-commercial source or a commercial source that was not permitted to operate prior to the event (e.g., a new pit, agricultural fields, road ROWs, etc.) in whole or in part, regardless of cost, the Applicant must notify FEMA and the Recipient prior to extracting material. FEMA must review the source for compliance with all applicable federal environmental planning and historic preservation laws and executive orders prior to a Sub-recipient or their contractor beginning borrow extraction. Consultation and regulatory permitting may be required. Non-compliance with this requirement may jeopardize receipt of federal funding. Documentation of borrow sources utilized is required at close-out and must include fill type (private, commercial, etc.), name, fill site GPS coordinates (not of the company/governmental office), address, and type of material.
- 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 Or-der, 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.
- Additional staging areas and/or work pads within work site area have not been identified yet. The Recipient/Subrecipient and/or private operator must provide the information of any additional staging areas or work pads for EHP evaluation as soon as available specially if any construction activity will be necessary to prepare the site(s). Information for staging areas and/or work pads confined to previously disturbed or hardened surfaces can be provided at close-out.

EHP Additional Info

There is no additional environmental historical preservation on **FAASt [Automation Program Group 12] (Distribution) (Cost Only)**.

Final Reviews

Final Review

Reviewed By LEFRANC-GARCIA, CARLOS L. **Reviewed On** 07/31/2026 1:04 PM PDT

Review Comments

FEMA will process 428 and 406 HM transactions separately. This does not affect one-time change for HM. Reviewed, found eligible and cost reasonable. CLG 07.31.26

Recipient Review

Reviewed By Mulero, Noel **Reviewed On** 08/07/2026 8:13 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. FEMA EHP shall review the REC if the DOE Emergency Declaration applies or the Special Conditions required on implementation of Projects . The project will be signed off by the recipient as is, REC can be reviewed and amended to version V2. Project is ready for applicant review.

Project Signatures

Reviewed By Unsigned **Reviewed On** Unsigned

General Info

Project #	745861 **P/W #** 107957	**Project Type**	Specialized
Project Category	F - Utilities	**Applicant**	PR Electric Power Authority (000-UA2QU-00)
Project Title	FAASt [Automation Program Group 12] (Distribution) (Cost Only)	**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 #1374353; FAASt [Transmission and Distribution Automation Program Installation of Intelligent Reclosers, Single Phase Reclosers and Fault Current Indicators Group 12: DAR – ARECIBO 7402, 7403, 7702 FY24

General Facility Information:

- **Facility Type:** Power generation, transmission, and distribution facilities
- **Facility:** Transmission and Distribution Automation Program Installation of Intelligent Reclosers, Single Phase Reclosers and Fault Current Indicators Group 12: DAR – ARECIBO 7402, 7403, 7702 FY24
- **Facility Description:** Transmission and Distribution Automation - Feeders ARECIBO 7402, 7403, 7702 FY24
- **Approx. Year Built:** 1980
- **Start GPS Latitude/Longitude:** [redacted]
- **End GPS Latitude/Longitude:** [redacted]

Final Scope

1374353

FAASt [Transmission and Distribution Automation Program Installation of Intelligent Reclosers, Single Phase Reclosers and Fault Current Indicators Group 12: DAR – ARECIBO 7402, 7403, 7702 FY24

********** Version 2 **********

Version 2 has been created as an administrative amendment due to limitations in IFMIS (The Finance system), which cannot currently accommodate two separate accounting streams within a single transaction. This administrative amendment includes the cost changes that were pending in the previous project version. Refer to document: Sub-FAAST Transactions - allocation process.pdf

INTRODUCTION

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

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

This document contains the detailed SOW for FEMA PA project 745861 Automation Program Group 12 (Distribution) under DR-4339-PR Public Assistance. The document provides a detailed description of the project, the scope of PA construction activities to be completed, common EHP review information, and project cost estimates. LUMA is seeking approval from COR3 and FEMA for PA funding for the scope described in this document.

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

PROJECT DESCRIPTION

As part of the electrical grid rebuild, LUMA developed a Transmission & Distribution Automation Program ("Program") through which it will install advanced technology equipment (i.e., reclosers and communicating fault current indicators ("cFCIs")) to reduce both physical damage and service interruptions to the electrical grid caused by disasters. Although the intent is to deploy automation equipment throughout PREPA's transmission and distribution ("T&D") system, the Program will be implemented through multiple projects across the island on both T&D systems. The multiple projects within this Program are designed to fortify the electrical system's resilience, safeguard its infrastructure, and enhance service reliability during a disaster. The individual projects are interconnected and enhance each other, but each confers benefits independently. Automation is necessary to add modern resiliency capabilities to the T&D system. The 3.2 million residents throughout Puerto Rico are dependent upon the successful completion of the Program and its ability to sustain the power grid in future disasters.

Project 745861 is one of the Program's distribution-level projects. It installs hardened poles and advanced technology equipment (specifically reclosers and cFCIs) to reduce physical damage and service interruptions to the distribution grid that could be caused by a disaster. Implementing reclosers, their communication kits, and cFCIs is critical for the Energy Management System ("EMS") and related components to function at their full capabilities and mitigate loss of service and physical damage in the event of future hurricanes. This project is necessary for the EMS to maintain the continuity of the distribution power grid on 7402-01, 7403-02,7702-02 and 7702-03.

Key components of this project are: (1) pole replacement, (2) the three-phase reclosers and single-phase reclosers, and (3) the installation of cFCIs. Each of these components and their benefit to the grid are described further below:

(1) Pole Replacement to Accommodate the Installation of Reclosers

The addition of three-phase reclosers imposes additional load on poles due to the weight of the devices and their components. It also increases the area exposed to extreme weather conditions, such as hurricanes, thereby increasing the structural load requirements these poles must meet. Where an existing pole cannot accommodate a recloser, it will be substituted with a higher-class pole constructed from steel or concrete to ensure compatibility with the recloser and adherence to design criteria. This includes adjacent poles (i.e., poles that are on either side of the recloser pole supporting the overhead line conductors). Any new structure and foundation will be designed to LUMA design criteria and industry standards to support the pole, recloser, and its attachments.

In addition, LUMA is using a per-location approach to pole replacement because of the intricate dynamics of deploying three-phase reclosers. Furthermore, the integration of more connections, switches, and related infrastructure often necessitates taller poles to meet phase spacing and circuit-to-circuit spacing requirements. The locations of three-phase reclosers are determined by an electrical analysis performed by the design engineers. In those instances where the recloser would be located on an existing wood pole, that pole will be replaced with a pole that meets the compounded structural demands presented by that recloser.

(2) Feeder Reclosers

Reclosers are sophisticated devices that remotely detect faults within distribution lines, enable the isolation of circuit breakers linked to those faults—whether due to independent failures or breakdowns—and facilitate the swift restoration of power, often within milliseconds. This project will install three-phase and single-phase reclosers.

Three-Phase Recloser: A three-phase recloser is a protection device that is used on three-phase distribution feeders with high fault currents at the location. It is a single device with three switches that can open to interrupt fault currents and automatically reclose to restore power. Three-phase reclosers are communication-ready to enable remote control and visualization. The recloser's wireless communication capability will provide connectivity to LUMA's EMS so the system operator knows their status and can remotely control them. Deployment of the wireless communication devices includes configuration, testing, and commissioning of the wireless communication device, all networking devices, data acquisition, and control systems that form the connectivity path of the recloser to the EMS.

The implementation of three-phase reclosers will preserve the continuity of electric services and avoid physical damage by pre-empting or minimizing disruptions. The three-phase reclosers can be triggered remotely and provide data back to the operations center, enabling LUMA to prioritize restoration activities, reduce customer outage time, and minimize the potential for cascading infrastructure damage. Installation of the three-phase reclosers and associated hardware is critical for the EMS and associated components to function with full capabilities, and to prevent loss of service and potential damage from future disasters. In this project we are installing eleven three-phase reclosers.

Single-Phase Reclosers: A single-phase recloser is a single protection device with one switch that can open to interrupt fault currents and automatically reclose to restore power. A single-phase recloser performs the same functions as a three-phase recloser, but it does not have the ability to communicate with the EMS. This project will install single-phase reclosers on single-phase or twophase distribution feeder and distribution lines branching from the feeder. Single-phase reclosers will also be used on feeders with three phases if fault currents are low at the location. In this project we are installing a total of 37 single-phase reclosers.

(3) Communicating Fault Current Indicators

Install communicating fault current indicators ("cFCI") at strategic locations to improve the outage management, restoration, and recovery process, specifically by decreasing the time required to detect and locate faults. cFCI operate independently of the feeder reclosers. cFCIs help identify permanent and incipient faults in the distribution system and collect voltage and current data which can be used to detect system imbalance, prevent future issues due to harmonics and help in building a predictive failure model. Data sent to the EMS aids the grid operator in making decisions on operations, management and restoration. The cFCI can be programmed to send automatic notifications/alarms based on user-set parameters. This allows for quick dispatch of field crews to specific sections of the feeders and reduces the total restoration time during an outage event. Installation of the three-phase reclosers and the communicating fault current indicators (communications ready) is critical for the EMS to efficiently mitigate the loss of service and potential damages in future disasters.

This project's scope does not contain fiber optics or communication capability that is included in other projects. This project is distinguishable from projects that include fiber optics, as these feeders are using cellular technology for communications with the operations center. LUMA has developed this scope for reclosers and their associated hardware only. The lack of fiber optics as a method of transmitting information in this scope of work does not prevent or limit the monitoring capabilities of the reclosers and cFCIs or the automation capabilities of the reclosers on these feeders, nor does it prohibit the incorporation of fiber optics at a later date.

FACILITIES

FACILITIES LIST

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

A. Facilities for Automation Group 12 Feeder Lines

Name	Feeder Number	GPS Start	GPS End

Arecibo	7402-01	[redacted]
Arecibo	7403-02	
Arecibo	7702-02	
Arecibo	7702-03	

Note: Please refer to APPENDIX B - Project Considerations for a list of all GPS locations that this project will impact.

B. Staging Area

All materials will be stored and dispatched from the existing LUMA Regional Warehouses. The warehouse that will be used for this project is the Arecibo Regional Warehouse, whose address is # 681 Street, 0.1 KM, Islote Ward. The warehouse coordinates are [redacted] The staging area will be located in the Técnica Quebradillas in the following coordinates: [redacted]

SECTION 428 SCOPE OF WORK

The proposed type of work for this project:

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

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

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

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

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

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

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

In the obligated submission (Version 0), LUMA proposed:

- Removal and replacement of twenty (20) damaged poles.
- Install ten (10) Three Phase Reclosers.
- Install twenty-four (24) Single Phase Reclosers, remove fuses and close jumpers.
- Install twenty-four (24) communicating Fault Indicators (cFCIs).

LUMA requests the alignment of the scope and cost of Project 745861 with the approved 406 mitigation proposal from Project 746309 FAASt [Automation Program Group 30], including:

- Pole replacement to accommodate recloser installation: 406 mitigation will fund the additional cost for pole strengthening (i.e., 428: remove the existing pole and replace with a round galvanized, 406 install a 12-sided galvanized).
- Feeder reclosers: 406 Mitigation will fund 100% of the cost of three-phase reclosers on the feeder backbone and the additional cost (delta) for the replacement of fuse cutouts for a single-phase reclosers on lateral circuit lines.
- Communicating Fault Current Indicators: 406 mitigation will fund the additional cost for the replacement of Fault Current Indicators ("FCIs") with communicating Fault Current Indicators ("cFCIs").
- Distribution Transformers: 406 mitigation will fund the installation of 1kVA stainless steel transformers to serve either the load or source side of the three-phase recloser.

The obligated DSOW included a new pole installation. This DSOW aligns the scope of this pole with a 406 mitigation proposal approved by FEMA.

As detailed in Appendix A of the amendment request letter, LUMA requests the following component additions to the project scope of work and cost estimate that were not included in the obligated project:

- Radio Communications Kit:
  - LUMA originally planned to transmit data to and from Three-Phase Reclosers using fiber optic cable, which also required the installation of additional poles. LUMA now proposes installing radio communication kits to enable communication with the Three-Phase Reclosers and the PREPA SCADA system ("EMS").
- Air Break Bypass Switches
  - Air Break Bypass Switches are essential equipment of LUMA design standards for the Three-Phase Recloser. The cost of these switches was involuntarily omitted in the previous estimate. They are included in this proposed version. The purpose of this equipment is to isolate the recloser in case of failure or maintenance and keep the three-phase circuit energized while the situation is resolved.

- Due to engineering changes to the feeders in the project, this DSOW now includes seven (7) poles that were not part of Version 0 of the project.
  - Five (5) new pole installations at new locations.
  - Two (2) poles to be removed and replaced as part of the revised design.
  - These changes align the scope with the 406 Mitigation proposal approved by FEMA, where applicable.

DESCRIPTION OF PROPOSED WORK TO BE PERFORMED

Feeder 7402-01

POLE FID	COORDINATES LAT, LONG	EXISTING (REMOVE)	428 REPLACEMENT	SCOPE OF WORK
21664670	[redacted]	(60' WOOD POLE) (38KV SC DE VERT) (CP-C6- XARM) (T-1) (STL- 10) (S-1)	(70' ROUND TAPERED POLE) (38KV SC DE VERT) (CP-C6- XARM)) (K-7-4) (STL-10) (3/0 TPX(QTY=400FT) (ABS-3-XARM QTY=3)	• Remove and dispose of 60ft wood pole and replace with 70ft. galvanized round tapered pole. • Remove, dispose and replace 38kV and distribution primary framin • Remove and dispose distribution spacer framing and circuit. • Remove, dispose and replace secondary framing (K-7-4). • Remove, dispose and replace streetlight (LED Type). • Transfer existing transformer to pole FID: 1001475449. • Install and connect one (1) set of Air Break Bypass Switch (A XARM) and the framing hardware to support them.
1001475449		(CP-C6-XARM) (K-6) (STL-10) (S-1)	(CP-C12-XARM) (T-1) (K-6) (STL-10) (SOLID CUTOUT BLADES(QTY=3)) (3/0 TPX(QTY=300FT))	• On existing pole, readjust 38kV framing to standard. • Remove, dispose and replace primary framing. • Remove and dispose primary (S-1) framing. • Remove, dispose and replace secondary framing (K-6). • Relocate existing streetlight (LED Type) from a stub pole to this pol • Install (3) solid cutout blades in cutout fuse assembly. • Install galvanized steel transformer (37.5kVA/ 4.16kV, 120/240V). • Install 3/0 TPX cable qty=300
28651889		(45' H4 CONCRETE POLE) (S-6) (K-7)	(50' GALVANIZED ROUND TAPERED POLE) (S-6) (K-7-B) (ABS-3-XARM QTY=3)	• Remove and dispose 45' H4 concrete pole. • Replace with 50' galvanized round tapered pole and replace wit galvanized steel round tapered pole. • Remove and dispose wood stub pole. • Remove, dispose and replace primary framing. • Remove, dispose and replace secondary framing (K-7-B). • Install and connect one (1) set of Air Break Bypass Switch (A XARM) and the framing hardware to support them.
28651876		N/A	(SOLID CUTOUT BLADES(QTY=3)) (ASSY- 1509 (QTY=3)) (ASSY- 1505 FIG. C)	• Install stand-off bracket assembly. • Install (3) solid cutout blades.
1000331641		(ASSY-1509 (QTY=2)	(LABOR TO CLOSE JUMPERS(QTY=2))	• Remove and dispose (2) Fuse Cutouts. • Close Jumpers
33190825		(ASSY-1509 (QTY=3))	(LABOR TO CLOSE JUMPERS(QTY=3))	• Remove and dispose (3) Fuse Cutouts. • Close Jumpers.
28654052		(ASSY-1509 (QTY=3))	(LABOR TO CLOSE JUMPERS(QTY=3))	• Remove and dispose (3) Fuse Cutouts. • Close Jumpers

28651625	[redacted]	(45' CLASS 3 WOOD POLE) (S- 6) (K-5) (E-1-2-3) (F-1-3) (T-2)	(50' ROUND TAPERED POLE) (S-6) (K-7-B) (3/0 TPX(QTY=300FT) (ABS-3-XARM QTY=3)	• Remove 45' Class 3 wood pole. • Replace with 50' galvanized round tapered pole. Relocate 5ft c of private property fence. • Remove, dispose and replace primary framing. • Remove, dispose and replace secondary framing (K-7-B). • Remove and dispose anchor and downguy. • Relocate existing transformer and to pole FID 28651671. Install and connect one (1) set of Air Break Bypass Switch (A XARM) and the framing hardware to support them.
22077816		N/A	(K-5)	• Install secondary framing to feed recloser 7402-0C on FID 28651625.
28651671		N/A	(T-2)	• Install the existing transformer from pole FID: 28651625.
22077813		(LABOR, FUSE REMOVAL (QTY=3))	(LABOR, SOLID CUTOUT BLADES(QTY=3)	• Remove and dispose (3) Fuse Cutouts. • Replace with (3) Cutout Blades.
28652000		(ASSY- 1509(QTY=3))	(LABOR TO CLOSE JUMPERS(QTY=3)	• Remove and dispose (3) Fuse Cutouts. • Close Jumpers
28654587		(ASSY- 1509 (QTY=3)) (STAND- OFF BRACKET ASSY 1505-FIG. C)	(LABOR TO CLOSE JUMPERS(QTY=3))	• Remove and dispose (3) Fuse Cutouts. Replace with (3) Cutout Blades.
NEW POLE		N/A	(50' GALVANIZED ROUND TAPERED POLE) (S-6)	• Install a new 50' galvanized round tapered pole. • Install primary framing. • Install and connect one (1) set of Air Break Bypass Switch (ABS-3 XARM) and the framing hardware to support them.
21663664		(ASSY-1509 (QTY=3))	(SOLID CUTOUT BLADES(QTY=3)) (ASSY- 1509 (QTY=3)) (ASSY-1505 FIG. C) (K-2)	• Straighten and reuse existing pole. • Adjust guy wire tension. • Install secondary framing to feed three phase recloser 7402-01D. • Remove, dispose and replace existing crossarm with stand-off bracket assembly. • Remove and dispose (3) Fuse Cutouts. Replace with (3) Cutout Blades.
22074602		N/A	(K-5)	• Install secondary framing to feed three phase recloser 7402-01D on new pole in coordinates 18.459062, -66.918267.
1000580231		(ASSY-1509 (QTY=3))	(LABOR TO CLOSE JUMPERS(QTY=3)	• Remove and dispose (3) Fuse Cutouts. • Close Jumpers
21664915		(ASSY-1509 (QTY=3))	(LABOR TO CLOSE JUMPERS(QTY=3)	• Remove and dispose (3) Fuse Cutouts. • Close Jumpers
21665387		(ASSY-1509 (QTY=3))	(LABOR TO CLOSE JUMPERS(QTY=3)	• Remove and dispose (3) Fuse Cutouts. • Close Jumpers
21663839		(CP-C6-XARM) (S- 6) (T-1)	(CP-C6-XARM)	Existing pole. • Remove, dispose and replace primary framing. • Remove, dispose and replace Secondary framing (K-7-B). • Remove and dispose of transformer. • Install and connect one (1) set of Air Break Bypass Switch Swi (ABS-3- XARM) and the framing hardware to support them.

21663842	[redacted]	N/A	(K-5)	• Install secondary framing to feed Three-phase recloser 7402-01E FID 21663839.
21663849	[redacted]	(S-5)	(SOLID CUTOUT BLADES(QTY=3)) (ASSY-1509 (QTY=3))	• Reuse 72" crossarm • Install (3) Cutout Blades.
21664232	[redacted]	(ASSY-1509 (QTY=3))	(LABOR TO CLOSE JUMPERS(QTY=3))	• Remove and dispose (3) Fuse Cutouts. Close Jumpers.
21664540	[redacted]	N/A	(LABOR, FCI) (QTY=3)	• Install (3) Fault Current Indicators (FCIs).
12137275	[redacted]	N/A	(LABOR, FCI) (QTY=3)	• Install (3) Fault Current Indicators (FCIs).

Feeder 7403-02

POLE FID	COORDINATES LAT, LONG	EXISTING (REMOVE)	428 REPLACEMENT	SCOPE OF WORK
17203195	[redacted]	(35 FT H3 CONCRETE POLE) (S-3) (E-1-2-3) (F-1-3)	(50' GALVANIZED ROUND TAPERED POLE) (S-6) (E-1-2-3(QTY=2)) (F-4-2) (ABS-3-XARM QTY=3)	• Remove and dispose of 35' H3 concrete pole and replac 50' galvanized round tapered pole. • Remove, dispose and replace primary framing. • Remove, dispose and replace (1) anchor. • Remove and dispose (1) downguy and install (2) downguy • Install and connect one (1) set of Air Break Bypass Switch (ABS-3-XARM) and the framing hardware to support them.
17205736		(ASSY-1509 (QTY=2))	(LABOR TO CLOSE JUMPERS(QTY=2))	• Remove and dispose (2) Fuse Cutouts. • Close Jumpers.
17205744		(ASSY-1509 (QTY=2))	(LABOR TO CLOSE JUMPERS(QTY=2))	• Remove and dispose (2) Fuse Cutouts. • Close Jumpers.
17207532		(35 FT C4 WOOD POLE) (ASSY-1509 (QTY=2)) (CP-B6-XARM) (CP-B5-XARM) (K-7) (STL-10) (E-1-2-3) (F-1- 3) (T-2)	(50' ROUND TAPERED POLE) (CP-B6) (CP-B5) (CUTOUT BLADES(QTY=2)) (ASSY- 1509(QTY=2)) (ASSY-1505 FIG. B) (K-7) (STL-10) (T-1)	• Remove 35' wood pole and replace with a 50' galvani round tapered pole. • Remove, dispose and replace (2) primary. • Remove, dispose and replace streetlight (LED Type). • Remove and dispose downguy and anchor. • Relocate existing transformer and framing to the new pole. • Relocate existing fuse cutouts (FID:33629051) to the new pole. • Remove and dispose (2) fuse cutouts (FID:33629050) and replace with (2) cutout blades.
17203210		N/A	(CUTOUT BLADES(QTY=3)) (ASSY- 1509 (QTY=3)) (ASSY-1505 FIG. C)	• Install stand-off bracket assembly. • Install (3) Cutout blades.
17203200		(40' CLASS 3 WOOD POLE) (CP- C6-XARM) (T-2) (K- 5) (ASSY 1509 (QTY=3))	(50 FT GALVANIZED ROUND TAPERED POLE) (CP-C6-XARM) (T-2) (K-5) (E-1-2-3) (F-1-3)	• Remove and dispose 40' class 3 wood pole and replace w 50' galvanized round tapered pole. • Remove, dispose and replace primary and secondary fram • Relocate existing transformer to the new pole. • Remove, dispose (2) downguys and (2) anchors and insta downguy and anchor. • Remove, dispose and replace (3) Fuse Cutouts.

33189780	(ASSY-1509 (QTY=3)) (42" CROSSARM)	(LABOR TO CLOSE JUMPERS (QTY=3))	• Remove and dispose 42" Crossarm. • Remove and dispose (3) Fuse Cutouts.
33190400	5 FT C4 WOOD POLE) (CP-C2) (K-7-B) (T-2) (E-1-2-3)	(50 ROUND TAPERED POLE) (CP-C6-XARM) (T-2) (K-7-B) (3/0	• Remove and dispose 35' wood pole and replace with round tapered pole.
	(F-1-3)	TPX (QTY=125))	• Remove, dispose and replace primary and secondary fram • Remove, dispose and replace open wire cable with secon triplex cable. • Relocate existing transformer and framing to the new pole. • Remove and dispose downguy and anchor.
33190452	(ASSY-1509 (QTY=3))	(LABOR TO CLOSE JUMPERS(QTY=3))	• Remove, dispose and replace (3) Fuse Cutouts. • Close Jumpers.
33190595	(ASSY-1509 (QTY=3))	(LABOR TO CLOSE JUMPERS(QTY=3))	• Remove and dispose (3) Fuse Cutouts. • Close Jumpers.
17206664	(35 FT C5 WOOD POLE) (CP-B6- XARM) (K-7-4) (STL-10) SSY-1509 (QTY=2)) (E-1-2-3) (F-1-3)	(50' ROUND TAPERED POLE) (CP-B6-XARM) (T-2) (K-7-4) (STL-10)	• Remove and dispose 35' wood pole and replace with a 50' galvanized steel tapered pole. • Remove, dispose and replace primary and secondary framir • Relocate existing transformer and framing from FID: 172066 to this pole. • Remove, dispose and replace streetlight (LED Type). • Remove and dispose downguy and anchor. • Remove, dispose and replace (2) Fuse Cutouts.
17206667	40' C3 WOOD POLE) (CP-B6- XARM) (T-8) (T-2)	N/A	• Remove and dispose 40' C3 wood pole. • Remove and dispose primary framing. • Remove and dispose voltage regulator. • Transfer transformer to FID:17206664.
1001568083	(ASSY-1509 (QTY=2)) (42" CROSSARM)	(LABOR TO CLOSE JUMPERS(QTY=2))	• Remove, dispose and replace (2) Fuse Cutouts. • Close jumpers.
1001568082	5 FT H4 CONCRETE POLE) (OPS-CP-B1)	(50 FT GALVANIZE ROUND TAPERED POLE) (CP-B6-XARM)	• Remove and dispose 45' H4 concrete pole and replace with galvanized round tapered pole. • Remove, dispose and replace primary framing.
1001013297	(45 FT H4 CONCRETE POLE) (40 FT C2 WOOD POLE) (S-6) (CP-B1(QTY=2)) (CP-C5-XARM) (CP-B5-XARM) (CP-B5-XARM) (F-1-3(QTY=2))	(50 FT GALVANIZED ROUND TAPERED POLE) (S-5) (CP-B5-XARM) (CP-B6-XARM) (E-1-2-3) (F-1-3)	• Remove and dispose 45' H4 concrete pole and replace with galvanized round tapered pole. • Remove, dispose and replace (3) primary framings. • Remove and dispose (2) downguys and (2) anchors. • Replace (1) downguy and (1) anchor. • Install (2) Fuse Cutouts.
12137489	N/A	(LABOR, FCI(QTY=3))	Install (3) Fault Current Indicators (FCIs).
17203167	N/A	(LABOR, FCI(QTY=3))	Install (3) Fault Current Indicators (FCIs).

17206720	[redacted]	N/A	(LABOR, FCI(QTY=3))	Install (3) Fault Current Indicators (FCIs).

Feeder 7702-02

FID	COORDINATES LAT, LONG	EXISTING (REMOVE)	428 REPLACEMENT	SCOPE OF WORK
19988467	[redacted]	(35' C4 WOOD POLE) (CP-C1) (K-7-4) (E-1-2-3)	(50 FT GALVANIZED ROUND TAPERED POLE) (CP-C6-XARM) (K-7-B) (3/0 TPX(QTY=75FT)) (ABS-3-XARM QTY=3)	• Remove and dispose 35' C4 wood pole and replace with 50' galv round tapered pole. • Remove, dispose and replace primary framing. • Remove, dispose and replace secondary framing (K-7). • Remove, dispose and replace 75 ft open wire cable with 3/0 secondary triplex conductor. • Remove and dispose downguy and anchor. Install and connect one (1) set of Air Break Bypass Switch (ABS-3-XARM) and the framing hardware to support them.
33187098	[redacted]	(CP-C1) (STL-10)	(CP-C6-XARM) (STL-10) (ASSY 1505 FIG.C(QTY=3))	• Remove, dispose and replace primary framing. • Remove, dispose and replace streetlight (LED Type).
	[redacted]		(ASSY 1509 (QTY=3)) (CUTOUT BLADES (QTY=3))	• Lower transformer. · Install (3) cutout blades.
19988533		(ASSY-1509 (QTY=3)) (42" CROSSARM (QTY=2)	(LABOR TO CLOSE JUMPERS(QTY=3))	• Remove and dispose (3) Fuse Cutouts. • Close Jumpers. • Remove and dispose (2) 42" crossarms.
19982999		(ASSY-1509 (QTY=3))	(LABOR TO CLOSE JUMPERS(QTY=3))	• Remove and dispose (3) Fuse Cutouts. • Close Jumpers.
19983519		(40' C2 WOOD POLE) (OPS-CP-C4-XARM) (K- 7-B) (ASSY-1509 (QTY=3)) (WOOD CROSSARM) (STL-10) (E-1-2-3) (F-1-3) (E-2-1)	(50' S8 STEEL POLE) (OPS-CP-C4-XARM) (K-7-B) (STL-10)	• Remove and dispose of 40ft Class 2 wood pole and re with 50' galvanized round tapered pole. • Remove, dispose and replace primary framing. • Remove, dispose and replace secondary framing (K-7-B). • Remove and dispose downguy and anchor. • Remove, dispose and replace streetlight (LED Type). • Remove and dispose crossarm. • Remove and dispose (3) Fuse Cutouts. • Install and connect one (1) set of Air Break Bypass Switch (A XARM) and the framing hardware to support them.
19983514		(40' H4 CONCRETE POLE) (S-5) (S-6-2) (K-7-4) (E-1-2-3) (F-1-3) (E-2-1)	(50 FT GALVANIZED ' ROUND TAPERED POLE) (S-5) (S-6-2) (K-7-4) (E-1-2-3) (F-1-3) (CUTOUT BLADES(QTY=3)) (ASSY 1509 (QTY=3)) (ASSY-1505 FIG. C	• Remove and dispose 40' H4 concrete pole and replace with 50'galvanized round tapered pole. • Remove, dispose and replace primary and secondary framing. • Remove, dispose and replace downguy and anchor. • Install stand-off bracket assembly.

	[redacted]			• Install (3) cutout blades.
19985281	[redacted]	(40' H4 CONCRETE POLE) (S-6)	(50 FT GALVANIZED ROUND TAPERED POLE) (S-6) (K-5) (3/0 TPX(QTY=160FT) (ABS-3-XARM QTY=3)	• Remove and dispose 40' H4 concrete pole and replace with galvanized round tapered pole. • Remove, dispose and replace primary framing. • Install and connect one (1) set of Air Break Bypass Switch (XARM) and the framing hardware to support them.
19985275	[redacted]	(S-3)	(S-6) (K-5) (LABOR, CUTOUT BLADES(QTY=3)) (ASSY- 1509 (QTY=3)) (ASSY-1505 FIG. C)	• Remove, dispose and replace primary framing. • Install stand-off bracket assembly. • Remove and dispose exiting transformer. • Install (3) cutout blades.
19986073	[redacted]	(ASSY-1509 (QTY=3))	(LABOR TO CLOSE JUMPERS(QTY=3))	• Remove and dispose (3) Fuse Cutouts. • Close Jumpers.
19986110	[redacted]	(ASSY-1509 (QTY=2))	(LABOR TO CLOSE JUMPERS(QTY=2))	• Remove and dispose (2) Fuse Cutouts. • Close Jumpers.
19983537	[redacted]	(ASSY-1509 (QTY=3))	(LABOR TO CLOSE JUMPERS(QTY=3))	• Remove and dispose (3) Fuse Cutouts. • Close Jumpers.
19985273	[redacted]	(T-1) LABOR TO REMOVE EXISTING 37.5 KVA, 2.4/4.16 KV, 20/240 V TRANSFORMER	50 kVA, 2.4/4.16 kV, 120/240 TRANSFORMER	• On Existing Pole: Remove and dispose 37.5 KVA, 2.4/4.16 KV, 120/240 V transformer • Replace with 50 kVA, 2.4/4.16 kV, 120/240 transformer
NEW POLE	[redacted]	NONE	(50 FT GALVANIZED ROUND TAPERED POLE) (CP-C6-XARM) (K-1) (ASSY 1505 FIG C)	• Install new midspan 50 FT galvanized round tapered pole. • Install primary and secondary framing.
19983780	[redacted]	(ASSY-1509 (QTY=3))	(LABOR TO CLOSE JUMPERS(QTY=3))	• Remove, dispose and replace (3) Fuse Cutouts. • Close Jumpers.

19984650	[redacted]	(ASSY-1509 (QTY=3))	(LABOR TO CLOSE JUMPERS(QTY=3))	• Remove and dispose (3) Fuse Cutouts. • Close Jumpers.
19984278	[redacted]	(ASSY-1509 (QTY=3))	(LABOR TO CLOSE JUMPERS(QTY=3))	• Remove and dispose (3) Fuse Cutouts. • Close Jumpers.
19985282	[redacted]	(40' H4 CONCRETE POLE) (S-1) (S-5) ASSY 1509 (QTY=3))	(50 FT GALVANIZED ROUND TAPERED POLE) (S- 6) (S-5) (ASSY 1505 FIG. C)	• Remove and dispose of 40' H4 concrete pole and replace with 50' galvanized round tapered pole. • Remove, dispose and replace primary framings. • Remove, dispose and replace (3) Fuse Cutouts.
19988674	[redacted]	(40' C3 WOOD POLE) (CP-C1) (E-1-2-3) (F-1-3)	(50 FT GALVANIZED ROUND TAPERED POLE) (CP-C6-XARM) (ABS-3- XARM) (LABOR, FCIs) (QTY=3)	• Remove and dispose of 40ft C3 wood pole and replace with 50ft galvanized round tapered po • Remove, dispose and replace primary framing. • Remove and dispose down guy and anchor. • Install air-break switch. • Install (3) Fault Current Indicators (FCIs).

1001640533	[redacted]	n/a	(LABOR, FCI) (QTY=3)	• Install (3) Fault Current Indicators (FCIs).

Feeder 7702-03

FID	COORDINATES LAT, LONG	EXISTING (REMOVE)	428 REPLACEMENT	SCOPE OF WORK
27385668	[redacted]	(45 FT H4 CONCRETE POLE) (S-6) (E-1-2-3) (F-1-3)	(50 FT GALVANIZED ROUND TAPERED POLE) (S-6) (ABS-3-XARM QTY=3)	• Remove and dispose 45' H4 concrete pole and replace 50' round tapered pole. • Remove, dispose and replace primary framing. • Remove and dispose downguy and anchor. • Install and connect one (1) set of Air Break Bypass S (ABS-3-XARM) and the framing hardware to support them.
27386240	[redacted]	(ASSY-1509 (QTY=3))	(LABOR TO CLOSE JUMPERS(QTY=3))	• Remove and dispose 42" crossarm. • Remove and dispose (3) Fuse Cutouts. • Close Jumpers.
27386429		(40 FT H6 CONCRETE POLE) (S-6) (E-1-2-3) (F-1- 3	(50'ROUND TAPERED POLE) (S-6)	• Remove and dispose 40' H6 concrete pole and replace with 50' galvanized round tapere pole. • Remove, dispose and replace primary framing. • Remove and dispose downguy and anchor.
27383425		(ASSY-1509 (QTY=3))	(LABOR TO CLOSE JUMPERS(QTY=3))	• Remove and dispose (3) Fuse Cutouts. • Close Jumpers.
27387694		(40 FT H3 CONCRETE POLE) (CP-C6-XARM) (K-7-FIG.B) (E-1-2-3 (QTY=3)) (E-1-3 (QTY=3)) (STL-10) (ASSY-1509 (QTY=3))	(50FT GALVANIZED ROUND TAPERED POLE) (CP-C6-XARM) (K-7-FIG.B) (STL-10)	• Remove and dispose 40' H3 concrete pole and replace with a 50' galvanized tapered po • Remove, dispose and replace primary and secondary framing. • Remove and dispose downguys and anchors. • Remove, dispose and replace Streetlight (LED Type). • Remove and dispose 42" crossarm. • Remove, dispose and replace (3) Fuse Cutouts.
NEW POLE		NONE	(50 FT GALVANIZED ROUND TAPERED POLE) (CP-C6-XARM)	• Install 50' galvanized round tapered pole. • Install primary framing.
27390168		(ASSY-1509 (QTY=3))	(LABOR TO CLOSE JUMPERS (QTY=3)	• Remove and dispose 72" crossarm. • Remove, dispose and replace (3) Fuse Cutouts. • Close Jumpers.
1001628301		(35 FT C9 WOOD POLE) (K-6) (STL-10)	(50FT GALVANIZED ROUND TAPERED POLE) (CP-C6-XARM) (K-6) (STL-10)	• Remove and dispose 35' wood pole and replace with a 50ft round tapered pole. • Remove, dispose and replace primary and secondary framings. • Remove, dispose and replace
	[redacted]			streetlight (LED Type).
27383625		(35 FT C7 WOOD POLE) (CP-C1-XARM) (K-5)	(45'ROUND TAPERED POLE) (CP-C6-XARM) (K-5) (1/0 TPX (QTY=150 FT))	• Remove and dispose 35' C7 wood pole and replace with a 45' galvanized round tapered pole. • Remove, dispose and replace primary and secondary framing. • Remove, dispose and replace open wire with secondary triplex conductor.
27383616		(ASSY-1509 (QTY=3))	(LABOR TO CLOSE JUMPERS (QTY=3))	• Remove, dispose and replace (3) Fuse Cutouts. • Close Jumpers.

NEW POLE	[redacted]	NONE	(50FT GALVANIZED ROUND TAPERED POLE) (CP-B6-XARM)	• Install a new 50ft galvanized round tapered pole. • Install framings.
27384514		(CP-B2-XARM)	NONE	• Remove and dispose primary framing. • Top-off to secondary framing height.
27384491		(ASSY-1509 (QTY=2))	(LABOR TO CLOSE JUMPERS (QTY=2))	• Remove, dispose and replace (2) Fuse Cutouts. • Close Jumpers.
NEW POLE		NONE	(50FT GALVANIZED ROUND TAPERED POLE) (CP-C6-XARM)	• Install 50ft galvanized round tapered pole. • Install primary framing.
27385855		(ASSY-1509 (QTY=3))	(LABOR TO CLOSE JUMPERS (QTY=3))	• Remove and dispose (3) of Fuse Cutouts. • Close Jumpers. • Remove and dispose 42" crossarm.
27388964		(35 FT C4 WOOD POLE) (CP-C6- XARM) (CP-C5- XARM) (K-7-4) (E-1-2-3) (F-1-3) (ASSY-1509 (QTY=3))	(50 FT GALVANIZED ROUND TAPERED POLE) (CP-C6-XARM) (CP-C5-XARM) (K-7-4)	• Remove and dispose 35' C4 wood pole and replace with 50ft galvanized round tapered pole. • Remove, dispose and replace (2) primary and (1) secondary framings. • Remove and dispose downguy and anchor. • Remove, dispose and replace (3) Fuse Cutouts.
27389307		(ASSY-1505-FIG.A) (ASSY-1509 (QTY=3))	(LABOR TO CLOSE JUMPER (QTY=3))	• Remove and dispose 42" crossarm. • Remove and dispose (3) Fuse Cutouts. • Close Jumpers.

27386961	[redacted]	LABOR	NONE	• Re-adjust clearances of existing primary lines on pole. Relocate transformer Fuse Cutout to other side of pole.
27386974		(ASSY-1509 (QTY=2))	(LABOR TO CLOSE JUMPER)	• Remove, dispose and replace (2) Fuse Cutouts. • Close Jumpers.
27387698		LABOR (ASSY-1509 QTY=1)	(ASSY-1509 QTY=1)	• Re-adjust clearances of existing primary lines on pole. • Remove, dispose and replace (1) Fuse Cutouts.
12137020		NONE	(LABOR, FCI(QTY=3))	• Install (3) Fault Current Indicators (FCIs).
27386235		NONE	(LABOR, FCI(QTY=3))	• Install (3) Fault Current Indicators (FCIs). • Remove, dispose and replace a spacer at section FID.33636114. • Remove, dispose, replace and reconnect (1) right side bypass switch.

Notes Regarding Proposed Work

1. Remove and replace poles, including hardware in the same location. If unable to install the replacement in the same location, the pole will be installed within the easement for overhead distribution lines. Easements are established with the purpose of providing LUMA reasonable access to its facilities, in order to maintain, repair, improve, operate, and expand facilities.

2. Existing wood poles are to be replaced by galvanized tapered poles, at the locations identified in the tables above. Refer to APPENDIX B - Project Considerations, column C (soil area and depth impact) for the depths of the galvanized tapered poles.

3. New guy wires and anchors are to be installed within the easement for guys. The maximum distance an anchor will be installed for a 50ft pole is 25ft from the base of the pole, within the easement for guys.

4. Existing overhead conductors, poles, assemblies, and attached components will be disconnected, removed, and replaced as outlined in the Scope of Work column in the tables above. When existing overhead conductor, assemblies, and attached components are not being replaced, they will be re-attached to the pole to complete the scope of work.

CODES & STANDARDS

The following will be referenced when applying specific codes, specifications, and standards to the project design:

A. LUMA Overhead Electrical Distribution System Manual 4301.001 version 4, available in Grants Portal - Applicant Event Profiles

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

C. 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.

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

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

SECTION 406 HAZARD MITIGATION PROPOSAL (Refer to DSOW pp. 28-59)

COMMON EHP REVIEW INFORMATION

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

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

- Poles - Refer to APPENDIX B - Project Considerations, column C (soil area and depth impact), for the depths of the poles to be installed.

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

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

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

- Vegetation clearance will be performed solely to the extent that it allows crews to conduct work and will be limited to a 10 ft radius surrounding the surface of the pole, but not to exceed the width of the easement. This is for the exclusive purpose of gaining access to the pole to conduct repairs. The vegetation removal process will be managed in accordance with federal and state regulations. The costs related to vegetation clearance procedures are covered in the following Projects:
    - 750067 FAASt [Region 2 -Arecibo Group A] Low Density (Vegetation)
    - 728827 FAASt [Region 2- Arecibo Group A] High Density (Vegetation)

_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.

- Debris will be separated and taken to an authorized waste disposal facility. Information on location of temporary debris storage sites, final debris disposal location, and final debris disposal method is not yet available.

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

- Staging Area: All materials will be stored and dispatched from the existing LUMA Regional Warehouses. The warehouse locations are described in Section 7.2 above. LUMA has not yet identified any other additional staging areas that it will require.

- Access Roads: New access roads are not needed for this project. All poles to be installed, or removed and replaced, are adjacent to a road and work will be performed within the road easement.

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

- Fill, gravel, and sand materials will be obtained from an approved supplier as referenced in the following document: LUMA Vendor Directory List.

_ 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 ("A&E") design information. For a more detailed cost estimate refer to t Appendix A- LUMA Project Cost Estimate.

COST ESTIMATE

Cost Element	428	406	PROJECT TOTAL
PLANNING	$182,554.76		$182,554.76
MANAGEMENT	$120,865.23		$120,865.23
LPCE Distribution **Automation Group 12**	$2,176,636.93		$2,176,636.93
GENERAL CONDITIONS	$112,920.10		$112,920.10
COST TOTALS	**$2,593,378.22**		**$2,593,378.22**
DEDUCTIONS	**TOTAL INSURANCE PROCEEDS RECEIVED**		
	DE-OBLIGATION TO FAASt IF APPLICABLE		
FAASt ALLOCATIONS	FAAST PROJECT # 745861 - 428		$2,168,647.62
	FAASt A&E # 335168 - 428		$196,183.24
	FAASt E&M #673691 - 428		$228,547.36

Project Cost Summary, Version 2

Work to be Completed (WTBC): $2,593,378.22

A&E Deduction: - $196,183.24

E&M Deduction: - $228,547.36

Total Cost: $2,168,647.62

VERSION SUMMARY OF KEY CHANGES:

V0: $3,664,210.10 (WTBC, A&E Deduction)

V1: $0.00 (WTBC)

V2: $2,593,378.22 -$228,547.36 -$196,183.24 - $3,664,210.10 (WTBC V2, E&M DEDUCTION V2, A&E DEDUCTION V2, V0 WTBC DEDUCTION).

Project Notes

1. 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 costs associated with individual FAASt projects.

2. Equipment and material costs included in this project will be reduced from this project and obligated under FAASt Project #673691, Equipment and Materials, as shown in the table above. Only the base costs 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.

3. Refer to detailed SOW provided in document: *745861- DR4339PR- DSOW Group 12 Revision 006- V1.pdf.*

4. Refer to detailed cost estimate in document: *745861-DR4339PR-APPENDIX A- Detailed Cost Estimate Rev 06.xlsx.*

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

6. ATTACHMENTS/APPENDICES

The following attachments and appendices are provided with this DSOW:

Item	Document Description or Filename
A	LUMA Project Cost Estimate
B	Project Considerations

406 HMP Scope

Project number: 745861; FAASt [Automation Program Group 12] (TL/Distribution)

Damage #1374353; FAASt [Automation Program Group 12: Arecibo Feeders: 7402-01, 7403-02, 7702-02, 7702-03] (Distribution)

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

Location: Arecibo, Puerto Rico

GPS Latitude/Longitude: [redacted]

Hazard Mitigation Narrative

During the incident period from September 17, 2017, to November 15, 2017, the Commonwealth of Puerto Rico experienced hurricane-force winds, heavy rain, flooding, and power outage from Hurricane Maria. The incident caused damage to the electrical system, such as 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).

As part of the electrical grid rebuild, the subrecipient developed a Transmission & Distribution Automation Program ("Program") through which it will install advanced technology equipment (i.e., reclosers and communicating fault current indicators (cFCIs)) to reduce both physical damage and service interruptions to the electrical grid caused by disasters. Although the intent is to deploy automation equipment throughout PREPA's Transmission and Distribution ("T&D") system, the Program will be implemented through multiple projects across the island on both T&D systems.

The multiple projects within this Program are designed to fortify the electrical system's resilience, safeguard its infrastructure, and enhance service reliability during a disaster. The individual projects are interconnected and enhance each other, but each confers benefits independently. Distribution Automation (DA) projects will be submitted regionally as components of the real time monitoring and automation network being installed on island. DA projects are physically incorporated into the distribution line network.

Project Overview:

DA Group 12 is one of the Program's distribution-level projects. It installs hardened poles and advanced technology equipment (specifically reclosers and cFCIs) to reduce physical damage and service interruptions to the distribution grid that could be caused by a natural disaster. Implementing reclosers, their communication kits, and cFCIs is critical for the Energy Management System ("EMS") and related components to function at their full capabilities and mitigate loss of service and physical damage in the event of future hurricanes. This project is necessary for the EMS to maintain the continuity of the distribution power grid on Feeders 7402-01, 7403-02, 7702-02 and 7702-03.

The purpose of this project is to install real time monitoring to mitigate cascading effects and physical damage to critical components, protects federal investments, and reduces outage times to facilities. Key components of this project are: (1) pole replacement, (2) three-phase and single-phase reclosers, and (3) the installation of cFCIs.

Mitigation Approach:

The mitigation strategy to reduce or eliminate cascading effects and physical damage to critical components, and outage times at Feeders 7402-01, 7403-02, 7702-02 and 7702-03 is accomplished by replacing round galvanized steel poles with a 12-sided galvanized steel poles as it is stronger than the round poles; replacing the fault current indicator (FCI) with a communication fault current indicator (cFCI) for real-time monitoring to prevent and communicate the location of the fault; and replacing fuse cutouts and manual disconnect switches with a single-phase and three-phase recloser on the feeder backbone. Additionally, install 1kVA transformers to power the reclosers; and install communication radios for the operation of the three-phase reclosers (wireless connection).

In order to minimize the damage and increase resilience, the subrecipient is proposing the installation of complementary equipment, technologies, and software systems that will provide visibility to the system, grid intelligence and automation. DA is a mitigation measure designed to protect the Puerto Rico Electric Power Authority's (PREPA) critical electric grid infrastructure and reduce risk to public health and safety from power outages caused by a natural disaster.

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)*

1. **Pole Replacement to Accommodate the Installation of Reclosers:**

The addition of three-phase reclosers imposes additional load on poles due to the weight of the devices and their components. It also increases the area exposed to extreme weather conditions, such as hurricanes, thereby increasing the structural load requirements these poles must meet. Where an existing pole cannot accommodate a recloser, it will be substituted with a higher-class pole constructed from steel or concrete to ensure compatibility with the recloser and adherence to design criteria. Any new structure and foundation will be designed to LUMA design criteria and industry standards to support the pole, recloser, and its attachments. In addition, LUMA is using a per-location approach to pole replacement because of the intricate dynamics of deploying three-phase reclosers. Furthermore, the integration of more connections, switches, and related infrastructure often necessitates taller poles to meet phase spacing and circuit-to-circuit spacing requirements. The locations of three-phase reclosers are determined by an electrical analysis performed by the design engineers.

As a mitigation strategy, 406 HM will fund the additional cost (delta) for **27ea** poles strengthening (pole class, concrete base, and additional guywire).

Pole Description:

a) 45ft S5.7 12-sided galvanized steel poles = 12ea
b) 50ft S8.5 12-sided galvanized steel poles = 14ea
c) 70 ft S10 12-sided galvanized steel poles = 1ea.

2. Feeder Reclosers:

Reclosers are sophisticated devices that remotely detect faults within distribution lines, enable the isolation of circuit breakers linked to those faults—whether due to independent failures or breakdowns—and facilitate the swift restoration of power, often within milliseconds.

Three-Phase Recloser: A three-phase recloser is a protection device that is used on three-phase distribution feeders with high fault currents at the location. It is a single device with three switches that can open to interrupt fault currents and automatically reclose to restore power. Three-phase reclosers are communication-ready to enable remote control and visualization. The recloser's wireless communication capability will provide connectivity to LUMA's EMS so the system operator knows their status and can remotely control them.

The implementation of three-phase reclosers will preserve the continuity of electric services and avoid physical damage by pre-empting or minimizing disruptions. The three-phase reclosers can be triggered remotely and provide data back to the operations center, enabling LUMA to prioritize restoration activities, reduce customer outage time, and minimize the potential for cascading infrastructure damage. Installation of the three-phase reclosers and associated hardware is critical for the EMS and associated components to function with full capabilities, and to prevent loss of service and potential damage from future disasters. In this project we are installing three three-phase reclosers.

Single-Phase Reclosers: A single-phase recloser is a single protection device with one switch that can open to interrupt fault currents and automatically reclose to restore power. A single-phase recloser performs the same functions as a three-phase recloser, but it does not have the ability to communicate with the EMS. This project will install single-phase reclosers on single-phase or two-phase distribution feeder and distribution lines branching from the feeder. Single-phase reclosers will also be used on feeders with three phases if fault currents are low at the location. In this project we are installing a total of two single-phase reclosers.

As a mitigation strategy, 406 HM will fund the additional cost (delta) for the replacement of 28ea fuse cutouts with **37 ea** single-phase reclosers and the installation of **11ea** three-phase reclosers.

3.Communicating Fault Current Indicators:

Installation of communicating fault current indicators ("cFCI") at strategic locations improves the outage management, restoration, and recovery process, specifically by decreasing the time required to detect and locate faults. The cFCIs operate independently of the feeder reclosers and help identify permanent and incipient faults in the distribution system, as well as collect voltage and current data, which can be used to detect system imbalance, prevent future issues due to harmonics and help in building a predictive failure model.

cFCIs help reduce physical damage on the system by providing real-time monitoring and early detection of abnormal conditions. Essentially, cFCIs act as the eyes and ears of the system, reducing wear and tear by allowing quick, intelligent responses instead of waiting for catastrophic failure.

As a mitigation strategy, 406 HM will fund the additional cost (delta) for the replacement of 18ea fault current indicators (FCIs) by **27ea** communicating fault current indicators (cFCIs).

4.**Stainless Steel Transformer:**

Galvanized steel transformers are being upgraded to high-strength stainless steel. 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 prevents against debris impact better that 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.

As a mitigation strategy, 406 HM will fund the additional cost (delta) for the replacement of 2ea galvanized transformer by 2ea stainless steel transformer (**1 ea. 37.5 KVA and 1ea 50KVA**).

Mitigation Measures *(Supplementary)*

1. **Stainless Steel Transformer (1kVA):**

To enable the operation of three-phase reclosers, it is essential to connect a 120/240V AC voltage source. In areas where this voltage is accessible, the recloser will be linked to the existing secondary line, ensuring that these facilities possess the capability to handle the load produced by the recloser. In instances where the necessary infrastructure to supply voltage to the recloser 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, which includes protection, automation, and communication functionalities. This ensures that the intelligent features of the recloser operate reliably, even in the event of a medium-voltage power interruption.

As a mitigation strategy, 406 HM will fund the installation of 3**ea** 1kVA stainless steel transformers.

2. Radio Communication Kit for Three-Phase Reclosers:

The recloser's wireless communication capability will provide connectivity to LUMA's EMS in order to the system operator to know their status and can remotely control the three-phase reclosers. Deployment of the wireless communication devices includes configuration, testing, and commissioning of the wireless communication device, all networking devices, data acquisition, and control systems that form the connectivity path of the recloser to the EMS. Therefore, as part of the installation of the 2ea three-phase reclosers it will be necessary to install communication radios and commissioning for the operation of the reclosers (wireless connection).

As a mitigation strategy, 406 HM will fund the installation of **11ea** radio communication kit.

HMP Scope of Work:

a) **Distribution Feeder 7402-01:**

FID 21664670

1. Replace 70ft. round pole with 70ft.12-sided galvanized steel pole.
2. Install (1) Three-Phase Recloser 7402-01A on a radial circuit.
3. Install and commission radio communication kit for three-phase recloser.
4. Install 3/0 (TPX(QTY=400FT)) secondary triplex to feed Three-Phase Recloser from the source side.

FID 1001475449

5. Replace galvanized steel transformer with new stainless-steel transformer (37.5kVA/ 4.16kV, 120/240V).

FID 28651889

6. Replace 50ft. round pole with 50ft. S8.5 12-sided galvanized steel pole.
7. Install (1) Three-Phase Recloser 7402-01B on a radial circuit.
8. Install (TPX QT=500ft) of 3/0 triplex secondary line to feed three-phase recloser from the source side.
9. Install and commission radio communication kit for three-phase recloser.

FID 28651625

10. Replace 50ft. round pole with 50ft. S8.5 12-sided galvanized steel pole.
11. Install (1) Three-Phase Recloser 7402-01C on radial circuit.
12. Install (TPX QTY=300ft) 3/0 triplex to feed three-phase recloser source side.
13. Install and commission radio communication kit for Three-Phase Recloser.

FID NEW POLE

14. Replace 50ft. round pole with a 50ft. S8.5 12-sided galvanized steel pole.
15. Install (1) Three-Phase recloser 7402-01D on a radial circuit.
16. Install Secondary Framing (K-7-B).
17. Install (TPX QTY=250FT) 3/0 triplex to feed three-phase recloser from source side pole.
18. Install and commission radio communication kit for three-phase recloser.

FID 21663839

19. Install (1) Three-Phase recloser 7402-01E on a radial circuit.
20. Install (TPX QTY=250ft) 3/0 triplex cable to feed three-phase recloser from source side.
21. Install and commission radio communication kit for three-phase recloser.

FID 21664540

22. Replace FCIs and install (3) Communicating Fault Current Indicators (cFCIs).

FID 12137275

23. Replace FCIs and install (3) Communicating Fault Current Indicators (cFCIs).

b) **Distribution Feeder 7403-02:**

FID 17203195

24. Replace 50ft. round pole with 50ft. S8.5 12-sided galvanized steel pole.
25. Install (1) 1 kVA transformer (2.40/7.62kV-120V) from source side.
26. Install (1) Three-Phase Recloser 7403-02A in radial circuit.
27. Install and commission radio communication kit for three-phase recloser.

FID 17207532

28. Replace 50ft. round pole with a 45ft. S5.7 12-sided galvanized steel pole.

FID 17203200

29. Replace 50ft. round pole with 50ft, S8.5 12-sided galvanized steel pole.
30. Replace (3) Fuse Cutouts with the installation of (3) Single-Phase Recloser 200A.

FID 33190400 & 33190452

31. Replace 50ft. round pole with a 50ft. S8.5 12-sided galvanized steel pole.
32. Replace (3) Fuse Cutouts on FID: 33190452 with (3) Single-Phase Recloser 200A.

FID 17206664

33. Replace 50ft. round pole with a 45ft. S5.7 12-sided galvanized steel pole.
34. Replace (2) Fuse Cutouts with the installation of (2) Single-Phase Recloser 200A.

FID 1001568082 & 1001568083

35. Replace 50ft. round pole with 45 ft. S5.7 12-sided galvanized steel pole.
36. Replace (2) Fuse Cutouts on FID: 1001568083 with the installation of (2) Single-Phase Recloser 200A.

FID 1001013297

37. Replace 50ft. round pole with a 50ft. S8.5 12-sided galvanized steel pole.
38. Replace (2) Fuse Cutouts with the installation of (2) Single-Phase Reclosers 200A.

FID 12137489

39. Replace FCIs and install three (3) Communicating Fault Current Indicators (cFCIs).

FID 17203167

40. Replace FCIs and install three (3) Communicating Fault Current Indicators (cFCIs).

FID 17206720

41. Replace FCIs and install three (3) Communicating Fault Current Indicators (cFCIs).

c) Distribution Feeder 7702-02:

FID 19988467

42. Replace 50ft. round pole with a 50ft. S8.5 12-sided galvanized steel pole.
43. Install (1) Three- Phase Recloser 7702-02A in radial circuit.
44. Use existing secondary to feed three-phase recloser from source side.
45. Install and commission radio communication kit for Three-Phase Recloser.

FID 19983519

46. Replace 50ft. round pole with 50ft. S8.5 12-sided galvanized steel pole.
47. Install (1) Three-Phase Recloser 7702-02B in radial circuit.
48. Install and commission radio communication kit for Three-Phase Recloser.
49. Use Secondary line to Feed Three-Phase Recloser from source side.

FID 19983514

50. Replace 50ft. round pole with a 50ft. S8.5 12-sided galvanized steel pole.

FID 19985281

51. Replace 50ft. round pole with a 50ft S8.5 12-sided galvanized steel pole.
52. Install (1) Three-Phase Recloser 7702-02C in radial configuration.
53. Install secondary framing (K-5).
54. Install 3/0 triplex (TPX QTY=160FT) to feed three-phase recloser source side.
55. Install and commission radio communication kit for Three-Phase Recloser.

FID 19985273

56. Replace (1) 50 kVA, 2.4/4.16 kV, 120/240 transformer with a new 50 kVA, 2.4/4.16 kV, 120/240 stainless-steel transformer.

FID NEW POLE & 19983780

57. Replace 50ft. round pole with a 45ft. S5.7 12-sided galvanized steel pole.
58. Replace (3) Fuse Cutouts on FID: 19983780 (3) Single-Phase Reclosers.

FID 19985282

59. Replace 50ft. round pole with a 50ft. S8.5 12-sided galvanized steel pole.
60. Replace (3) Fuse Cutouts with the installation of (3) Single-Phase Reclosers.

FID 19988674

61. Replace 50ft. round pole with 45ft. S5.7 12-sided galvanized steel pole.
62. Replace FCIs and install three (3) Communicating Fault Current Indicators (cFCIs).

FID 1001640533

63. Replace FCIs and install three (3) Communicating Fault Current Indicators (cFCIs).

d) Distribution Feeder 7702-03

FID 27385668

64. Replace 50ft.round pole with a 50ft. S8.5 12-side galvanized steel pole.
65. Install (1) Three-Phase Recloser 7702-03A on a radial circuit.
66. Install and commission radio communication kit for Three-Phase Recloser.
67. Install (1) 1 kVA (2.40/7.62 kV-120V) transformer to feed recloser from source side.

FID 27386429

68. Replace 50ft. pole with a 50ft. S8.5 12-sided galvanized steel pole.
69. Install (1) Three- Phase Recloser 7702-03B on a radial circuit.
70. Install and commission radio communication kit for Three-Phase Recloser.
71. Install (1) 1 kVA (2.40/7.62 kV-120V) transformer to feed recloser from source side.

FID 27387694

72. Replace 50ft. round pole with a 45ft. S5.7 12-sided galvanized steel pole.
73. Replace (3) Fuse Cutouts with the installation of (3) Single-Phase reclosers 200A.

FID NEW POLE & 27390168

74. Replace 50ft. round pole with a 45ft. S5.7 12-sided galvanized steel pole.
75. Replace (3) Fuse Cutouts on FID: 27390168 with the installation of (3) Single-Phase Recloser 200A.

FID 1001628301 & 27383616

76. Replace 50ft. round pole with a 45ft S5.7 12-sided galvanized steel pole.
77. Replace (3) Fuse Cutouts from FID: 27383616 with the installation of (3) Single- Phase Reclosers 200A.

FID 27383625

78. Replace 50ft.round pole with a 45ft. S5.7 12-sided galvanized steel pole.

FID NEW POLE

79. Replace 50ft. round pole with a 45ft. S5.7 12-sided galvanized steel pole.

FID 27384491

80. Replace (2) Fuse Cutouts from FID: 27384491 with the installation of (2) Single-Phase Recloser 200A.

FID NEW POLE & 27385855

81. Replace 50ft. round pole with a 45ft. S5.7 12-sided galvanized steel pole.
82. Replace (3) Fuse Cutouts from FID: 27385855 with the installation of (3) Single-Phase Reclosers 200A.

FID 27388964

83. Replace 50ft. round pole with a 45ft. S5.7 12-sided galvanized steel pole.
84. Replace (3) Fuse Cutouts with the installation of (3) Single-Phase Recloser 200A.

FID 27386961& 27386974

85. Replace (2) Fuse Cutouts from FID: 27386974 with the installation of (1) Single-Phase Recloser 200A.

FID 27387698

86. Replace (1) Fuse Cutout with the installation of (1) Single-Phase Recloser 200A.

FID 12137020

87. Replace FCIs and install three (3) Communicating Fault Current Indicators (cFCIs).

FID 27386235

88. Replace FCIs and install three (3) Communicating Fault Current Indicators (cFCIs).

(III) Hazard Mitigation Proposal (HMP) Cost

Total Net Hazard Mitigation Cost (Base Cost) =	$ 1,097,098.98
+ HM (Subrecipient A&E, Management & General Conditions) =	$ 261,546.00
Hazard Mitigation Total Cost =	**$ 1,358,644.98**

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

Equipment and Materials (E&M) =	$ 557,560.64
Architecture and Engineering (A&E) =	$ 101,775.43
Construction Cost =	$ 699,308.92
Hazard Mitigation Total Cost =	**$ 1,358,644.98**

(V) HMP Cost-Effectiveness Calculations

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

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

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

The cost of the Hazard Mitigation Proposal (HMP) described herein is **$ 1,358,644.98 (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	$4,142,163.65	Uncompleted
3510	1	Lump Sum	($477,953.55)	Uncompleted
9201	1	Lump Sum	$0.00	Completed
9001	1	Lump Sum	$0.00	Uncompleted
3510	1	Lump Sum	$0.00	Uncompleted
9001	1	Lump Sum	$0.00	Uncompleted
9001	1	Lump Sum	($3,664,210.10)	Uncompleted
9001	1	Lump Sum	($228,547.36)	Uncompleted
9001	1	Lump Sum	$2,593,378.22	Uncompleted
3510	1	Lump Sum	($196,183.24)	Uncompleted

CRC Gross Cost	$2,168,647.62
Total 406 HMP Cost	$1,358,644.98
Total Insurance Reductions	$0.00
CRC Net Cost	$3,527,292.60
Federal Share (90.00%)	$3,174,563.34
Non-Federal Share (10.00%)	$352,729.26

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

9/1/2026

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

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

4/30/2026

Does the Applicant have a Commercial Policy: Yes.

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

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

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

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

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

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

O&M Requirements

There are no Obtain and Maintain Requirements on **FAASt [Automation Program Group 12] (Distribution) (Cost Only)**.

406 Mitigation

There is no additional mitigation information on **FAASt [Automation Program Group 12] (Distribution) (Cost Only)**.

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.
- Conditions for Puerto Rican Boa applicable to 7402 01, 7403 02, 7702 02, and 7702 03: 1. Inform all project personnel about the potential presence of the Puerto Rican (PR) boa and Virgin Islands (VI) boa in areas where the proposed work will be conducted and provide training on PR and VI boa identification. A pre-construction meeting will be conducted to inform all project personnel about the need to avoid harming these species. All personnel will be advised that there are civil and criminal penalties for harming, harassing, or killing species protected under the Endangered Species Act of 1973. An educational poster or sign with photo or illustration of these species will be displayed at the project site. 2. Prior to any construction activity, including removal of vegetation and earth movement, the boundaries of the project area and any area to be excluded and protected will be clearly marked in the project plan and in the field to avoid further habitat degradation outside of the footprint of the project. 3. Once areas are clearly marked, and right before the use of heavy machinery and any construction activity (including removal of vegetation and earth movement), biologist or designated project personnel with experience on these species will survey the areas to be cleared to verify the presence of any PR or VI boa within the Action Area. If a PR or VI boa is found during the search, it should be captured and managed as per #6 below. Once the removal of vegetation begins, the biologist or designated personnel must remain at the work site and be ready to capture any boa that might be in harm way as the result of the habitat disturbance (see #6). 4. For VI boas, once the Action Area has been searched, vegetation will be cut about one meter above ground prior to the use of heavy machinery for land clearing. Cutting vegetation by hand will allow VI boas present on site to move away on their own to adjacent available habitat. If there is no suitable habitat adjacent to the project site, any VI boa found will be relocated accordingly (see #6).
- Conditions for (Chilabothrus inornatus) 5. For all boa sightings (dead or alive), record the time and date of the sighting and the specific location where it was found. Data will also include a photo of the animal (dead or alive), relocation site GPS coordinates, time and date of the relocation, and comments on how the animal was detected and its behavior. 6. If any PR or VI boa (dead or alive) is found within the Action Area and on harm way, the action will stop, and information will be recorded (see #5). All attempts will be made to immediately safely capture and relocate the animal within suitable habitat (forested) at least 1km from the Action Area and away from construction areas. PR boa relocation sites will be pre-determined before the project starts and sites shared with the Service for revision and concurrence. Relocation of PR boas will be conducted by trained, designated personnel ensuring the animal is not harmed or injured during the capture and relocation process. 7. Measures will be taken to avoid and minimize PR boa and VI boa casualties by heavy machinery or motor vehicles being left in the Action Area. Any heavy machinery left on site (staging areas) or near potential PR or VI boa habitat will be thoroughly inspected each morning before work starts to ensure that no boas have sheltered within engine compartments or other areas of the heavy machinery. If a PR boa or VI boa is found within vehicles or heavy machinery, boas will be safely captured accordingly. If not possible, the animal will be left alone until it leaves the vehicle or machine by itself. The PR boa and VI boa may seek shelter within debris piles. Measures should be taken to avoid and minimize boa casualties associated with sheltering in new debris piles as a result of project activities. New debris piles should be placed in areas as far as possible from forested areas. Prior to moving, disposing, or shredding, debris piles should be carefully inspected for the presence of PR boas and VI boas. If debris piles will be left on site, we recommend they be placed in an undisturbed area. In the event a PR boa and VI boa is found dead within the project area, the Federal Agency and the Recipient must contact the Service to appropriately dispose the animal. If a PR boa or a VI boa is accidentally injured or killed during capture and relocation activities during the Action, the Federal Agency and the Recipient shall terminate the authorized activities and contact the Service within 24 hours to reinitiate consultation. The Federal Agency will consult with the Service to determine whether authorized activities should continue as proposed and whether modifications are warranted. Should the forms of take reach the amount of exempted take during the Action, the Federal Agency and the Recipient shall terminate the authorized activities and contact the Service within 24 hours to reinitiate consultation. The Federal Agency will consult with the Service to determine whether authorized activities should continue as proposed and whether modifications are warranted. For questions and to submit reports, the Service Point of Contact (POC) is Jose Cruz-Burgos, Endangered Species Coordinator, and can be contacted at: Mobile: 305-304-1386 Office phone: 786-244-0081 Office Direct Line: 939-320-3120 Email: Caribbean_es@fws.gov or jose cruz-burgos@fws.gov
- Conditions for Puerto Rican Harlequin butterfly applicable to feeders 7402 01, 7403 02, 7702 02, and 7702 34. The Puerto Rican harlequin butterfly (Atlantea tulita) is endemic to Puerto Rico, occurring in the western portion of the island, in the northern karst region, and in the west-central volcanic-serpentine region. The following measures apply to the Puerto Rican harlequin butterfly through its current range: a. The contractor must inform all personnel about the potential presence of the Puerto Rican harlequin butterfly and its host plant, prickly bush (Oplonia spinosa), in the project areas. A pre-work meeting should inform all project personnel about the need to avoid harming this butterfly and its occupied host plant. All personnel will be advised that there are civil and criminal penalties for harming, harassing, or killing species protected under the Endangered Species Act of 1973, as amended. Educational material (e.g., posters, flyers, or signs with photos or illustrations of all the life stages of the Puerto Rican harlequin butterfly (i.e., eggs, caterpillar, chrysalids, and adult, and its host plant) should be prepared and available to all personnel for reference. b. Before starting any project activity, including removal of vegetation and earth movement, the contractor

must clearly delineate the boundaries of the working area in the field to avoid unnecessary habitat impacts. Once the project areas are clearly marked, and before any work activity, including site preparation, personnel with knowledge and ability to identify the Puerto Rican harlequin butterfly (all life stages) and the prickly bush must survey the areas where the work will be performed for the presence of the species and its host plant. It is important to note that the Puerto Rican harlequin butterfly can be observed year-round in all life stages; thus, oviposition (egg-laying) may occur at any time during the year. c. If the prickly bush is present on the project site, try to avoid cutting the plant, even if no eggs, caterpillars, or chrysalids are present. d. If there is no prickly bush within the project area, but the butterfly is observed flying within the project area, do not harass, harm, pursue, wound, kill, trap, capture, collect, or attempt to engage in any such conduct, the species. e. Adult butterflies are often observed flying near the host plant as part of their mating behavior and for laying eggs. Project-related activities must stop if the prickle bush is found in the project area and the Puerto Rican harlequin butterfly is observed flying in that same area. A temporary 50-meter (164 feet) buffer zone of no activity or human disturbance should be established and clearly marked around that prickly bush until the butterfly moves out on its own.

- Conditions for Puerto Rican Harlequin butterfly applicable to feeders 7402 01, 7403 02, 7702 02, and 7702 f. Once the Puerto Rican harlequin butterfly has moved away, within a period of 24 to 36 hours, a search of the prickly bush that has been buffered should be conducted to determine the presence of any eggs, caterpillars, or chrysalids of the butterfly on the plant. The contractor or the Applicant should send a report of the observation and its findings to caribbean_es@fws.gov after the 36-hour search is concluded. g. If, after the initial search or after the 24 to 36-hour search, any life stage of the Puerto Rican harlequin butterfly is found in the prickly bush, take the following actions: o Clearly mark the host plant with flagging tape. o Establish a 10-meter (32-foot) buffer zone around the bush for its protection. o Eggs are typically found on the prickly bush's newly grown, tender branches. Once the egg hatch, the caterpillar moves and feeds throughout the bush. Therefore, avoid cutting off the prickly bush within the project site even if no eggs, caterpillars, or chrysalids are present. o Work within the 10-meter buffered area may resume when no signs of any live life stage of the butterfly are detected, which usually takes approximately 60 to 120 days. h. For all Puerto Rican harlequin butterfly sightings (all life stages), the time and date of the sighting and the specific location where the butterfly was found must be recorded. Data should also include a photo of the butterfly (if possible) and the habitat where it was observed, site GPS coordinates, and comments on how the butterfly was detected and its behavior. All Puerto Rican harlequin butterfly sighting reports should be sent to the Services Caribbean Ecological Service Field Office at caribbean_es@fws.gov. j. For questions regarding the Puerto Rican harlequin butterfly, the Point of Contacts are: o José Cruz-Burgos, Endangered Species Coordinator Mobile: 305-304-1386 Office phone: 786-244-0081 Office Direct Line: 939-320-3120 Email: jose_cruz-burgos@fws.gov o Carlos Pacheco, Fish and Wildlife Biologist Mobile: 786-847-5951 Office Direct Line: 939-320-3113 Email: carlos_pacheco@fws.gov
- The Applicant must provide documentation at close-out that proves completion of required Conservation Measures.
- 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.
- 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 with the requirements of the local and federal agencies. Noncompliance with these requirements may jeopardize receipt of federal funds.
- a. The Subrecipient and/or Subrecipient's contractor shall follow the Low Impact Debris Removal Stipulations (LIDRS) as stated in Appendix E of the Project-Specific Programmatic Agreement Among FEMA, the SHPO, ACHP, COR3, and PREPA (PSPA), executed on August 2, 2022. b. Unexpected Discoveries: Pursuant to Stipulation III.B of the PSPA, if, in the course of implementing this Individual Undertaking(s), previously unidentified structures, sites, buildings, objects, districts, or archaeological deposits, that may be eligible for listing in the National Register, or human remains are uncovered, or if it appears that an Individual Undertaking has affected or will affect a previously identified historic property in an unanticipated manner, the contractor must notify Subrecipient who will immediately notify the Recipient. Work must stop in the vicinity of the discovery and measures must be taken to protect the discovery and avoid additional harm. c. Additional staging areas and/or work pads within work site area haven't been identified yet. The Recipient/Subrecipient and/or private operator must provide the information of any additional staging areas or work pads for EHP evaluation as soon as available specially if any construction activity will be necessary to prepare the site(s). Information for staging areas and/or work pads confined to previously disturbed or hardened surfaces can be provided at close-out d. All borrow or fill material must come from pre-existing stockpiles, material reclaimed from maintained roadside ditches (provided the designed width or depth of the ditch is not increased), or commercially procured material from a source existing prior to the event. For any FEMA-funded project requiring the use of a non-commercial source or a commercial source that was not permitted to operate prior to the event (e.g., a new pit, agricultural fields, road ROWs, etc.) in whole or in part, regardless of cost, the Applicant must notify FEMA and the Recipient prior to extracting material. FEMA must review the source for compliance with all applicable federal environmental planning and historic preservation laws and executive orders prior to a Sub-recipient or their contractor beginning borrow extraction. Consultation and regulatory permitting may be required. Non-compliance with this requirement may jeopardize receipt of federal funding. Documentation of borrow sources utilized is required at close-out and must include fill type (private, commercial, etc.), name, fill site GPS coordinates (not of the company/governmental office), address, and type of material.
- ***Disregard previous condition***
- ***Disregard previous conditions***
- ***Disregard previous conditions***
- 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 Or-der, 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.
- ***Disregard conditions related to additional staging area***
- Additional staging areas and/or work pads within work site area have not been identified yet. The Recipient/Subrecipient and/or private operator must provide the information of any additional staging areas or work pads for EHP evaluation as soon as available specially if any construction activity will be necessary to prepare the site(s). Information for staging areas and/or work pads confined to previously disturbed or hardened surfaces can be provided at close-out.

EHP Additional Info

There is no additional environmental historical preservation on **FAASt [Automation Program Group 12] (Distribution) (Cost Only)**.

Final Reviews

Final Review

Reviewed By LEFRANC-GARCIA, CARLOS L. **Reviewed On** 09/11/2026 8:57 PM PDT

Review Comments

Version 2 reflects the negative cost for PA reconciliation process. Change request - $1,495,562.48 for a total Federal share for this project of $3,174,563.34.

Recipient Review

Reviewed By Mulero, Noel **Reviewed On** 09/21/2026 2:52 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

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 $3,527,292.60 for subaward number 107957 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
No Records							

Drawdown History

EMMIE Drawdown Status As of Date	IFMIS Obligation #	Expenditure Number	Expended Date	Expended Amount
3/20/2026	4339DRPRP01079571	20173YOX-06102025	6/9/2025	$824,447.27
3/20/2026	4339DRPRP01079571	20173YOX-03042026	3/3/2026	($824,447.27)

Obligation History

Version #	Date Obligated	Obligated Cost	Cost Share	IFMIS Status	IFMIS Obligation #
0	2/6/2025	$3,297,789.09	90%	Accepted	4339DRPRP01079571
1	8/27/2026	$1,222,780.49	90%	Accepted	4339DRPRP01079571
2	9/25/2026	($1,346,006.24)	90%	Accepted	4339DRPRP01079571

Department of Homeland Security
Federal Emergency Management Agency

v0

General Info

Project #	752810 **P/W #** 108001	**Project Type**	Specialized
Project Category	F - Utilities	**Applicant**	PR Electric Power Authority (000-UA2QU-00)
Project Title	FAASt [Automation Program Group 20] (Distribution) (Cost Only)	**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 #1313024; FAASt [Automation Program Group 20: Caguas Feeders 2601-01, 2601-03, 2602-02] (Distribution)

General Facility Information:

- **Facility Type:** Power generation, transmission, and distribution facilities
- **Facility:** Automation Program Group 20: Caguas
- **Facility Description:** Automation Program Underground Transmission Group 20: Caguas Feeders 2601-01, 2601-03, 2602-02 (Distribution)
- **Approx. Year Built:** 1970
- **GPS Latitude/Longitude:** [redacted]

Final Scope

1313024

FAASt [Automation Program Group 20: Caguas Feeders 2601-01, 2601-03, 2602-02] (Distribution)

Introduction

This document is to submit for approval a Detailed Scope of Work ("SOW") to COR3 and FEMA for the Transmission and Distribution Automation Program under DR-4339-PR Public Assistance. The document provides a description of the project, including scope, schedule, and cost estimates. 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 according 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 following the Consent to Federal Funding Letter issued by PREPA and P3A, which collectively provides the necessary consent for LUMA Energy, as an agent of PREPA,to undertake work in connection with any Federal Funding requests related to the Transmission and Distribution System submitted to FEMA.

Background

In order to rebuild the entire electrical grid, the Transmission & Distribution Automation Program ("Program") installs advanced technology equipment (i.e., reclosers and communicating fault current indicators) to reduce service interruptions to the electrical grid caused by disaster-related damage. The multiple projects within this Program are designed to fortify the electrical system's resilience, safeguard its infrastructure, and enhance service reliability. The strategy is to deploy full automation equipment to the transmission and to the distribution systems. While the individual projects are interconnected and enhance each other, each can also be implemented independent of each other, and each confers benefits independently. The Program includes multiple projects being implemented across the island on both systems. Automation is one of several initiatives that will complete the final restoration of the transmission and distribution systems. The 3.5 million residents throughout Puerto Rico are dependent upon the successful completion of the Program and its ability to sustain the power grid in future disasters.

Project 752810 is one of the Program's distribution-level projects. It installs hardened poles, advanced technology equipment (specifically three-phase reclosers and communicating fault current indicators), and online protection devices to reduce service interruptions to the distribution grid that could be caused by disaster-related damage. Implementing the three- phase reclosers and communicating fault current indicators is critical for the Energy Management System ("EMS") and related components to function at their full capabilities andmitigate loss of service and potential damages for upcoming occurrences. This project is necessary for the EMS to maintain the continuity of the distribution power grid on Feeders 2601-01, 2602-02, 2601-03, and 2702-01.

Key components of this project are (1) pole replacement, (2) the installation of three-phase and single-phase reclosers, and (3) the installation of communicating fault current indicators. Each of these components and their benefit to the grid are described further below:

Pole Replacement to Accommodate the Installation of Reclosers

The addition of three-phase reclosers impose additional load on poles due to the weight and operational components of the devices and it also increase the wind area exposed to extreme weather conditions, such as hurricanes, thereby augmenting the structural load these poles must withstand. Pole loading analysis will determine whether a recloser pole and/or pole adjacent to the recloser will maintain structural integrity. If the pole cannot maintain structural integrity, higher-class (strength) structures/poles made of steel or concrete will be installed to comply with codes and standards. This includes adjacent poles (i.e., poles on either side of the recloser pole supporting the overhead line conductors). Any new structure and foundation will be designed to LUMA design and industry standards to support the pole, recloser and its attachments.

In addition, LUMA is using a per-location approach to pole replacement because of the intricate dynamics of deploying three-phase reclosers. Furthermore, the integration of more connections, switches, and related infrastructure often necessitates taller poles to meet phase spacing and circuit-to-circuit spacing requirements. Therefore, LUMA willreplace all wood poles where three-phase reclosers are being installed, irrespective of their current condition, to address the compound structural demands and spacing prerequisites, and ensure the resilience and reliability of the electrical grid infrastructure.

Feeder Reclosers

Reclosers are sophisticated devices that remotely detect faults within distribution lines, enable the isolation of circuit breakers linked to those faults—whether due to independent failures or breakdowns—and facilitate the swift restoration of power, often within milliseconds. This project will install three-phase and single phase reclosers on distribution feeders.

Three-Phase Reclosers: A three-phase recloser is a protection device used on three- phase distribution feeders with high fault currents at the location. It is a single device with three switches that can open to interrupt fault currents and automatically reclose to restore power. Three-phase reclosers are communication-ready to enable remote control and visualization.

Implementing reclosers will preserve the continuity of electric services by pre-empting or minimizing power disruptions. The three-phase reclosers can be triggered remotely and provide data back to the operations center, enabling LUMA to prioritize restoration activities, reduce customer outage time, and minimize the potential for cascading infrastructure damage. Installation of the three-phase reclosers and associated hardware is critical for the EMS and associated components to function with full capabilities and to prevent loss of service and potential damages in future disasters.

Single-Phase Reclosers: A single-phase recloser performs the same functions as a three-phase recloser, but it does not have the ability to communicate with the EMS. This project will install single-phase reclosers on the distribution feeder and distribution lines branching from the feeder. It is a protection device that is used on a single-phase or a two-phase distribution feeder. Single-phase reclosers are used on feeders with three phases if fault currents are low at the location. A single-phase recloser is a single device with one switch that can open to interrupt fault currents and automatically reclose to restore power.

Communicating Fault Current Indicators

Install communicating fault current indicators ("cFCI") at strategic locations to improve the outage management, restoration, and recovery process, specifically by decreasing the time required to detect and locate faults. cFCI operate independent of the feeder reclosers. cFCI help identify permanent and incipient faults in the distribution system and collect voltage and current data which can be used to detect system imbalance, prevent future issues due to harmonics and help in building a predictive failure models. That data is used by the grid operator to make decisions on operations, management and restoration. The cFCI can be programmed to send automatic notification/alarms based on user set parameters. This allows for quick dispatch of field crews to specific sections of the feeders and reduces the total restoration time during an outage event which saves. Installation of the three-phase reclosers and associated hardware, the communicating fault current indicators (communications ready) are critical for the Energy Management System ("EMS") and associated components to function with full capabilitiesand to mitigate the loss of service and potential damages in future disasters.

In a meeting between LUMA and FEMA, held in July 2024, FEMA asked how LUMA will provide full automation capabilities to the components in this project if fiber optic cable is not used, like LUMA proposed for the Vieques and Culebra Mircrogrids. This project is distinguishable from projects where the reclosers are installed on microgrids, such as those in Vieques and Culebra. Microgrids require extremely fast communications that fiber optics can provide; other advanced technologies such as Phasor Measurement Units may also require such high speed/bandwidth communications. That speed/bandwidth is not required on a standard feeder and would significantly increase the cost. LUMA has developed this scope for reclosers and their associated hardware only. cFCIs and reclosers can communicate through a few different modes of communications, so the lack of fiber optics in this scope of work does not prevent or limit the monitoring capabilities of reclosers and cFCIs or the automation capabilities of reclosers. Furthermore, it does not prohibit the incorporation of fiber optics at a later date.

Facilities Description

The facilities listed below are part of the electrical distribution system. All feeders originate from a substation (start) and serve customers along the route to various locations (end). The coordinates shown below represent the mainline backbone of each feeder. Please refer to the ***Appendix D - LUMA Active Projects*** to show no duplication of scope elements.

Facilities List

Name	Damage Number	Feeder Number	GPS Location
Caguas	1313024	2601-01	[redacted]
Caguas	1313024	2601-03	
Caguas	1313024	2602-02	

Caguas	1313024	2702-01	[redacted]

Note: Please refer to **Appendix C —Project Considerations** for a list of all GPS locations to be impacted by this project.

Below is a list of the "Proposed 428 Public Assistance Scope of Work" proposed for Feeders in this project.

Proposed 428 Public Assistance Scope of Work

Feeder 2601-01

POLE FID	COORDINATES LAT, LONG	Existing	Install	SCOPE OF WORK
NEW POLE	[redacted]	(NONE)	(60'-S8 GALVANIZED STEEL POLE) (OPS CP-C8) (S-6) (REC-2-2) (K-6)	• Install new 60'-S8 12-sided galvanized steel pole in new location mid span*. • Install (1) Three-Phase recloser 2601-01A on a radial

POLE FID	COORDINATES LAT, LONG	Existing	Install	SCOPE OF WORK
				configuration. • Install (1) 1kva transformer to feed source sid
10351462	[redacted]	(45'C3 WOOD POLE) (S-1) (K-6)	(50'-S8 12-SIDED GALVANIZED STEEL POLE) (S-6) (REC-2-2) (K-6) (E-1-2-3) (F-1-3)	• Remove and dispose of the 45' C3 wood pole • Replace with a 50' S8 12-sided galvanized steel pole. • Install (1) down guys. • Install (1) anchor. • Use existing secondary conductor to feed source side. • Install (1) Three-Phase Recloser 2601-01 B o a radial configuration.
NEW POLE		(NONE)	(50'-S8 12-SIDED GALVANIZED STEEL POLE) (CP- C6 XARM) (REC-2) (K-6) (87FT 1/0 TPX AL (NERITINA))	• Install new 50'-S8 12-sided galvanized steel pole in new location mid span*. • Install Three-Phase Recloser 2601-01 C on a radial configuration. • Install 87ft of secondary 1/0 tpx al (neritina) Fc source side.
10357297		(ASSY 1509 (QTY=3))	(LABOR & REPAIR)	• Remove and dispose Fuse (fid:10861277) due to three-phase recloser 2601 Installation.

10359335	[redacted]	(ASSY 1509 (QTY=3))	(LABOR & REPAIR)	• Remove and dispose Fuse (fid:10864765) due to three-recloser 2601-01C Installation.
10352712		(ASSY 1509 (QTY=3))	(LABOR & REPAIR)	• Remove and dispose Fuse due to three-phase recloser 2601-01 C installation.
1000522388		(ASSY 1509 (QTY=3))	(LABOR & REPAIR)	• Remove and dispose Fuse (fid: 1002046628) due to being located in the Mainline.
10361043		(ASSY 1509 (QTY=3))	(LABOR & REPAIR)	• Remove and dispose Fuse (fid:1001303970) due to three- phase 2601-01 c Installation.
10352708		(45'-C3 WOOD POLE) (S-4- XARM) (CP-B5 XARM) (ASSY 1509 (QTY=2)) (K-5) (E-1-2-3 (QTY=2)) (F-1-3 (QTY=2)) (STL-10)	(50' S8 12-SIDED GALVANIZED STEEL POLE) (REC-3-B) (S-6) (CP-B5 XARM) (K-5) (E-1-2-3) (F-1-3) (STL-10)	• Remove and dispose of a 45' C3 wood pole. • Replace with 50' S8 12-Sided Galvanized steel pole. • Install (2) Cutout mounted Single- Phase Reclos on pole fid 10352708. • Remove (2) down guy. • Remove (2) anchor. ` • Install (1) down guy. • Install (1) anchor. • Fuse (fid:10862287) removal due to cutout mounted single-phase recloser installation on pole fid 10352708. • Replace streetlight.
10354083		(40'-C5 WOOD POLE) (CP-A6) (E-1-2-3) (F-1-3)	(45' S5.7 12-SIDED GALVANIZED STEEL POLE) (CP- A6) (REC-3-A)	• Remove and dispose of 40' C5 wood pole. • Replace with 45'-S5.7 12-Sided galvanized steel pole. • Install (1) cutout mounted single-

POLE FID	COORDINATES LAT,	Existing	Install	SCOPE OF WORK
	[redacted]			phase recloser on pole fid 10354083. • Remove (1) down guy. • Remove (1) Anchor.
10354093		(40'-C5 WOOD POLE) (CP-A6) (E- 1-2-3) (F-1-3) (K-7 B) (STL-10)	(45' S5.7 12-SIDED GALVANIZED STEEL POLE) (CP- A3) (E-1-2-3) (F-1-3) (K-7 B) (STL-10)	• Remove and dispose of a 40'C5 wood pole. • Replace with 45' S5.7 12-sided galvanized steel pole due to cutout mounted single-phase recloser (qty=1) installation on pole fid 10354083 • Replace (1) down guy. • Replace (1) anchor. • Replace Streetlight.

10360709	[redacted]	(45'-C3 WOOD POLE) (S-6) (CP-B5 XARM) (E-1-2-3) (F-1-3) (K-7 B) (STL-10) (ASSY 1509 (QTY=2))	(45'-S5.7 12-SIDE GALVANIZED STEEL POLE) (REC-3-B) (S-6) (CP-B5 XARM) (E- 1-2-3) (F-1-3) (K-7-B) (STL-10)	• Remove and dispose of 45'C3 wood pole. • Replace with 45' S.7 12-sided galvanized steel pole. • Install (2) cutout mounted single- phase recloser on pole fid 10360709. • Replace (1) down guy. • Replace (1) anchor. • Replace streetlight assembly. • Fuse (fid:10864765) removal due to cutout mounted single-phase recloser (qty=2) installation on pole fid 10360709
10361952		(35'-C4 WOOD POLE) (S-5) (CP- B5 XARM) (K-7 A) (K-5) (E-1-2-3(QTY=2)) (F-1-3(QTY=2)) (STL-10)	(45' S5.7 12-SIDED GALVANIZED STEEL POLE) (S-5) (CP-B5 XARM) (REC-3-B) (K-7 B) (E-1-2-3) (F-1-3) (STL-10)	• Remove and dispose of 35' C4 wood pole. • Replace with 45' S5.7 12-sided galvanized steel pole. • Install (2) cutout mounted single- phase reclose on pole fid 10361952. • Remove (2) down guys. • Remove (2) anchors. • Install (1) down guy. • Install (1) anchor. • Replace Streetlight.
10362263		(ASSY 1509 (QTY=2))	(LABOR & REPAIR)	• Remove and dispose Fuse (fid: 10867932) du cutout mounted single-phase recloser installation pole Fid:10361952.
10354213		(ASSY 1509 (QTY=1))	(LABOR & REPAIR)	• Remove and dispose Fuse (fid: 10864754) du cutout mounted single-phase recloser installation on pole fid:10354083.
10362927		(ASSY 1509 (QTY=2))	(LABOR & REPAIR)	• Remove and dispose Fuse (fid: 10866288) du cutout mounted single-phase recloser installation on pole fid:10361952.
10354512		(ASSY 1509 (QTY=1))	(LABOR & REPAIR)	• Remove and dispose Fuse (fid: 10864748) du cutout mounted single-phase recloser installation pole fid:10354083.
None		None	(LABOR, cFCI) (QTY=3)	• Labor to install communicating Fault Current Indicator in segment

POLE FID	COORDINATES LAT,	Existing	Install	SCOPE OF WORK
	[redacted]			6673763.
None		None	(LABOR, cFCI) (QTY=3)	• Labor to install communicating Fault Current Indicator in segment 10868121.

1000522679	[redacted]	(50'H4 CONCRETE POLE) (S-6-2) (K-7-4) (STL-10)	(50' S8 12-SIDED GALVANIZED STEEL POLE) (ABS-3-XARM) (S-6-2) (K-7 B) (K-5) (E-1-2-3 (QTY=2)) (F-4-2) (STL-10)	• Remove and dispose 50' H4 Concrete Pole. • Replace with 50' S8 12-Sided Galvanized steel pole. • Install **switch** due to cFCI installation. • Replace streetlight. • Install (2) downguys. • Install (1) anchor.

Feeder 2601-03

POLE FID	COORDINATES LAT, LONG	Existing	Install	SCOPE OF WORK
1001734430	[redacted]	(45' H4 CONCRETE POLE) (S-6) (ASSY 1509(QTY=3)) (STL-10) (K-6) (K-5)	(50' S8 12-SIDED GALVANIZED STEEL POLE) (S-6) (REC-2-2 Ver 3.) (STL-10) (K-6) (K-5)	• Remove and dispose of 45' H4 concre pole. • Replace with 50' S8 12-Sided galvaniz steel pole. • Replace primary and Secondary framing. • Remove fuse fid 10954590 (qty=3). • Install (1) Three-Phase recloser 2601-03 A. • Install (1) 1 kva transformer (4.80/8.32 120/240 v) for source side. • Use existing secondary conductor as Power supply for recloser load side. • Replace streetlight.
7102218		40' H4 CONCRETE POLE) (K-6) (STL-10)	(50' S8 12-SIDED GALVANIZED STEEL POLE) (S-6) (REC-2-2 Ver. 3) (STL-10) (K-6)	• Remove and dispose of 40' H4 Concrete • Replace with 50' S8 12-Sided Galvanized steel pole. • Replace primary and Secondary framing. • Install (1) Three-Phase Recloser 2601-03 • Install (1) 1 kva transformer (4.80/8.32 kv 120/240 v) for load side. • Use existing secondary conductor as Power supply for recloser source side. • Replace streetlight. • Install spacer starting at 60 inches from pole top.
7103730		(ASSY 1509 QTY=1))	(LABOR & REPAIR)	• Remove and dispose Fuse fid 10951948 (qty=1) due to three-

				phase recloser 2601-03 a installation.

None	[redacted]	None	(LABOR, cFCI) (QTY=3)	• Labor to install communicating Fault Curr indicator in segment 6673772.
None		None	(LABOR, cFCI) (QTY=3)	• Labor to install communicating Fault Current indicator in segment 1095568

Feeder 2602-02

POLE FID	COORDINATES LAT, LONG	Existing	Install	SCOPE OF WORK
7212183	[redacted]	(40'-C2 WOOD POLE) (S-3) (K-7 B) (E-1-2-3 (QTY = 1)) (F-1-3 (QTY =1))	(50' S8 12-SIDED GALANIZED STEEL POLE) (S-6) (REC-2-2 VER 3) (K-7-4) (K-6) (E-1-2-3 (QTY = 1)) (F-1-3 (QTY =1))	• Remove and dispose of a 40' C2 wood p • Replace with 50' S8 12-sided Galvanized Steel Pole. • Install (1) Three-Phase recloser 2602-02 • Install (1) 1 kva transformer (2.40/4.16 k 120/240 v) for source side Radial configuration. • Replace (1) Anchor. • Replace (1) down guy.
7211855		(ASSY 1509 (QTY=3))	(LABOR & REPAIR)	• Remove and dispose Fuses (fid: 843197 due to thr ee - p h as e recloser A installation.
7212343		(ASSY 1509 (QTY=3))	(LABOR & REPAIR)	• Remove and dispose Fuses (fid: 843201 due to thr ee - p h as e recloser A installation.
7213634		(ASSY 1509 (QTY=3))	(LABOR & REPAIR)	• Remove and dispose Fuses (fid: 843256 due to three- phase recloser A installation.
7936496		(45'-C3 WOOD POLE) (CP-A6) (K-7 B)	(45' S5.7 12-SIDED GALVANIZED STEEL POLE) (REC-3-A) (CP-A6) (K-7 B)	• Remove and dispose of a 45' C3 wood p • Replace with 45' S5.7 12-sided galvaniz steel pole. • Install Cutout mounted Single- Phase rec CMR-A
7212941		(40'-S3 GALVANIZED STEEL POLE) (CP-A6) (K- 7 A) (STL-10)	(45' S5.7 12-SIDED GALVANIZED STEEL POLE) (CP-A6) (K-7 A) (STL- 10) (REC-3)	• Remove and dispose of 40' S3 galvanize steel pole. • Replace with 45' S5.7 12-Sided galvaniz steel pole. • Install Cutout Mounted Single- Phase rec CMR-B. • Replace complete streetlight assembly.
7936127		(ASSY 1509 (QTY=1))	(LABOR & REPAIR)	• Remove and dispose FUSES (FID: 84313 due to single- phase CMR-A Installation.
7936501		(ASSY 1509 (QTY=1))	(LABOR & REPAIR)	• Remove and dispose FUSES (FID: 8431947) due to single- phase CMR- Installation.
1002011550		(ASSY 1509	(LABOR & REPAIR)	• Remove and dispose FUSES

POLE FID	COORDINATES LAT, LONG	Existing	Install	SCOPE OF WORK
	[redacted]	(QTY=1))		(FID: 1002011558) due to s i n g l e - p h a s e CMR-B Installation.
7213095		(ASSY 1509 (QTY=1))	(LABOR & REPAIR)	• Remove and dispose FUSES (FID: 84329 due to single- phase CMR-B Installation.
7213607		(ASSY 1509 (QTY=1))	(LABOR & REPAIR)	• Remove and dispose FUSES (FID: 84327 due to single- phase CMR-B Installation.
None		(NONE)	(LABOR, cFCI) (QTY=3)	• Labor to install communicating Fault Curr Indicator cFCI in segment 7114242.
None		(NONE)	(LABOR, cFCI) (QTY=3)	• Labor to install communicating Fault Curr Indicator cFCI in segment 8432625.
8432625		50'-C2 WOOD POLE) (CP-C6 XARM) (K-7 B) (STL-10) (E-1-2-3) (F-1-3)	(50' S8 12-SIDED GALVANIZED STEEL POLE) (CP-C6-XARM) (ABS-3-XARM) (K-7 B) (STL-10) (E-1-2-3) (F-1-3) (T-1) (37.5KVA,2.40/4.16 KV - 120/240 V)	• Remove and dispose of 50' C2 wood pol • Replace with 50' S8 12-sided Galvanized Steel Pole. • Install air breaker switch. • Replace streetl i g h t . • Replace transformer (37.5kva, 2.40/4.16 120/240 v).

Feeder 2702-01

POLE FID	COORDINATES LAT, LONG	Existing	Install	SCOPE OF WORK
NEW POLE	[redacted]	(NONE)	(70'-S8 GALVANIZED STEEL POLE) (38KV VERTICAL SUSPENSION) (CP-C6 XARM) (REC-2-2 VERS. 3))	• Install new galvanized 70'-S8 12-sided galvanized pole in new location mid span • Install transmission assembly. • Install (1) Three-Phase Recloser 2702-01 A. • Install (2) 1kva (4.80/8.32 kv) transforr for source side and load side.

7117414	[redacted]	(50'H6 CONCRETE POLE) (38kV DEADEND- SC-VERTICAL DEADEND ASSY 10-60) (CP-C1) (CP-A5)	70'-S8 12-SIDED GALVANIZED STEEL POLE) (38kV DEADEND-SC- VERTICAL DEADEND ASSY 10-60) (CP-C1) (CP-A5) (E-1-2-3(QTY-2)) (F 4-2)	• Remove and dispose of 50' H6 concrete p • Replace with pole 70'-S8 12- Sided galvanized steel pole. • Due to installation of recloser 2702-01 A, replace transmission assembly. • Replace primary framing. • Install (2) downguys. • Install (1) Anchor
10650343		(ASSY 1509 (QTY=3))	(LABOR & REPAIR)	• Remove and dispose Fuse (fid:8455275) due to three - phase recloser 2702-01A

POLE FID	COORDINATES LAT, LONG	Existing	Install	SCOPE OF WORK
	[redacted]			installation.
1001756465		(ASSY 1509 (QTY=3))	(LABOR & REPAIR)	• Remove and dispose Fuse (fid:8456247) d to three - phase recloser 2702-01 a installation.
7157370		(65'-H6 CONCRETE POLE) (38KV VERTICAL SUSPENSION) (S-1)	(70' S8 12-SIDED GALVANIZED STEEL POLE) (38KV VERTICAL SUSPENSION) (S-6) (REC-3-C)	• Replace concrete pole with 70'- S8 12-Si galvanized steel pole. • Install (3) single-phase recloser CMR-A. • Replace primary framing.
NEW POLE		(NONE)	(45'-S5.7 12-SIDED GALVANIZED STEEL POLE) (CP-B6 XARM) (REC-3 B)	• Install new galvanized steel pole 45'-S5 12-sided galvanized steel pole in new location mid span*. • Install (2) single-phase recloser CMR-B. • Replace primary Framing
7118030		(FUSE REMOVAL (QTY=3))	(LABOR & REPAIR)	• Remove and dispose Fuse (fid: 8453128) to single - phase CMR-B installation.
7116210		(FUSE REMOVAL (QTY=3))	(LABOR & REPAIR)	• Remove and Fuse (fid:8453141) removal single-phase CMR - B installation.
1001325535		(FUSE REMOVAL (QTY=3))	(LABOR & REPAIR)	• Remove and dispose Fuse (fid:8453311) due to single-phase CMR-A installation.

7118824	[redacted]	(35' C4 WOOD POLE) (AC-C3 XARM) (STL-10) (E-1-2-3 (QTY=2)) (F-1-3 (QTY=2)) (K-7 B)	(45'-S5.7 12-SIDED GALVANIZED STEEL POLE) (CP-C3 XARM) (ABS-3-XARM) (STL-10) (E-1-2-3 (QTY=2)) (F-1-3 (QTY=2)) (K-7 B) (K-5)	• Remove and dispose of 35' C4 wood pole • Replace with 45' S5.7 12-Sided galvanize steel pole. • Install **switch A** due to cFCI installation. • Replace street light assembly. • Replace (2) Down guys. • Replace (2) anchors.
None		None	(LABOR, cFCI) (QTY=3)	• Labor to install communicating Fault Curre indicator cFCI in segment 6724656.
None		None	(LABOR, cFCI) (QTY=3)	• Labor to install communicating Fault Current indicator cFCI in segment 845

Scope Notes:

1) This version of the project will be fully funded using PA 428 funds. A future version of this project may contain PA 406 using the one-time change waiver, as per the applicant representative's request.

2) The work will be performed in accordance with the notes below, the Distribution Construction Standards (Concrete Base Standard), LUMA Overhead Electrical Distribution System Manual V4, and ***APPENDIX C – Project Considerations.***

Pole Replacement

a. Remove and replace poles, including hardware in the same location. If unable to install the replacement, the pole will be installed within 3 feet of the same location.

b. Most pole installations are to replace existing poles at the same location; there are four new pole locations included in this scope of work. Refer to ***APPENDIX C – Project Considerations,*** column C (soil area and depth impact) for the depths of the poles to be installed.

c. Adjacent poles will be installed, in locations noted in the table above, in conformance with LUMA and industry standards.

d. New guy wire/anchors will be installed according to the LUMA Overhead Electrical Distribution System Manual within 3ft of the existing anchor. The maximum distance an anchor will be installed for a 50ft pole is 25ft from the base of the pole, within the right-of-way.

e. The brushing of vegetation will be limited to a 10 ft radius that surrounds the surface of the pole without exceeding the width of the right-of-way. No tree removal will occur as part of this scope. Refer to ***APPENDIX C- Project Considerations*** for locations where vegetation brushing is anticipated. The vegetation brushing process will be managed according to applicable federal and state regulations.

f. All existing overhead conductors, poles, assemblies, and attached components will be disconnected, removed, disposed and replaced as outlined in the scope of work. When poles, assemblies, and attached components are not being replaced per the scope of work, all assemblies and components will be re-installed to the pole, with the overhead conductor re-attached to complete the installation and reconstruction of the feeder.

g. All work for this program will be performed within the current electrical right- of-way.

3) Debris will be separated and taken to an approved waste disposal facility in compliance with applicable federal and local regulations.

4) The construction of **access roads** is not required for this scope of work. Poles are close to the roads and are site accessible.

5) **Staging area** requirements were considered for the new equipment to be installed and the equipment to be retired. All materials will be stored and dispatched from the assigned LUMA's Regional Warehouse. The warehouse assigned is the Caguas Regional Warehouse, whose address is Carretera # 1 Jose Mercado Corner, Caguas, PR. Coordinates are [redacted] Refer to document *Warehouse Locations.*

6) Fill, Gravel, and Sand**materials** will be obtained from an approved supplier as referenced in the document *LUMA Vendor Directory List.*

7) The **equipment** to be used is *a Skid Steer, Excavator, Dump truck, Manlift, 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 cleared utilizing a *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.

8) Specific List of **Permits Required**:

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

Project Cost Estimate (PCE)

The estimated costs (compliant with Class 3 Accuracy +/-30%) to complete the project are captured in the table(s) 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 to mitigate potential known risks. For more details refer to ***APPENDIX B- Detailed Cost Estimate.***

COST ESTIMATE			
COST ELEMENT	**428**	**406**	**PROJECT TOTAL**
PLANNING	**$206,974.47**	**-**	**$206,974.47**
MANAGEMENT	**$126,721.23**	**-**	**$126,721.23**
Group 20- DAUT CAGUAS	**$2,178,563.01**	**-**	**$2,178,563.01**
GENERAL CONDITIONS	**$133,727.36**	**-**	**$133,727.36**
CONTINGENCY	**$310,971.71**	**-**	**$310,971.71**
COST TOTALS	**$2,956,957.78**	**-**	**$2,956,957.78**

DEDUCTIONS	**TOTAL INSURANCE PROCEEDS RECEIVED**	**$ 0**
FAASt ALLOCATIONS	**FAASt Project # 752810 TOTAL**	**$2,623,262.08**
	FAASt A&E # 335168 TOTAL	**$333,695.70**

FEMA Project Cost Summary, Version 0

Work to be Completed (WTBC): $2,956,957.78

A&E Deduction (Global A&E FAASt 335168: -$333,695.70

Project Total: $2,623,262.08

Attachments:

Project Notes:

1. Refer to the detailed SOW provided in document 752810- DR4339PR- DSOW Group 20- DAUT.pdf

2. For Cost Estimate detailed information, refer to documents/attachments labeled: 752810-DR4339PR-APPENDIX B- DETAIL COST ESTIMATE.xlsx

3. For reference documents Appendix A through D, see the file labeled:

APPENDIX A - Initial Scope of Work

APPENDIX B - Detailed Cost Estimate

APPENDIX C - Project Considerations

APPENDIX D - LUMA's Active Projects

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

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

406 HMP Scope

406 Hazard Mitigation measures were not requested by the subrecipient for this project in Version 0. However, the mitigation opportunities will be applied in a future version (V1) of the Permanent Work Project. The project is ready for Insurance completion.

Cost

Code	Quantity	Unit	Total Cost	Section
9001	1	Lump Sum	$2,956,957.78	Uncompleted
3510	1	Lump Sum	($333,695.70)	Uncompleted
9201	1	Lump Sum	$0.00	Completed

CRC Gross Cost	$2,623,262.08
Total 406 HMP Cost	$0.00
Total Insurance Reductions	$0.00
CRC Net Cost	$2,623,262.08
Federal Share (90.00%)	$2,360,935.88
Non-Federal Share (10.00%)	$262,326.20

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.
- 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.
- 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 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

9/2/2026

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.

6/11/2026

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 Program Group 20] (Distribution) (Cost Only)**.

406 Mitigation

There is no additional mitigation information on **FAASt [Automation Program Group 20] (Distribution) (Cost Only)**.

Environmental Historical Preservation

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

EHP Conditions

- Any change to the approved scope of work will require re-evaluation for compliance with NEPA and other Laws and Executive Orders.
- This review does not address all federal, state and local requirements. Acceptance of federal funding requires recipient to comply with all federal, state and local laws. Failure to obtain all appropriate federal, state and local environmental permits and clearances may jeopardize funding.
- If ground disturbing activities occur during construction, applicant will monitor ground disturbance and if any potential archaeological resources are discovered, will immediately cease construction in that area and notify the State and FEMA.
- a. The Subrecipient and/or Subrecipient's contractor shall follow the Low Impact Debris Removal Stipulations (LIDRS) as stated in Appendix E of the Project-Specific Programmatic Agreement Among FEMA, the SHPO, ACHP, COR3, and PREPA (PSPA), executed on August 2, 2022. b. Unexpected Discoveries: Pursuant to Stipulation III.B of the PSPA, if, in the course of implementing this Individual Undertaking(s), previously unidentified structures, sites, buildings, objects, districts, or archaeological deposits, that

may be eligible for listing in the National Register, or human remains are uncovered, or if it appears that an Individual Undertaking has affected or will affect a previously identified historic property in an unanticipated manner, the contractor must notify Subrecipient who will immediately notify the Recipient. Work must stop in the vicinity of the discovery and measures must be taken to protect the discovery and avoid additional harm. c. Additional staging areas and/or work pads within work site area haven't been identified yet. The Recipient/Subrecipient and/or private operator must provide the information of any additional staging areas or work pads for EHP evaluation as soon as available specially if any construction activity will be necessary to prepare the site(s). Information for staging areas and/or work pads confined to previously disturbed or hardened surfaces can be provided at close-out d. All borrow or fill material must come from pre-existing stockpiles, material reclaimed from maintained roadside ditches (provided the designed width or depth of the ditch is not increased), or commercially procured material from a source existing prior to the event. For any FEMA-funded project requiring the use of a non-commercial source or a commercial source that was not permitted to operate prior to the event (e.g., a new pit, agricultural fields, road ROWs, etc.) in whole or in part, regardless of cost, the Applicant must notify FEMA and the Recipient prior to extracting material. FEMA must review the source for compliance with all applicable federal environmental planning and historic preservation laws and executive orders prior to a Sub-recipient or their contractor beginning borrow extraction. Consultation and regulatory permitting may be required. Non-compliance with this requirement may jeopardize receipt of federal funding. Documentation of borrow sources utilized is required at close-out and must include fill type (private, commercial, etc.), name, fill site GPS coordinates (not of the company/governmental office), address, and type of material.

- The Applicant shall handle, manage, and dispose of all types of hazardous waste in accordance with requirements of local, state, and federal laws, regulations, and ordinances. In addition, the Applicant shall ensure that all debris is separated and disposed of in a manner consistent with the PR DNER guidelines at a permitted site or landfill. The contractor/applicant will be responsible for the proper disposition of construction debris in authorized landfills providing the name, location, coordinates and permits of the facility to the corresponding authorities. Unusable equipment, debris, white goods, scrap metal any other material shall be disposed in approved manner and location. In the event significant items are discovered during the implementation or development of the project the Applicant shall handle, manage, and dispose petroleum products, hazardous materials, and toxic waste in accordance with the requirements of the local and federal agencies. Noncompliance with these requirements may jeopardize receipt of federal funds.
- 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.
- Puerto Rican boa (PR boa; Chilabothrus inornatus) In 2023, the Service amended a Programmatic Biological Opinion (PBO) for the Puerto Rican boa and the Virgin Islands tree boa. The below measures are included as Terms and Conditions (T&Cs) in the amended PBO (USFWS 2023). These T&Cs shall be part of FEMA&#65533;s conditions in projects where these species can occur, and a copy of the PBO should be made available to the Applicant for compliance. 1. Inform all project personnel about the potential presence of the Puerto Rican (PR) boa and Virgin Islands (VI) boa in areas where the proposed work will be conducted and provide training on PR and VI boa identification. A pre-construction meeting will be conducted to inform all project personnel about the need to avoid harming these species. All personnel will be advised that there are civil and criminal penalties for harming, harassing, or killing species protected under the Endangered Species Act of 1973. An educational poster or sign with photo or illustration of these species will be displayed at the project site. 2. Prior to any construction activity, including removal of vegetation and earth movement, the boundaries of the project area and any area to be excluded and protected will be clearly marked in the project plan and in the field to avoid further habitat degradation outside of the footprint of the project.
- 3. Once areas are clearly marked, and right before the use of heavy machinery and any construction activity (including removal of vegetation and earth movement), biologist or designated project personnel with experience on these species will survey the areas to be cleared to verify the presence of any PR or VI boa within the Action Area. If a PR or VI boa is found during the search, it should be captured and managed as per #6 below. Once the removal of vegetation begins, the biologist or designated personnel must remain at the work site and be ready to capture any boa that might be in harms way as the result of the habitat disturbance (see #6). 4. For VI boas, once the Action Area has been searched, vegetation will be cut about one meter above ground prior to the use of heavy machinery for land clearing. Cutting vegetation by hand will allow VI boas present on site to move away on their own to adjacent available habitat. If there is no suitable habitat adjacent to the project site, any VI boa found will be relocated accordingly (see #6). 5.For all boa sightings (dead or alive), record the time and date of the sighting and the specific location where it was found. Data will also include a photo of the animal (dead or alive), relocation site GPS coordinates, time and date of the relocation, and comments on how the animal was detected and its behavior. 6. If any PR or VI boa (dead or alive) is found within the Action Area and on harms way, the action will stop, and information will be recorded (see #5). All attempts will be made to immediately safely capture and relocate the animal within suitable habitat (forested) at least 1km from the Action Area and away from construction areas. PR boa relocation sites will be pre-determined before the project starts and sites shared with the Service for revision and concurrence. Relocation of PR boas will be conducted by trained, designated personnel ensuring the animal is not harmed or injured during the capture and relocation process.
- 7. Measures will be taken to avoid and minimize PR boa and VI boa casualties by heavy machinery or motor vehicles being left in the Action Area. Any heavy machinery left on site (staging areas) or near potential PR or VI boa habitat will be thoroughly inspected each morning before work starts to ensure that no boas have sheltered within engine compartments or other areas of the heavy

machinery. If a PR boa or VI boa is found within vehicles or heavy machinery, boas will be safely captured accordingly. If not possible, the animal will be left alone until it leaves the vehicle or machine by itself. The PR boa and VI boa may seek shelter within debris piles. Measures should be taken to avoid and minimize boa casualties associated with sheltering in new debris piles as a result of project activities. New debris piles should be placed in areas as far as possible from forested areas. Prior to moving, disposing, or shredding, debris piles should be carefully inspected for the presence of PR boas and VI boas. If debris piles will be left on site, we recommend they be placed in an undisturbed area. In the event a PR boa and VI boa is found dead within the project area, the Federal Agency and the Recipient must contact the Service to appropriately dispose the animal. If a PR boa or a VI boa is accidentally injured or killed during capture and relocation activities during the Action, the Federal Agency and the Recipient shall terminate the authorized activities and contact the Service within 24 hours to reinitiate consultation. The Federal Agency will consult with the Service to determine whether authorized activities should continue as proposed and whether modifications are warranted. Should the forms of take reach the amount of exempted take during the Action, the Federal Agency and the Recipient shall terminate the authorized activities and contact the Service within 24 hours to reinitiate consultation. The Federal Agency will consult with the Service to determine whether authorized activities should continue as proposed and whether modifications are warranted.

- For questions and to submit reports, the Service's Point of Contact (POC) is Jose Cruz-Burgos, Endangered Species Coordinator, and can be contacted at: Mobile: 305-304-1386 Office phone: 786-244-0081 Office Direct Line: 939-320-3120 Email: Caribbean_es@fws.gov or jose_cruz-burgos@fws.gov
- Coqui Guajon (Eleutherodactylus cooki) Conservation Measures to be implemented for a coqui guajon: i. Inform all project personnel about the potential presence of the coqui guajon in areas where the proposed work will be conducted. A pre-construction meeting must be conducted to inform all project personnel about the requirement of avoiding harm to the species. All personnel will be advised that there are civil and criminal penalties for harming, harassing, or killing species protected under the Endangered Species Act of 1973, as amended. An educational poster or sign with photos or illustrations of the species should be displayed at the project site. ii. Project boundaries, buffer zones and areas to be excluded or protected must be clearly marked in the project plans and in the field, prior to any construction activity, including removal of vegetation and earth movement. iii. Erosion and Sedimentation Control Best Management Practices (BMPs) must be included in the project scope of work when working within or adjacent to the coqui guajon habitat (e.g., rivers, streams, drainages, ravines, big boulder areas) to avoid or minimize erosion and sedimentation. Sediment runoff from the project can adversely affect the species and its habitat by filling the caves and crevices where the species occurs and uses to lay its eggs. As water is a very important component of the species; habitat, any stream, creek, or similar body of water with the habitat characteristics indicated above may harbor the species, hence it shall be protected to the maximum extent possible. iv. All project associated with streams, rivers, bridges, culverts, etc., must follow the Post-Disaster Guidance for Repair, Replacement, and Clean-up Projects in Streams and Waterways of Puerto Rico from Hurricane Maria. The guide is available at: https://www.fws.gov/media/guidance-repair-replacement-and-clean-structures-streams-and-waterways-puerto-rico-and-us If at any time you have doubts if the species or its habitat are present within a particular project or if the project may affect or not the species and its habitat, you may contact: Jose Cruz-Burgos, Endangered Species Program Coordinator. Mobile: 305-304-1386. Office phone: 786-244-0081. Office Direct Line: 939-320-3120. Email: jose_cruz-burgos@fws.gov
- The below conservation measures apply to the following species: Puerto Rican parrot (Amazona vittata) and Puerto Rican broad-winged hawk (Buteo platypterus brunnescens). All personnel will be advised that there are civil and criminal penalties for harming, harassing, or killing species protected under the Endangered Species Act of 1973, as amended. During breeding seasons (see below), nest surveys shall be conducted if a project occurs within the range of any of the species listed above and if habitat for those species will be impacted by the proposed actions. Nest searches must be conducted by qualified personnel with the appropriate permits from the Puerto Rico Department of Natural and Environmental Resources (PRDNER) prior to start of work. If nesting activity is detected, all construction activities or human disturbance must be avoided within a 50-meter buffer around any nest(s) found within the project area. This avoidance strategy must be kept until fledglings successfully leave the nest(s) permanently. Outside the breeding season no nest surveys are required, but if a nest is encountered, all construction activities or human disturbance must be avoided within a 50-meter buffer around that nest(s). This avoidance strategy must be kept until fledglings successfully leave the nest(s) permanently. Furthermore, if any of the species indicated above is observed (e.g., foraging, resting) within the project area, avoid any disturbance to the individual(s) and do not flush the bird until it leaves on its own. Nesting seasons: Puerto Rican parrot: February-June. Puerto Rican broad-winged hawk: December-June.
- For all nest sightings, the Applicant must record the time and date of the sighting and the specific location where it was found. All sightings and incidental lethal take reports should be sent to the USFWS Caribbean Ecological Services Field Office at Caribbean_es@fws.gov. For questions, the Point of Contact (POC) is Jose Cruz-Burgos, Endangered Species Program Coordinator, and can be contacted at: Mobile: 305-304-1386 Office phone: 786-244-0081 Office Direct Line: 939-320-3120 Email: jose_cruz-burgos@fws.gov
- For Feeders 2601-03 and 2702-01: Applicant must obtain any required permits from the Puerto Rico Permits Management Office (OGPe) prior to initiating work and comply with any conditions of the permit established by the Planning Board (JP) for constructions in floodplains. All coordination (emails, letters, documented phone calls) pertaining to these activities and compliance must be provided and maintained in the Applicant s permanent files.
- The Applicant must provide documentation at close-out that proves completion of required Conservation Measures.
- Additional staging areas and/or work pads within work site area havent been identified yet. The Recipient/Subrecipient and/or private operator must provide the information of any additional staging areas or work pads for EHP evaluation as soon as available specially if any construction activity will be necessary to prepare the site(s). Information for staging areas and/or work pads confined to hardened surfaces can be provided at close-out.

EHP Additional Info

There is no additional environmental historical preservation on **FAASt [Automation Program Group 20] (Distribution) (Cost Only)**.

Final Reviews

Final Review

Reviewed By LEFRANC-GARCIA, CARLOS L. **Reviewed On** 12/31/2024 4:25 PM PDT

Review Comments

Project has been reviewed, found eligible and reasonable. Subrecipient is responsible for complying with all grants and subgrant conditions. - CLG 12.31.24

Recipient Review

Reviewed By Salgado, Gabriel **Reviewed On** 01/14/2025 1:22 PM PDT

Review Comments

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

Project Signatures

Reviewed By Unsigned **Reviewed On** Unsigned

General Info

Project #	752810 **P/W #** 108001	**Project Type**	Specialized
Project Category	F - Utilities	**Applicant**	PR Electric Power Authority (000-UA2QU-00)
Project Title	FAASt [Automation Program Group 20] (Distribution) (Cost Only)	**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 #1313024; FAASt [Automation Program Group 20: Caguas Feeders 2601-01, 2601-03, 2602-02] (Distribution)

General Facility Information:

- **Facility Type:** Power generation, transmission, and distribution facilities
- **Facility:** Automation Program Group 20: Caguas
- **Facility Description:** Automation Program Underground Transmission Group 20: Caguas Feeders 2601-01, 2601-03, 2602-02 (Distribution)
- **Approx. Year Built:** 1970
- **GPS Latitude/Longitude:** [redacted]

Final Scope

1313024

FAASt [Automation Program Group 20: Caguas Feeders 2601-01, 2601-03, 2602-02] (Distribution)

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

Version 1 has been created to capture change in scope and cost as per Applicant provided documentation. Refer to documents labeled: "752810- DR4339PR - Project Amendment Request Letter DA Group 20 v1.pdf", "752810-DR4339PR- DSOW Group 20 Revision 08 - V1", and "752810-DR4339PR-APPENDIX A -LUMA Project Cost Estimate Revision 08".

SOW from previous version 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 defines the activities that will be performed using Public Assistance ("PA") funding and it may include § 406 hazard mitigation proposals ("HMPs").

According to the SOP, FEMA "anticipates that [SOW] submissions might include preliminary designs, including drawings and cost estimates. FEMA also

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

This document contains the detailed SOW for FEMA PA project 752810 Automation Program Group 20 (Distribution) under DR-4339-PR Public Assistance. The document provides a detailed description of the project, the scope of PA construction activities to be completed, common EHP review information, and project cost estimates. LUMA is seeking approval from COR3 and FEMA for PA funding for the scope described in this document.

LUMA submits this Detailed SOW pursuant to the Transmission and Distribution Operations and Maintenance Agreement between the Puerto Rico Electric Power Authority ("PREPA"), the Puerto Rico Public-Private Partnerships Authority ("P3A"), and LUMA, and in accordance with the Consent to Federal Funding Letter issued by PREPA and P3A, which collectively provide 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

As part of the electrical grid rebuild, LUMA developed a Transmission & Distribution Automation Program ("Program") through which it will install advanced technology equipment (i.e., reclosers and communicating fault current indicators (cFCIs)) to reduce both physical damage and service interruptions to the electrical grid caused by disasters. Although the intent is to deploy automation equipment throughout PREPA's transmission and distribution ("T&D") system, the Program will be implemented through multiple projects across the island on both T&D systems. The multiple projects within this Program are designed to fortify the electrical system's resilience, safeguard its infrastructure, and enhance service reliability during a disaster. The individual projects are interconnected and enhance each other, but each confers benefits independently. Automation is necessary to add modern resiliency capabilities to the T&D system. The 3.2 million Residents throughout Puerto Rico are dependent upon the successful completion of the Program and its ability to sustain the power grid in future disasters.

Project 752810 is one of the Program's distribution-level projects. It installs hardened poles and advanced technology equipment (specifically reclosers and cFCIs) to reduce physical damage and service interruptions to the distribution grid that could be caused by a disaster. Implementing reclosers, their communication kits, and cFCIs is critical for the Energy Management System ("EMS") and related components to function at their full capabilities and mitigate loss of service and physical damage in the event of future hurricanes. This project is necessary for the EMS to maintain the continuity of the distribution power grid on Feeders 2601-01, 2601-03, 2602-02, and 2702-01.

Key components of this project are: (1) pole replacement, (2) the three-phase reclosers and single-phase reclosers, and (3) the installation of cFCIs. Each of these components and their benefit to the grid are described further below:

(1) Pole Replacement to Accommodate the Installation of Reclosers

The addition of three-phase reclosers imposes additional load on poles due to the weight of the devices and their components. It also increases the area exposed to extreme weather conditions, such as hurricanes, thereby increasing the structural load requirements these poles must meet. Where an existing pole cannot accommodate a recloser, it will be substituted with a higher-class pole constructed from steel or concrete to ensure compatibility with the recloser and adherence to design criteria. This includes adjacent poles (i.e., poles that are on either side of the recloser pole supporting the overhead line conductors). Any new structure and foundation will be designed to LUMA design criteria and industry standards to support the pole, recloser, and its attachments.

In addition, LUMA is using a per-location approach to pole replacement because of the intricate dynamics of deploying three-phase reclosers. Furthermore, the integration of more connections, switches, and related infrastructure often necessitates taller poles to meet phase spacing and circuit-to-circuit spacing requirements. The locations of three-phase reclosers are determined by an electrical analysis performed by the design engineers. In those instances where the recloser would be located on an existing wood pole, that pole will be replaced with a pole that meets the compounded structural demands presented by that recloser.

(2) Feeder Reclosers

Reclosers are sophisticated devices that remotely detect faults within distribution lines, enable the isolation of circuit breakers linked to those faults—whether due to independent failures or breakdowns—and facilitate the swift restoration of power, often within milliseconds. This project will install three-phase and single-phase reclosers.

Three-Phase Recloser: A three-phase recloser is a protection device that is used on three-phase distribution feeders with high fault currents at the location. It is a single device with three switches that can open to interrupt fault currents and automatically reclose to restore power. Three-phase reclosers are communication-ready to enable remote control and visualization. The recloser's wireless communication capability will provide connectivity

to LUMA's EMS so the system operator knows their status and can remotely control them. Deployment of the wireless communication devices includes configuration, testing, and commissioning of the wireless communication device, all networking devices, data acquisition, and control systems that form the connectivity path of the recloser to the EMS.

The implementation of three-phase reclosers will preserve the continuity of electric services and avoid physical damage by pre-empting or minimizing disruptions. The three-phase reclosers can be triggered remotely and provide data back to the operations center, enabling LUMA to prioritize restoration activities, reduce customer outage time, and minimize the potential for cascading infrastructure damage. Installation of the three-phase reclosers and associated hardware is critical for the EMS and associated components to function with full capabilities, and to prevent loss of service and potential damage from future disasters. In this project we are installing seven three-phase reclosers.

Single-Phase Reclosers: A single-phase recloser is a single protection device with one switch that can open to interrupt fault currents and automatically reclose to restore power. A single-phase recloser performs the same functions as a three-phase recloser, but it does not have the ability to communicate with the EMS. This project will install single-phase reclosers on single-phase or two-phase distribution feeder and distribution lines branching from the feeder. Single-phase reclosers will also be used on feeders with three phases if fault currents are low at the location. In this project we are installing a total of nineteen single-phase reclosers.

(3) Communicating Fault Current Indicators

Installation of communicating fault current indicators ("cFCI") at strategic locations improves the outage management, restoration, and recovery process, specifically by decreasing the time required to detect and locate faults. The cFCIs operate independently of the feeder reclosers and help identify permanent and incipient faults in the distribution system, as well as collect voltage and current data, which can be used to detect system imbalance, prevent future issues due to harmonics and help in building a predictive failure model.

Data sent to the EMS aides the grid operator in making decisions that avoid outages and speed restoration. The cFCI can be programmed to send automatic notification/alarms based on user-set parameters. This allows for quick dispatch of field crews to specific sections of the feeders and to reduce the total restoration time during an outage event and to prevent physical damages. Installation of the three-phase reclosers and the communicating fault current indicators (communications ready) is critical for the EMS to efficiently mitigate the loss of service and potential damage in future disasters.

This project's scope does not contain fiber optics or communication capability that is included in other projects. This project is distinguishable from projects that include fiber optics as these feeders are using cellular technology for communications with the operations center. LUMA has developed this scope for cFCIs, reclosers, and their associated hardware only. The lack of fiber optics as a method of transmitting information in this scope of work does not prevent or limit the monitoring capabilities of the reclosers and cFCI or the automation capabilities of the reclosers on this feeder, nor does it prohibit the incorporation of fiber optics at a later date.

FACILITIES

FACILITIES LIST – BUILDINGS AND SUBSTATIONS

The following list includes the name, year of construction, and GPS coordinates of each building

or substation included in this project:

- None

FACILITIES LIST – OTHER FACILITIES

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

A. Facilities for Automation Group 20 Feeder Lines

Name	Feeder Number	GPS Start	GPS End
		[redacted]	
Caguas	2601-01		

Caguas	2601-03	[redacted]

Name	Feeder Number	GPS Start	GPS End
		[redacted]	
Caguas	2602-02		
Caguas	2702-01		

Note: Please refer to APPENDIX B - Project Considerations for a list of all GPS locations that this project will impact.

B. Staging Area

All materials will be stored and dispatched from the existing LUMA Regional Warehouses. The warehouse assigned is the Caguas Regional Warehouse, whose address is # 1 Street, Jose Mercado Corner, Caguas, PR. Warehouse coordinates are [redacted] The staging area will also be in the warehouse located at [redacted]

PROJECT AREA MAP WITH BOUNDARIES OF CONSTRUCTION
A map of the project area is not available at this time.

SECTION 428 SCOPE OF WORK

The proposed type of work for this project:
[X] Standard Project: Restores the facility/facilities to pre-disaster design and function to locally-adopted codes/standards and/or FEMA-approved industry standards.
[] Improved Project: Restores the pre-disaster function of the facilities and incorporates improvements or changes to its pre-disaster design not required by codes or standards.
[] Subrecipient's request letter included, see Appendix .
[] Recipient's approval letter included, see Appendix .
[] Alternate Project: Does not restore the pre-disaster function of the damage facility. The Subrecipient, through the Recipients, must obtain approval from FEMA.
[] Subrecipient's request letter included, see Appendix .
[] Recipient's approval letter included, see Appendix .

In the obligated submission (Version 0), LUMA proposed:
• Removal and replacement of sixteen (16) damaged poles.
• Install four (4) new poles.
• Install seven (7) Three Phase Reclosers.
• Install fourteen (14) Single Phase Reclosers, remove fuses and close jumpers.
• Install six (6) 1 kVA transformers.
• Install twenty-four (24) communicating fault indicators.

LUMA requests the alignment the scope and cost of Project 752810 with the approved 406 mitigation proposal from Project 746309 FAASt [Automation Program Group 30], including
• Pole replacement to accommodate recloser installation: 406 mitigation will fund the additional cost for pole strengthening (i.e., 428: remove the existing pole and replace with a round galvanized, 406 install a 12-sided galvanized).
• Feeder reclosers: 406 Mitigation will fund 100% of the cost of three-phase reclosers on the feeder backbone and the additional cost (delta) for the replacement of fuse cutouts for a single-phase reclosers on lateral circuit lines.
• Communicating Fault Current Indicators: 406 mitigation will fund the additional cost for the replacement of Fault Current Indicators (FCIs) with communicating Fault Current Indicators (cFCIs).
• Distribution Transformers: 406 mitigation will fund the installation of 1kVA stainless steel transformers to serve either the load or source side of the three-phase recloser.

The obligated DSOW included new pole installations. This DSOW aligns the scope of these poles with a 406 mitigation proposal approved by FEMA.

As detailed in the appendix of the amendment request letter, LUMA requests the following component additions to the project scope of work and cost estimate that were not included in the obligated project:
• Radio Communications Kit:

o LUMA originally planned to transmit data to and from Three-Phase Reclosers using fiber optic cable, which also required the installation of additional poles. LUMA now proposes installing radio communication kits to enable communication with the Three-Phase Reclosers and the PREPA SCADA system (EMS).
• Air Break Bypass Switches
o Air Break Bypass Switches are essential equipment of LUMA design standards for the Three-Phase Recloser. The cost of these switches was involuntarily omitted in the previous estimate. They are included in this proposed version. The purpose of this equipment is to isolate the recloser in case of failure or maintenance and keep the three-phase circuit energized while the situation is resolved.
• Due to engineering changes to the feeders in the project, this DSOW now includes six
(6) poles that were not part of Version 0 of the project.
o Three (3) new pole installations at new locations.
o Three (3) poles to be removed and replaced as part of the revised design.
o These changes align the scope with the 406 Mitigation proposal approved by FEMA, where applicable.

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

DESCRIPTION OF PROPOSED WORK TO BE PERFORMED

Below is a list of the "Proposed 428 Public Assistance Scope of Work" proposed for feeders of this group.

Feeder 2601-01

POLE FID	COORDINATES LAT, LONG	Existing (Remove)	428 (Replacement)	SCOPE OF WORK
NEW POLE	[redacted]	(NONE)	(50FT GALVANIZED ROUND	· Install a new 50FT galvanized round

POLE FID	COORDINATES LAT, LONG	Existing (Remove)	428 (Replacement)	SCOPE OF WORK
	[redacted]		POLE (OPS CP-C8) (S-6) (K-6) (ABS-3-XARM QTY=3)	tapered pole in new location mid sp · Install (2) primary and (1) second framings. · Install and connect one (1) set of Break Bypass Switch (ABS-3-XAR and the framing hardware to suppo them.
10351462		(45'C3 WOOD POLE) (S-1) (K-6)	(50FT GALVANIZED ROUND TAPERED POLE) (S-6) (K-6) (E-1-2-3) (F-1-3) (ABS-3-XARM QTY=3)	· Remove and dispose of the 45 wood pole and replace with a galvanized round pole. · Install (1) down guys. · Install (1) anchor. · Remove, dispose and repla primary and secondary framings. · Install and connect one (1) set of Break Bypass Switch (ABS-3-XAR and the framing hardware to suppo them.
NEW POLE		(NONE)	(50T GALVANIZED ROUND TAPERED POLE) (CP- C6 XARM) (ABS-3-XARM QTY=3)	· Install new 50FT galvanized round tapered pole. · Install primary framing. · Install and connect one (1) set of Break Bypass Switch (ABS-3-XARM the framing hardware to support them.
10357297		(ASSY 1509 (QTY=3))	(LABOR & REPAIR)	· Remove and dispose (3) Fuse C
10359335		(ASSY 1509 (QTY=3))	(LABOR & REPAIR)	· Remove and dispose (3) Fuse C

10352712	[redacted]	(ASSY 1509 (QTY=3))	(LABOR & REPAIR)	· Remove and dispose (3) Fuse C
1000522388		(ASSY 1509 (QTY=3))	(LABOR & REPAIR)	· Remove and dispose (3) Fuse C
10361043		(ASSY 1509 (QTY=3))	(LABOR & REPAIR)	· Remove and dispose (3) Fuse C
10352708		(45'-C3 WOOD POLE) (S-4- XARM) (CP-B5 XARM) (ASSY 1509 (QTY=2)) (K-5) (E-1-2-3 (QTY=2)) (F-1-3 (QTY=2)) (STL-10)	(50FT GALVANIZED ROUND TAPERED POLE) (S-6) (CP-B5 XARM) (K-5) (E-1-2-3) (F-1-3) (STL-10) ASSY 1509 (QTY=2)	· Remove and dispose of a 45' wood pole and replace with 50 galvanized round tapered pole. · Remove, dispose and replace primary and (1) secondary framings · Remove and dispose (2) dow Replace (1) downguy. · Remove and dispose (2) Replace (1) anchor.

POLE FID	COORDINATES LAT, LONG	Existing (Remove)	428 (Replacement)	SCOPE OF WORK
	[redacted]			· Remove, dispose and replace (2) Fuse Cutouts. · Remove, dispose and replace stre (LED Type).
10354083		(40'-C5 WOOD POLE) (CP-A6) (E-1-2-3) (F-1-3)	(50ft GALVANIZED ROUND TAPERED POLE) (CP- A6)	· Remove and dispose of a 40' wood pole and replace with 5 galvanized round tapered pole · Remove, dispose and replace fram · Remove, dispose and replace down guy. · Remove, dispose and replace (1) · Remove, dispose and replace stre (LED Type).
10354093		(40'-C5 WOOD POLE) (CP-A6) (E- 1-2-3) (F-1-3) (K-7 B) (STL-10)	(50FT GALVANIZED ROUND TAPERED POLE) (CP- A3) (E-1-2-3) (F-1-3) (K-7 B) (STL-10)	· Remove and dispose of a 40ft. C5 wood pole and replace with 50ft. galvanized round tapered pole. · Remove, dispose and replace primary and secondary framings. · Remove, dispose and replace (1) down guy. · Remove, dispose and replace (1) · Remove, dispose and replace Stre (LED Type).

10360709	[redacted]	(45'-C3 WOOD POLE) (S-6) (CP-B5 XARM) (E-1-2-3) (F-1-3) (K-7 B) (STL-10) (ASSY 1509 (QTY=2))	(50FT GALVANIZED ROUND TAPERED POLE) (S-6) (CP-B5 XARM) (E-1-2-3) (F-1-3) (K-7-B) (STL-10) ASSY 1509 (QTY=2))	· Remove and dispose of 45ft. wood pole and replace with 5(galvanized round tapered pole. · Remove, dispose and replace down guy. · Remove, dispose and Repla anchor. · Remove, dispose and rep Streetlight (LED Type). · Remove, dispose and replace (2) Cutouts.
10361952		(35'-C4 WOOD POLE) (S-5) (CP- B5 XARM) (K-7 A) (K-5) (E-1-2-3(QTY=2)) (F-1-3(QTY=2)) (STL-10)	(50FT GALVANIZED ROUND TAPERED POLE) (S-5) (CP-B5 XARM) (K-7 B) (E-1-2-3) (F-1-3) (STL-10)	· Remove and dispose of 35ft. wood pole and replace with 5(galvanized round tapered pole. · Remove and dispose (2) down guys. Replace (1) down guy. · Remove and dispose (2) anchors. Replace (1) anchor. · Remove, dispose and replace stre (LED Type).
10362263		(ASSY 1509 (QTY=2))	ASSY 1509 (QTY=2))	· Remove, dispose and replace (2)

POLE FID	COORDINATES LAT, LONG	Existing (Remove)	428 (Replacement)	SCOPE OF WORK
	[redacted]			Cutouts.
10354213		(ASSY 1509 (QTY=1))	ASSY 1509 (QTY=1))	· Remove, dispose and replace (1) Fuse cutout.
10362927		(ASSY 1509 (QTY=2))	(LABOR & REPAIR)	· Remove and dispose (2) Fuse cu
10354512		(ASSY 1509 (QTY=1))	(LABOR & REPAIR)	· Remove and dispose (1) Fuse cu
New pole		NONE	(50FT GALVANIZED ROUND TAPERED STEEL POLE) (CP-C6-XARM) (K-6)	· Install a new 50FT galvanized round tapered pole. · Install primary, neutral, and secondary framings.
10351775		LABOR, FUSE CUTOUT (QTY=3)	LABOR, JUMPER (QTY=3)) ASSY 1509 (QTY=3))	· Remove, dispose and replace (3 Fuse Cutouts. · Close jumpers.
Segment FID 6673763		None	(LABOR, FCI) (QTY=3)	· Install (3) Fault Current Indicators
Segment FID 10868121		None	(LABOR, FCI) (QTY=3)	· Install (3) Fault Current Indicators

Segment FID 1000522679	[redacted]	(50'H4 CONCRETE POLE) (S-6-2) (K-7-4) (STL-10)	(50FT GALVANIZED ROUND TAPERED POLE) (ABS-3-XARM) (S-6-2) (K-7 B) (K-5) (E-1-2-3 (QTY=2)) (F-4-2) (STL-10)	· Remove and dispose 50' H4 concrete pole and replace with 50 galvanized round tapered pole. · Install switch (ABS-3-XARM) due cFCI installation. · Remove, dispose and replace streetlight (LED Type). · Install primary and secondary fra · Install (2) down guys. · Install (1) anchor.

Feeder 2601-03

POLE FID	COORDINATES LAT, LONG	Existing (Remove)	428 (Replacement)	SCOPE OF WORK
1001734430	[redacted]	(45' H4 CONCRETE POLE) (S-6) (ASSY 1509(QTY=3)) (STL-10) (K-6) (K-5)	(50FT GALVANIZED ROUND TAPERED POLE) (S-6) (STL-10) (K-6) (K-5) (ABS-3-XARM QTY=3))	· Remove and dispose of 45' concrete pole and replace with galvanized round tapered pole · Remove, dispose and replac primary and secondary framing · Remove and dispose (3) Fuse Cutouts. · Install and connect one (1) s Air Break Bypass Switch (ABS- XARM) and the framing hardwa support them. · Use existing secondary conc as power supply for recloser lo side. · Remove, dispose and replac streetlight (LED Type).
7102218		40' H4 CONCRETE POLE) (K-6) (STL-10)	(50FT GALVANIZED ROUND TAPERED POLE) (S-6) (STL-10) (K-6) (ABS-3-XARMQTY=3))	· Remove and dispose of 40' H4 concrete pole and replace with 5 galvanized round tapered pole. · Remove, dispose and replace primary and secondary framing. · Remove, dispose and replace streetlight (LED type). · Install spacer starting at 60 inches from pole top. · Install and connect one (1) s Air Break Bypass Switch (A XARM) and the framing hardwa support them.
7103730		(ASSY 1509 QTY=1))	(LABOR & REPAIR)	· Remove and dispose (1) Fuse Cutouts.
Segment FID 6673772		None	(LABOR, FCI) (QTY=3)	Install (3) Fault Current Indicato
Segment FID 10955688		None	(LABOR, FCI) (QTY=3)	Install (3) Fault Current Indicato

Feeder 2602-02

POLE FID	COORDINATES LAT, LONG	Existing	Install	SCOPE OF WORK
7212183	[redacted]	(40'-C2 WOOD POLE) (S-3) (K-7 B) (E-1-2-3 (QTY = 1)) (F-1-3 (QTY =1))	(50ft GALVANIZED ROUND TAPERED POLE) (S-6) (K-7-4) (K-6) (E-1-2-3 (QTY = 1)) (F-1-3 (QTY =1)) (ABS-3-XARM QTY=3))	· Remove and dispose of a 40 wood pole and replace with galvanized round tapered pole. · Remove, dispose and replace (1 primary and (2) secondary framing · Remove, dispose and replace (1 Anchor. · Remove, dispose and replace (1 down guy. · Install and connect one (1) set Break Bypass Switch (ABS-3-X and the framing hardware to sup them.
7211855		(ASSY 1509 (QTY=3))	(LABOR & REPAIR)	· Remove and dispose (3) Fuse
7212343		(ASSY 1509 (QTY=3))	(LABOR & REPAIR)	· Remove and dispose (3) Fuse
7213634		(ASSY 1509 (QTY=3))	(LABOR & REPAIR)	· Remove and dispose (3) Fuse
7211911		(45 FT S3 GALVANIZED STEEL POLE) (CP-C1) (35 FT C2 WOOD STUB POLE) (E-2-1)	(50FT GALVANIZED ROUND TAPERED POLE) (ABS-3-XARM) (40 FT ROUND GALVANIZED STEEL STUB POLE) (E-2-1) (E-1-2-3) (F1-3)	· Remove and dispose 45' S3 and replace with a 50FT galva round tapered pole. · Remove, dispose and re primary and neutral framing. · Install (3) Manual Disconnecti Switches (**ABS-3-XARM).** · Remove and dispose stub po C2 wood stub pole and replace 40' galvanized round tapered pole at coordinates [redacted] · Remove, dispose and replace (1) spanguy wire · Install (1) down guy. · Install (1) anchor.
7211855		(LABOR, FUSE CUTOUT (QTY=3)) (LABOR, CROSSARM (QTY=2))	(LABOR, JUMPER (QTY=3)) (LABOR, PIN INSULATOR (QTY=1))	· Remove and dispose (3) Fuse Cutouts. · Remove and dispose (2) cross · Close (3) Jumpers. · Pin (1) insulator.

POLE FID	COORDINATES LAT, LONG	Existing	Install	SCOPE OF WORK

7936496	[redacted]	(45'-C3 WOOD POLE) (CP-A6) (K-7 B)	(50FT GALVANIZED ROUND TAPERED POLE) (CP-A6) (K-7 B)	· Remove and dispose of a 45ft wood pole and replace with 50ft galvanized round tapered pole. · Remove, dispose and replace primary and secondary framings.
7212941	[redacted]	(40'-S3 GALVANIZED STEEL POLE) (CP-A6) (K- 7 A) (STL-10)	(50FT GALVANIZED ROUND TAPERED POLE) (CP-A6) (K-7 A) (STL- 10)	· Remove and dispose of 40ft. S galvanized steel pole and replac with 50ft. galvanized round tape pole. · Remove, dispose and replace primary and secondary framings · Remove, dispose and replace streetlight (LED Type).
7936127	[redacted]	(ASSY 1509 (QTY=1))	(LABOR & REPAIR)	· Remove, dispose and replace Fuse Cutout.
7936501	[redacted]	(ASSY 1509 (QTY=1))	(LABOR & REPAIR)	· Remove and dispose (1) Fuse Cutout.
1002011550	[redacted]	(ASSY 1509 (QTY=1))	(LABOR & REPAIR)	· Remove, dispose and replace Fuse Cutout.
7213095	[redacted]	(ASSY 1509 (QTY=1))	(LABOR & REPAIR)	· Remove and dispose (1) Fuse Cutout.
7213607	[redacted]	(ASSY 1509 (QTY=1))	(LABOR & REPAIR)	· Remove and dispose (1) Fuse Cutout.
NEW POLE	[redacted]	NONE	(50FT GALVANIZED ROUND TAPERED POLE) (CP-B12-XARM)	· Install new 50FT galvanized round tapered pole as midspar · Install primary and neutral fra
7214099	[redacted]	(LABOR, FUSE (QTY=2))	(LABOR, SOLID BLADE (QTY=2))	· Remove, dispose and replace Fuse Cutouts. · Install (2) Solid Blades.
Segment FID 7114242	[redacted]	(NONE)	(LABOR, FCI) (QTY=3)	· Install (3) Fault Current Indica
Segment FID 8432625	[redacted]	(NONE)	(LABOR, FCI) (QTY=3)	· Install (3) Fault Current Indica
Segment FID 8432625	[redacted]	50'-C2 WOOD POLE) (CP-C6 XARM) (K-7 B) (STL-10) (E-1-2-3) (F-1-3)	(50FT GALVANIZED ROUND TAPERED POLE) (CP-C6-XARM) (ABS-3-XARM) (K-7 B) (STL-10) (E-1-2-3)	· Remove and dispose of 50' C wood pole and replace with 50F galvanized round tapered pole. · Install (3) Manual Disconnecting Switch (ABS-3-XARM) · Remove, dispose and replace streetlight (LED type).

POLE FID	COORDINATES LAT, LONG	Existing	Install	SCOPE OF WORK

	[redacted]		(F-1-3) (T-1) (37.5KVA,2.40/4.16 KV - 120/240 V)	· Remove, dispose and replace primary and secondary framing · Remove, dispose and replace (1) anchor and (1) downguy. · Remove, dispose and replace transformer 37.5 kVA, 2.40/4.1 120/240V).
NEW POLE		NONE	(50FT GALVANIZD ROUND TAPERED POLE) (CP-A12) (K-6)	· Install new midspan 50FT Galvanized round tapered pole · Install primary, secondary, an neutral framings. · Install (1) Fuse Cutout.
7935831		(40 FT S3 STEEL POLE) (CP-A6) (K-7 FIG. A)	(50ft GALVANIZED ROUND TAPERED POLE) (CP-A12) (K-7 FIG. A)	· Remove and dispose 40' S3 s pole and replace with a 50FT galvanized round pole. · Remove, dispose and replace the primary, neutral and secondary framings. · Install (1) Fuse Cutout.
7936131		(45 FT H3 CONCRETE POLE) (CP-A1) (CP-A5) (K-7 FIG. A)	(50FT GALVANIZED ROUND TAPERED POLE) (CP-A7) (K-7 FIG. A)	· Remove and dispose 45' H3 concrete pole and replace with galvanized round pole. · Remove, dispose and replace primary, neutral and secondary framings. · Install (1) Fuse Cutout.

Feeder 2702-01

POLE FID	COORDINATES LAT, LONG	Existing	Install	SCOPE OF WORK
NEW POLE	[redacted]	(NONE)	(70FT GALVANIZED ROUND TAPERED POLE) (38KV VERTICAL SUSPENSION) (CP-C6 XARM) (ABS-3-XARM QTY=3)	· Install new midspan galvanize 70FT galvanized round pole. · Install primary framing. · Install 38kV vertical suspensi framing. · Install and connect one (1) s Air Break Bypass Switch (ABS-3 XARM) and the framing hardwa support them.
7117414		(50'H6 CONCRETE POLE) (38kV DEADEND-SC-VERTICAL DEADEND ASSY 10-60) (CP-C1) (CP-A5)	(70FT GALVANIZED ROUND TAPERED POLE) (38kV DEADEND-SC-VERTICAL DEADEND ASSY 10-60) (CP-C1) (CP-A5) (E-1-2-3(QTY-2)) (F 4-2)	· Remove and dispose of 50' H6 concrete pole and replace with a galvanized round pole. · Remove, dispose and replace transmission assembly. · Remove, dispose and replace (primary framing . · Install (2) downguys. · Install (1) anchor
10650343		(ASSY 1509 (QTY=3))	(LABOR & REPAIR)	· Remove and dispose (3) Fuse Cutouts.
1001756465		(ASSY 1509 (QTY=3))	(LABOR & REPAIR)	· Remove and dispose (3) Fuse

7157370	[redacted]	(65'-H6 CONCRETE POLE) (38KV VERTICAL SUSPENSION) (S-1)	(70FT GALVANIZED ROUND TAPERED POLE) (38KV VERTICAL SUSPENSION) (S-6)	· Remove and dispose 65' H6 co pole and replace with 70FT galva round tapered pole. · Remove, dispose and replace p framing.
NEW POLE		(NONE)	(50FT GALVANIZED ROUND TAPERED POLE) (CP-B6 XARM)	· Install new midspan 50ft. galvanized round pole. · Install primary framing.
7118030		(FUSE REMOVAL (QTY=3))	(LABOR & REPAIR)	· Remove, dispose and replace (Cutouts.
7116210		(FUSE REMOVAL (QTY=3))	(LABOR & REPAIR)	· Remove and dispose (3) Fuse
1001325535		(FUSE REMOVAL (QTY=3))	(LABOR & REPAIR)	· Remove, dispose and replace (Cutouts.
7118824		(35' C4 WOOD POLE) (AC-C3 XARM) (STL-10) (E-1-2-3 (QTY=2)) (F-1-3 (QTY=2))	(50FT GALVANIZED ROUND TAPERED POLE) (CP-C3 XARM) (ABS-3-XARM) (STL-10)	· Remove and dispose of 35' C4 pole and replace with 50FT galva round tapered pole. · Remove, dispose and replace (primary framing.

POLE FID	COORDINATES LAT, LONG	Existing	Install	SCOPE OF WORK
	[redacted]	(K-7 B)	(E-1-2-3 (QTY=2)) (F-1-3 (QTY=2)) (K-7 B) (K-5)	· Remove and dispose (1) secondary framing. · Install (2) secondary framing. · Install (3) Manual Disconnecting Switches (ABS-3-XARM). · Remove, dispose and replace streetlight (LED Type). · Remove, dispose and replace (downguys. · Remove, dispose and replace (anchors.
Segment FID 67224656		None	(LABOR, FCI) (QTY=3)	Install (3) Fault Current Indicators
Segment FID 8454059		None	(LABOR, FCI) (QTY=3)	Install (3) Fault Current Indicators

Notes Regarding Proposed Work

1. Remove and replace poles, including hardware in the same location. If unable to install the replacement in the same location, the pole will be installed within the easement for overhead distribution lines. Easements are established with the purpose of providing LUMA reasonable access to its facilities, in order to maintain, repair, improve, operate, and expand facilities.
2. Existing wood poles are to be replaced by galvanized tapered poles, at the locations identified in the table above. Refer to APPENDIX B - Project Considerations, column C (soil area and depth impact) for the depths of the galvanized tapered poles.
3. New guy wires and anchors are to be installed within the easement for guys. The maximum distance an anchor will be installed for a 50ft pole is 25ft from the base of the pole, within the easement for guys.
4. Existing overhead conductors, poles, assemblies, and attached components will be disconnected, removed, and replaced as outlined in the Scope of Work column in the table above. When existing overhead conductor, assemblies, and attached components are not being replaced, they will be re-attached to the pole to complete the scope of work.

CODES & STANDARDS

The following will be referenced when applying specific codes, specifications, and standards to the project design:
A. LUMA Overhead Electrical Distribution System Manual 4301.001 version 4, available in Grants Portal - Applicant Event Profiles.
B. Consensus-based codes, per FEMA's Public Assistance Alternative Procedures (Section 428) Guide for Permanent Work FEMA-4339-DR-PR (February 2020).
C. 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.
D. FEMA Recovery Interim Policy FP-104-009-11 Version 2.1, Consensus-Based Codes, Specifications, and Standards for Public Assistance.
E. LUMA's latest Design Criteria Document (DCD) which aggregates the design considerations for most of the consensus-based codes, specifications, and standards listed in FEMA Recovery Interim Policy 104-009-11 Version 2.1 (December 20, 2019).

COMMON EHP REVIEW INFORMATION

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

[X] **Ground disturbance outside of existing footprint.** If checked, provide a description of the ground disturbing activities including the extent, location, and depth of the disturbance.
• Poles - Refer to APPENDIX B - Project Considerations, column C (soil area and depth impact), for the depths of the poles to be installed.

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

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

[X] **Vegetative Removal.** If checked, describe the removal work to be performed, its location, and its extent.
• Vegetation clearance will be performed solely to the extent that it allows crews to conduct work and will be limited to a 10 ft radius surrounding the surface of the pole, but not to exceed the width of the easement. This is for the exclusive purpose of gaining access to the pole to conduct repairs. The costs related to vegetation clearance procedures are covered in project723883 FAASt [SanJuan] (Vegetation). The vegetation removal process will be managed in accordance with federal and state regulations.

[X] **Demolition**. If checked, include a description of what will be removed and the extent and depth of any ground disturbing activities. Additionally, include a description of (1) demolition debris type (construction debris, white goods, hazardous materials, etc.); (2) GPS location of temporary debris storage sites; (3) final debris disposal location; and (4) final debris disposal method.
• Debris will be separated and taken to an authorized waste disposal facility. Information on location of temporary debris storage sites, final debris disposal location, and final debris disposal method are not yet available.

[X] **Staging areas, landing areas for air transport, and access roads.** If checked, provide GPS location of staging areas, and access roads. Include a description of the extent of any related vegetative removal, ground disturbance, or stabilization measures required (such as gabion walls, retaining walls, paving, etc.).
• **Staging Area:** All materials will be stored and dispatched from the existing LUMA Regional Warehouses. The warehouse locations are described in Section 7.2 above. LUMA has not identified any other additional staging areas that will require.
• **Access Roads:** New access roads are not needed for this project. All poles to be installed, or removed and replaced, are adjacent to a road and work will be performed within the road easement.

[X] **Fill material.** If the project includes the use of fill material, provide the source of the fill material including the provider's name and address (if known).
• Fill, gravel, and sand materials will be obtained from an approved supplier as referenced in the following document: LUMA Vendor Directory List.

[] **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 ("A&E") design information. For a more detailed cost estimate refer to t Appendix A- LUMA Project Cost Estimate.

COST ESTIMATE		
Cost Element	**Costs**	
PLANNING	**$332,131.56**	
MANAGEMENT	**$95,774.44**	
LPCE Distribution Automation Group 20	**$1,652,653.61**	
GENERAL CONDITIONS	**$83,412.31**	
COST TOTALS	**$2,163,971.92**	
DEDUCTIONS	**TOTAL INSURANCE PROCEEDS RECEIVED**	**$-**
	DE-OBLIGATION TO FAASt IF APPLICABLE	**$-**
FAASt ALLOCATIONS	**FAAST PROJECT # 752810- 428**	**$1,614,232.03**
	FAASt A&E # 335168 - 428	**$346,930.18**
	FAASt E&M #673691 - 428	**$202,809.71**

428 Project Summary, Version 1:

Work to Be Completed (WTBC): $2,163,971.92 - $2,163,971.92 = $0.00 (See project note #7)

E&M Deduction (#673691) 428: -$202,809.71 + $202,809.71 = $0.00 (See project note #7)

A&E Deduction (Global A&E FAASt 335168):-$346,930.18 + $346,930.18 = $0.00 (See project note #7)

Project Total Cost: = $0.00 (See project note #7)

VERSION SUMMARY OF KEY CHANGES:

V0: $2,956,957.78 - $333,695.70 (WTBC, A&E Deduction)

V1: $2,163,971.92 - $202,809.71 - $346,930.18- $2,623,262.08 (WTBC, A&E Deduction, E&M Deduction, Reconcile funding from De-obligation of V0)

Project Notes:

1. Refer to detailed SOW provided in document: "752810-DR4339PR- DSOW Group 20 Revision 08 - V1".
2. Refer to detailed cost estimate in document: "752810-DR4339PR-APPENDIX A -LUMA Project Cost Estimate Revision 08".
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 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 costs of equipment and/or material will be reduced from this project (not labor). All costs associated with Planning, Management, General Conditions, and Contingencies will remain in this project.
5. This project is part of 136271-MEPA078 Puerto Rico Electrical Power Authority Island Wide FAASt Project.
6. The following attachments and appendices are provided with this DSOW: LUMA Project Cost Estimate; Project Considerations; LUMA's Active Projects; Pole Height Increase Justification.
7. 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 pro-cessed in the same version due to system limitation. Thus, two separate versions are re-quired to capture cost change. The current version will obligate the positive funds (whether 406 HMP or 428), and the future version will capture the negative portion. This guidance applies only to Sub-FAASt transactions; non-FAASt transactions remain unchanged. See document file: "SP 752810 - DR4339PR - Email Confirmation Sub-FAASt Transaction Guid-ance.pdf", and "SP 752810 - DR4339PR - Email for Version 1 Cost Change".

406 HMP Scope

Project number: 752810; FAASt [Automation Program Group 20] (Distribution)

Damage number: DI#1313024; FAASt [Automation Program Group 20: Caguas Feeders 2601-01, 2601-03, 2602-02] (Distribution]

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

Location: Caguas, Puerto Rico

GPS Latitude/Longitude: [redacted]

Hazard Mitigation Narrative

During the incident period from September 17, 2017, to November 15, 2017, the Commonwealth of Puerto Rico experienced hurricane-force winds, heavy rain, flooding, and power outage from Hurricane Maria. The incident caused damage to the electrical system, such as 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).

As part of the electrical grid rebuild, the subrecipient developed a Transmission & Distribution Automation Program ("Program") through which it will install advanced technology equipment (i.e., reclosers and communicating fault current indicators (cFCIs)) to reduce both physical damage and service interruptions to the electrical grid caused by disasters. Although the intent is to deploy automation equipment throughout PREPA's Transmission and Distribution ("T&D") system, the Program will be implemented through multiple projects across the island on both T&D systems.

The multiple projects within this Program are designed to fortify the electrical system's resilience, safeguard its infrastructure, and enhance service reliability during a disaster. The individual projects are interconnected and enhance each other, but each confers benefits independently. Distribution Automation (DA) projects will be submitted regionally as components of the real time monitoring and automation network being installed on island. DA projects are physically incorporated into the distribution line network.

Project Overview:

DA Group 20 is one of the Program's distribution-level projects. It installs hardened poles and advanced technology equipment (specifically reclosers and cFCIs) to reduce physical damage and service interruptions to the distribution grid that could be caused by a natural disaster. Implementing reclosers, their communication kits, and cFCIs is critical for the Energy Management System ("EMS") and related components to function at their full capabilities and mitigate loss of service and physical damage in the event of future hurricanes. This project is necessary for the EMS to maintain the continuity of the distribution power grid on Feeders 2601-01; 2601-03; 2602-02 and 2702-01.

The purpose of this project is to install real time monitoring to mitigate cascading effects and physical damage to critical components, protects federal investments, and reduces outage times to facilities. Key components of this project are: (1) pole replacement, (2) three-phase and single-phase reclosers, and (3) the installation of cFCIs.

Mitigation Approach:

The mitigation strategy to reduce or eliminate cascading effects and physical damage to critical components, and outage times at Feeders 2601-01; 2601-03; 2602-02 and 2702-01, and is accomplished by replacing round galvanized steel poles with a 12-sided galvanized steel poles as it is stronger than the round poles; replacing galvanized transformer by stainless steel transformer (more resistant to corrosion) as the island is located in a highly corrosive environment due to its size and proximity to the coast; replacing the fault current indicator (FCI) with a communication fault current indicator (cFCI) for real-time monitoring to prevent and communicate the location of the fault; and replacing fuse cutouts and manual disconnect switches with a single-phase and three-phase recloser on the feeder backbone. Additionally, install 1kVA transformers to power the reclosers; and install communication radios for the operation of the three-phase reclosers (wireless connection).

In order to minimize the damage and increase resilience, the subrecipient is proposing the installation of complementary equipment, technologies, and software systems that will provide visibility to the system, grid intelligence and automation. DA is a mitigation measure designed to protect the Puerto Rico Electric Power Authority's (PREPA) critical electric grid infrastructure and reduce risk to public health and safety from power outages caused by a natural disaster.

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)*

1. Pole Replacement to Accommodate the Installation of Reclosers:

The addition of three-phase reclosers imposes additional load on poles due to the weight of the devices and their components. It also increases the area exposed to extreme weather conditions, such as hurricanes, thereby increasing the structural load requirements these poles must meet. Where an existing pole cannot accommodate

a recloser, it will be substituted with a higher-class pole constructed from steel or concrete to ensure compatibility with the recloser and adherence to design criteria. Any new structure and foundation will be designed to LUMA design criteria and industry standards to support the pole, recloser, and its attachments. In addition, LUMA is using a per-location approach to pole replacement because of the intricate dynamics of deploying three-phase reclosers. Furthermore, the integration of more connections, switches, and related infrastructure often necessitates taller poles to meet phase spacing and circuit-to-circuit spacing requirements. The locations of three-phase reclosers are determined by an electrical analysis performed by the design engineers.

As a mitigation strategy, 406 HM will fund the additional cost (delta) for 27ea pole strengthening (pole class, concrete base, and additional guywire).

Pole Description:

a. 40ft S5.7 12-sided galvanized steel poles = 1ea

b. 45ft S5.7 12-sided galvanized steel poles = 11ea

c. 50ft S8.5 12-sided galvanized steel poles = 11ea

d. *60ft S8.5 12-sided galvanized steel poles = 1ea

e. 70ft S8.5 12-sided galvanized steel poles = 3ea

*As part of the installation of the 3PH recloser, the subrecipient increased the pole height to accommodate the 3PH recloser. Pole height increase justification for one pole:

- Feeder 2601-01, WOP 3PH Recloser Installation – Segment FID 10860947: The proposed design scope includes the installation of a new 60-foot S8.5 steel pole at a midspan location. The structure will support two overhead distribution feeders operating at 13.2 kV (Feeder 2603-10) and 8.32 kV (Feeder 2601-01), respectively. Additionally, a three-phase recloser will be installed on the lower 8.32kV circuit to provide fault isolation and sectionalizing capabilities.

The decision to use a 60-foot pole, instead of the standard 50-foot alternative, is based on the requirement to comply with vertical clearance regulations and structural design standards associated with the installation of two independent distribution circuits on a single-pole structure, in addition to the integration of a three-phase (3F) recloser on the lower circuit (Feeder 2601-01).

2. Feeder Reclosers:

Reclosers are sophisticated devices that remotely detect faults within distribution lines, enable the isolation of circuit breakers linked to those faults—whether due to independent failures or breakdowns—and facilitate the swift restoration of power, often within milliseconds.

Three-Phase Recloser: A three-phase recloser is a protection device that is used on three-phase distribution feeders with high fault currents at the location. It is a single device with three switches that can open to interrupt fault currents and automatically reclose to restore power. Three-phase reclosers are communication-ready to enable remote control and visualization. The recloser's wireless communication capability will provide connectivity to LUMA's EMS so the system operator knows their status and can remotely control them.

The implementation of three-phase reclosers will preserve the continuity of electric services and avoid physical damage by pre-empting or minimizing disruptions. The three-phase reclosers can be triggered remotely and provide data back to the operations center, enabling LUMA to prioritize restoration activities, reduce customer outage time, and minimize the potential for cascading infrastructure damage. Installation of the three-phase reclosers and associated hardware is critical for the EMS and associated components to function with full capabilities, and to prevent loss of service and potential damage from future disasters.

Single-Phase Reclosers: A single-phase recloser is a single protection device with one switch that can open to interrupt fault currents and automatically reclose to restore power. A single-phase recloser performs the same functions as a three-phase recloser, but it does not have the ability to communicate with the EMS. This project will install single-phase reclosers on single-phase or two-phase distribution feeder and distribution lines branching from the feeder. Single-phase reclosers will also be used on feeders with three phases if fault currents are low at the location. In this project we are installing a total of two single-phase reclosers.

As a mitigation strategy, 406 HM will fund the additional cost (delta) for the replacement of 20ea fuse cutouts with **19ea** single-phase reclosers and the installation of **7ea** three-phase reclosers.

3. Communicating Fault Current Indicators:

Installation of communicating fault current indicators ("cFCI") at strategic locations improves the outage management, restoration, and recovery process, specifically by decreasing the time required to detect and locate faults. The cFCIs operate independently of the feeder reclosers and help identify permanent and incipient faults in the distribution system, as well as collect voltage and current data, which can be used to detect system imbalance, prevent future issues due to harmonics and help in building a predictive failure model.

cFCIs help reduce physical damage on the system by providing real-time monitoring and early detection of abnormal conditions. Essentially, cFCIs act as the eyes and ears of the system, reducing wear and tear by allowing quick, intelligent responses instead of waiting for catastrophic failure.

As a mitigation strategy, 406 HM will fund the additional cost (delta) for the replacement of **24ea** fault current indicators (FCIs) by **24ea** communicating fault current

indicators (cFCIs).

4. Stainless Steel Transformer (37.5 kVA):

Galvanized steel transformers are being upgraded to high-strength stainless steel. 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 prevents debris impact better than galvanized steel. Transformer failure poses harm to the equipment and the public due to resulting loss of power. Therefore, the subrecipient proposes replacing the galvanized transformers with stainless-steel transformers located more than one mile from the shoreline as the existing transformers across the island suffer from corrosion, not just the ones close to the seashore.

Stainless steel transformer tanks offer several advantages over galvanized steel and other materials, including durability, overall strength, and corrosion resistance, therefore mitigating against damage in future disasters. Stainless steel is a high- strength material that can withstand a variety of harsh conditions that transformers are subjected to before, during, and after a hurricane, such as high temperatures, extreme pressures, and physical impact. They are made of non-combustible materials, so they resist fire more effectively than other materials often used in transformer construction, such as painted steel. This reduces the likelihood of fires which place the system at risk of further damage and neighborhoods at risk of life and property damage after a storm.

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.

As a mitigation strategy, 406 HM will fund the additional cost (delta) for the replacement of **1ea** galvanized transformer by **1ea** stainless steel transformer

Mitigation Measures *(Supplementary)*

1. Stainless Steel Transformer (1kVA):

To enable the operation of three-phase reclosers, it is essential to connect a 120/240V AC voltage source. In areas where this voltage is accessible, the recloser will be linked to the existing secondary line, ensuring that these facilities possess the capability to handle the load produced by the recloser. In instances where the necessary infrastructure to supply voltage to the recloser 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, which includes protection, automation, and communication functionalities. This ensures that the intelligent features of the recloser operate reliably, even in the event of a medium-voltage power interruption.

As a mitigation strategy, 406 HM will fund the installation of **6ea** 1kVA stainless steel transformers.

2. Radio Communication Kit for Three-Phase Reclosers:

The recloser's wireless communication capability will provide connectivity to LUMA's EMS in order to the system operator to know their status and can remotely control the three-phase reclosers. Deployment of the wireless communication devices includes configuration, testing, and commissioning of the wireless communication device, all networking devices, data acquisition, and control systems that form the connectivity path of the recloser to the EMS. Therefore, as part of the installation of the 2ea three-phase reclosers it will be necessary to install communication radios and commissioning for the operation of the reclosers (wireless connection).

As a mitigation strategy, 406 HM will fund the installation of **7ea** radio communication kit.

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Hazard Mitigation Proposal (HMP) Cost:

Total Net Hazard Mitigation Cost (Base Cost) = $ 671,727.82

+ HM (Subrecipient A&E, Management & General Conditions) = $ 245,747.26

Hazard Mitigation Total Cost = **$ 917,475.07**

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Hazard Mitigation Proposal (HMP) Cost Distribution:

Equipment and Materials (E&M) = $ 358,776.21

Architecture and Engineering (A&E) = $ 147,943.48

Construction Cost = $ 410,755.38

Hazard Mitigation Total Cost = **$ 917,475.07**

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 **$917,475.07 (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	$2,956,957.78	Uncompleted
3510	1	Lump Sum	($333,695.70)	Uncompleted
9201	1	Lump Sum	$0.00	Completed
3510	1	Lump Sum	$0.00	Uncompleted
9001	1	Lump Sum	$0.00	Uncompleted
9001	1	Lump Sum	$0.00	Uncompleted
3510	1	Lump Sum	$0.00	Uncompleted
9001	1	Lump Sum	$0.00	Uncompleted

CRC Gross Cost	$2,623,262.08
Total 406 HMP Cost	$917,475.07
Total Insurance Reductions	$0.00
CRC Net Cost	$3,540,737.15
Federal Share (90.00%)	$3,186,663.44
Non-Federal Share (10.00%)	$354,073.71

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.
- 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.
- 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 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

9/2/2026

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.

6/11/2026

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 Program Group 20] (Distribution) (Cost Only)**.

406 Mitigation

There is no additional mitigation information on **FAASt [Automation Program Group 20] (Distribution) (Cost Only)**.

Environmental Historical Preservation

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

EHP Conditions

- Any change to the approved scope of work will require re-evaluation for compliance with NEPA and other Laws and Executive Orders.
- This review does not address all federal, state and local requirements. Acceptance of federal funding requires recipient to comply with all federal, state and local laws. Failure to obtain all appropriate federal, state and local environmental permits and clearances may jeopardize funding.
- If ground disturbing activities occur during construction, applicant will monitor ground disturbance and if any potential archaeological resources are discovered, will immediately cease construction in that area and notify the State and FEMA.
- a. The Subrecipient and/or Subrecipient's contractor shall follow the Low Impact Debris Removal Stipulations (LIDRS) as stated in Appendix E of the Project-Specific Programmatic Agreement Among FEMA, the SHPO, ACHP, COR3, and PREPA (PSPA), executed on August 2, 2022. b. Unexpected Discoveries: Pursuant to Stipulation III.B of the PSPA, if, in the course of implementing this Individual Undertaking(s), previously unidentified structures, sites, buildings, objects, districts, or archaeological deposits, that

may be eligible for listing in the National Register, or human remains are uncovered, or if it appears that an Individual Undertaking has affected or will affect a previously identified historic property in an unanticipated manner, the contractor must notify Subrecipient who will immediately notify the Recipient. Work must stop in the vicinity of the discovery and measures must be taken to protect the discovery and avoid additional harm. c. Additional staging areas and/or work pads within work site area haven't been identified yet. The Recipient/Subrecipient and/or private operator must provide the information of any additional staging areas or work pads for EHP evaluation as soon as available specially if any construction activity will be necessary to prepare the site(s). Information for staging areas and/or work pads confined to previously disturbed or hardened surfaces can be provided at close-out d. All borrow or fill material must come from pre-existing stockpiles, material reclaimed from maintained roadside ditches (provided the designed width or depth of the ditch is not increased), or commercially procured material from a source existing prior to the event. For any FEMA-funded project requiring the use of a non-commercial source or a commercial source that was not permitted to operate prior to the event (e.g., a new pit, agricultural fields, road ROWs, etc.) in whole or in part, regardless of cost, the Applicant must notify FEMA and the Recipient prior to extracting material. FEMA must review the source for compliance with all applicable federal environmental planning and historic preservation laws and executive orders prior to a Sub-recipient or their contractor beginning borrow extraction. Consultation and regulatory permitting may be required. Non-compliance with this requirement may jeopardize receipt of federal funding. Documentation of borrow sources utilized is required at close-out and must include fill type (private, commercial, etc.), name, fill site GPS coordinates (not of the company/governmental office), address, and type of material.

- The Applicant shall handle, manage, and dispose of all types of hazardous waste in accordance with requirements of local, state, and federal laws, regulations, and ordinances. In addition, the Applicant shall ensure that all debris is separated and disposed of in a manner consistent with the PR DNER guidelines at a permitted site or landfill. The contractor/applicant will be responsible for the proper disposition of construction debris in authorized landfills providing the name, location, coordinates and permits of the facility to the corresponding authorities. Unusable equipment, debris, white goods, scrap metal any other material shall be disposed in approved manner and location. In the event significant items are discovered during the implementation or development of the project the Applicant shall handle, manage, and dispose petroleum products, hazardous materials, and toxic waste in accordance with the requirements of the local and federal agencies. Noncompliance with these requirements may jeopardize receipt of federal funds.
- 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.
- Puerto Rican boa (PR boa; Chilabothrus inornatus) In 2023, the Service amended a Programmatic Biological Opinion (PBO) for the Puerto Rican boa and the Virgin Islands tree boa. The below measures are included as Terms and Conditions (T&Cs) in the amended PBO (USFWS 2023). These T&Cs shall be part of FEMA&#65533;s conditions in projects where these species can occur, and a copy of the PBO should be made available to the Applicant for compliance. 1. Inform all project personnel about the potential presence of the Puerto Rican (PR) boa and Virgin Islands (VI) boa in areas where the proposed work will be conducted and provide training on PR and VI boa identification. A pre-construction meeting will be conducted to inform all project personnel about the need to avoid harming these species. All personnel will be advised that there are civil and criminal penalties for harming, harassing, or killing species protected under the Endangered Species Act of 1973. An educational poster or sign with photo or illustration of these species will be displayed at the project site. 2. Prior to any construction activity, including removal of vegetation and earth movement, the boundaries of the project area and any area to be excluded and protected will be clearly marked in the project plan and in the field to avoid further habitat degradation outside of the footprint of the project.
- 3. Once areas are clearly marked, and right before the use of heavy machinery and any construction activity (including removal of vegetation and earth movement), biologist or designated project personnel with experience on these species will survey the areas to be cleared to verify the presence of any PR or VI boa within the Action Area. If a PR or VI boa is found during the search, it should be captured and managed as per #6 below. Once the removal of vegetation begins, the biologist or designated personnel must remain at the work site and be ready to capture any boa that might be in harms way as the result of the habitat disturbance (see #6). 4. For VI boas, once the Action Area has been searched, vegetation will be cut about one meter above ground prior to the use of heavy machinery for land clearing. Cutting vegetation by hand will allow VI boas present on site to move away on their own to adjacent available habitat. If there is no suitable habitat adjacent to the project site, any VI boa found will be relocated accordingly (see #6). 5.For all boa sightings (dead or alive), record the time and date of the sighting and the specific location where it was found. Data will also include a photo of the animal (dead or alive), relocation site GPS coordinates, time and date of the relocation, and comments on how the animal was detected and its behavior. 6. If any PR or VI boa (dead or alive) is found within the Action Area and on harms way, the action will stop, and information will be recorded (see #5). All attempts will be made to immediately safely capture and relocate the animal within suitable habitat (forested) at least 1km from the Action Area and away from construction areas. PR boa relocation sites will be pre-determined before the project starts and sites shared with the Service for revision and concurrence. Relocation of PR boas will be conducted by trained, designated personnel ensuring the animal is not harmed or injured during the capture and relocation process.
- 7. Measures will be taken to avoid and minimize PR boa and VI boa casualties by heavy machinery or motor vehicles being left in the Action Area. Any heavy machinery left on site (staging areas) or near potential PR or VI boa habitat will be thoroughly inspected each morning before work starts to ensure that no boas have sheltered within engine compartments or other areas of the heavy

machinery. If a PR boa or VI boa is found within vehicles or heavy machinery, boas will be safely captured accordingly. If not possible, the animal will be left alone until it leaves the vehicle or machine by itself. The PR boa and VI boa may seek shelter within debris piles. Measures should be taken to avoid and minimize boa casualties associated with sheltering in new debris piles as a result of project activities. New debris piles should be placed in areas as far as possible from forested areas. Prior to moving, disposing, or shredding, debris piles should be carefully inspected for the presence of PR boas and VI boas. If debris piles will be left on site, we recommend they be placed in an undisturbed area. In the event a PR boa and VI boa is found dead within the project area, the Federal Agency and the Recipient must contact the Service to appropriately dispose the animal. If a PR boa or a VI boa is accidentally injured or killed during capture and relocation activities during the Action, the Federal Agency and the Recipient shall terminate the authorized activities and contact the Service within 24 hours to reinitiate consultation. The Federal Agency will consult with the Service to determine whether authorized activities should continue as proposed and whether modifications are warranted. Should the forms of take reach the amount of exempted take during the Action, the Federal Agency and the Recipient shall terminate the authorized activities and contact the Service within 24 hours to reinitiate consultation. The Federal Agency will consult with the Service to determine whether authorized activities should continue as proposed and whether modifications are warranted.

- For questions and to submit reports, the Service's Point of Contact (POC) is Jose Cruz-Burgos, Endangered Species Coordinator, and can be contacted at: Mobile: 305-304-1386 Office phone: 786-244-0081 Office Direct Line: 939-320-3120 Email: Caribbean_es@fws.gov or jose_cruz-burgos@fws.gov
- Coqui Guajon (Eleutherodactylus cooki) Conservation Measures to be implemented for a coqui guajon: i. Inform all project personnel about the potential presence of the coqui guajon in areas where the proposed work will be conducted. A pre-construction meeting must be conducted to inform all project personnel about the requirement of avoiding harm to the species. All personnel will be advised that there are civil and criminal penalties for harming, harassing, or killing species protected under the Endangered Species Act of 1973, as amended. An educational poster or sign with photos or illustrations of the species should be displayed at the project site. ii. Project boundaries, buffer zones and areas to be excluded or protected must be clearly marked in the project plans and in the field, prior to any construction activity, including removal of vegetation and earth movement. iii. Erosion and Sedimentation Control Best Management Practices (BMPs) must be included in the project scope of work when working within or adjacent to the coqui guajon habitat (e.g., rivers, streams, drainages, ravines, big boulder areas) to avoid or minimize erosion and sedimentation. Sediment runoff from the project can adversely affect the species and its habitat by filling the caves and crevices where the species occurs and uses to lay its eggs. As water is a very important component of the species; habitat, any stream, creek, or similar body of water with the habitat characteristics indicated above may harbor the species, hence it shall be protected to the maximum extent possible. iv. All project associated with streams, rivers, bridges, culverts, etc., must follow the Post-Disaster Guidance for Repair, Replacement, and Clean-up Projects in Streams and Waterways of Puerto Rico from Hurricane Maria. The guide is available at: https://www.fws.gov/media/guidance-repair-replacement-and-clean-structures-streams-and-waterways-puerto-rico-and-us If at any time you have doubts if the species or its habitat are present within a particular project or if the project may affect or not the species and its habitat, you may contact: Jose Cruz-Burgos, Endangered Species Program Coordinator. Mobile: 305-304-1386. Office phone: 786-244-0081. Office Direct Line: 939-320-3120. Email: jose_cruz-burgos@fws.gov
- The below conservation measures apply to the following species: Puerto Rican parrot (Amazona vittata) and Puerto Rican broad-winged hawk (Buteo platypterus brunnescens). All personnel will be advised that there are civil and criminal penalties for harming, harassing, or killing species protected under the Endangered Species Act of 1973, as amended. During breeding seasons (see below), nest surveys shall be conducted if a project occurs within the range of any of the species listed above and if habitat for those species will be impacted by the proposed actions. Nest searches must be conducted by qualified personnel with the appropriate permits from the Puerto Rico Department of Natural and Environmental Resources (PRDNER) prior to start of work. If nesting activity is detected, all construction activities or human disturbance must be avoided within a 50-meter buffer around any nest(s) found within the project area. This avoidance strategy must be kept until fledglings successfully leave the nest(s) permanently. Outside the breeding season no nest surveys are required, but if a nest is encountered, all construction activities or human disturbance must be avoided within a 50-meter buffer around that nest(s). This avoidance strategy must be kept until fledglings successfully leave the nest(s) permanently. Furthermore, if any of the species indicated above is observed (e.g., foraging, resting) within the project area, avoid any disturbance to the individual(s) and do not flush the bird until it leaves on its own. Nesting seasons: Puerto Rican parrot: February-June. Puerto Rican broad-winged hawk: December-June.
- For all nest sightings, the Applicant must record the time and date of the sighting and the specific location where it was found. All sightings and incidental lethal take reports should be sent to the USFWS Caribbean Ecological Services Field Office at Caribbean_es@fws.gov. For questions, the Point of Contact (POC) is Jose Cruz-Burgos, Endangered Species Program Coordinator, and can be contacted at: Mobile: 305-304-1386 Office phone: 786-244-0081 Office Direct Line: 939-320-3120 Email: jose_cruz-burgos@fws.gov
- For Feeders 2601-03 and 2702-01: Applicant must obtain any required permits from the Puerto Rico Permits Management Office (OGPe) prior to initiating work and comply with any conditions of the permit established by the Planning Board (JP) for constructions in floodplains. All coordination (emails, letters, documented phone calls) pertaining to these activities and compliance must be provided and maintained in the Applicant s permanent files.
- The Applicant must provide documentation at close-out that proves completion of required Conservation Measures.
- 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 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 in-formation and data for this project pertaining to applicable environmental laws and regulations into this REC when it is received from DOE.

- 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 with 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 May 16, 2025, the Secretary of the U.S. Department of Energy (DOE) issued Order 202-25-2 (Order), pursuant to the authority vested in him by section 202(c) of the Federal Power Act (FPA), 16 U.S.C. § 824a(c), and section 301(b) of the Department of Energy Organization Act, 42 U.S.C. § 7151(b). The Order sought to expedite repair and maintenance efforts to the electrical grid of Puerto Rico by directing the Puerto Rico Electric Power Authority (PREPA) to perform vegetation management, including vegetation clearing to re-establish a right-of-way, for particular transmission and distribution facilities in the Territory as specified in the Order. The Order required PREPA to identify certain parameters by which the directed work would be performed, and required that all work be performed, to the maximum extent practicable, in a manner consistent with all applicable Federal, State, or local environmental laws or regulations and minimize any ad-verse 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.
- Additional staging areas and/or work pads within work site area havent been identified yet. The Recipient/Subrecipient and/or private operator must provide the information of any additional staging areas or work pads for EHP evaluation as soon as available specially if any construction activity will be necessary to prepare the site(s). Information for staging areas and/or work pads confined to hardened surfaces can be provided at close-out.

EHP Additional Info

There is no additional environmental historical preservation on **FAASt [Automation Program Group 20] (Distribution) (Cost Only)**.

Final Reviews

Final Review

Reviewed By LEFRANC-GARCIA, CARLOS L. **Reviewed On** 07/31/2026 12:47 PM PDT

Review Comments

[752810] FAASt [Automation Program Group 20] (Distribution)consists of the following activities: Installation of smart reclosers with microprocessor-based controllers and the remote monitoring, communications ready and control capabilities in transmission and distribution lines. Installation of cutout type single phase reclosers, with microprocessor-based controllers. Installation of fault current indicators (communications ready) in strategic locations to improve the outage management and restoration process, specifically by decreasing the time required to detect and locate faults. V.1 reconciliates HM funding with a cost of $917,475.07 for a total CRC net cost of $3,540,737.15. FEMA will administratively process the 428 portion of this subgrant in a separate version as per the Financial Management Section Request. This effort does not affect one-time change for HM eligibility.

Recipient Review

Reviewed By Mulero, Noel **Reviewed On** 08/03/2026 5:49 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 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

v2

General Info

Project #	752810 **P/W #** 108001	**Project Type**	Specialized
Project Category	F - Utilities	**Applicant**	PR Electric Power Authority (000-UA2QU-00)
Project Title	FAASt [Automation Program Group 20] (Distribution) (Cost Only)	**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 #1313024; FAASt [Automation Program Group 20: Caguas Feeders 2601-01, 2601-03, 2602-02] (Distribution)

General Facility Information:

- **Facility Type:** Power generation, transmission, and distribution facilities
- **Facility:** Automation Program Group 20: Caguas
- **Facility Description:** Automation Program Underground Transmission Group 20: Caguas Feeders 2601-01, 2601-03, 2602-02 (Distribution)
- **Approx. Year Built:** 1970
- **GPS Latitude/Longitude:** [redacted]

Final Scope

1313024

FAASt [Automation Program Group 20: Caguas Feeders 2601-01, 2601-03, 2602-02] (Distribution)

********** Version 2 **********

Version 2 has been created as an administrative amendment due to limitations in IFMIS (The Finance system), which cannot currently accommodate two separate accounting streams within a single transaction. This administrative amendment includes the cost changes that were pending in the previous project version. Refer to document: Sub-FAAST Transactions - allocation process.pdf

INTRODUCTION

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

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

This document contains the detailed SOW for FEMA PA project 752810 Automation Program Group 20 (Distribution) under DR-4339-PR Public Assistance. The document provides a detailed description of the project, the scope of PA construction activities to be completed, common EHP review information, and project cost estimates. LUMA is seeking approval from COR3 and FEMA for PA funding for the scope described in this document.

LUMA submits this Detailed SOW pursuant to the Transmission and Distribution Operations and Maintenance Agreement between the Puerto Rico Electric Power Authority ("PREPA"), the Puerto Rico Public-Private Partnerships Authority ("P3A"), and LUMA, and in accordance with the Consent to Federal Funding Letter issued by PREPA and P3A, which collectively provide 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

As part of the electrical grid rebuild, LUMA developed a Transmission & Distribution Automation Program (“Program”) through which it will install advanced technology equipment (i.e., reclosers and communicating fault current indicators (cFCIs)) to reduce both physical damage and service interruptions to the electrical grid caused by disasters. Although the intent is to deploy automation equipment throughout PREPA’s transmission and distribution (“T&D”) system, the Program will be implemented through multiple projects across the island on both T&D systems. The multiple projects within this Program are designed to fortify the electrical system's resilience, safeguard its infrastructure, and enhance service reliability during a disaster. The individual projects are interconnected and enhance each other, but each confers benefits independently. Automation is necessary to add modern resiliency capabilities to the T&D system. The 3.2 million Residents throughout Puerto Rico are dependent upon the successful completion of the Program and its ability to sustain the power grid in future disasters.

Project 752810 is one of the Program’s distribution-level projects. It installs hardened poles and advanced technology equipment (specifically reclosers and cFCIs) to reduce physical damage and service interruptions to the distribution grid that could be caused by a disaster. Implementing reclosers, their communication kits, and cFCIs is critical for the Energy Management System (“EMS”) and related components to function at their full capabilities and mitigate loss of service and physical damage in the event of future hurricanes. This project is necessary for the EMS to maintain the continuity of the distribution power grid on Feeders 2601-01, 2601-03, 2602-02, and 2702-01.

Key components of this project are: (1) pole replacement, (2) the three-phase reclosers and single-phase reclosers, and (3) the installation of cFCIs. Each of these components and their benefit to the grid are described further below:

(1) Pole Replacement to Accommodate the Installation of Reclosers

The addition of three-phase reclosers imposes additional load on poles due to the weight of the devices and their components. It also increases the area exposed to extreme weather conditions, such as hurricanes, thereby increasing the structural load requirements these poles must meet. Where an existing pole cannot accommodate a recloser, it will be substituted with a higher-class pole constructed from steel or concrete to ensure compatibility with the recloser and adherence to design criteria. This includes adjacent poles (i.e., poles that are on either side of the recloser pole supporting the overhead line conductors). Any new structure and foundation will be designed to LUMA design criteria and industry standards to support the pole, recloser, and its attachments.

In addition, LUMA is using a per-location approach to pole replacement because of the intricate dynamics of deploying three-phase reclosers. Furthermore, the integration of more connections, switches, and related infrastructure often necessitates taller poles to meet phase spacing and circuit-to-circuit spacing requirements. The locations of three-phase reclosers are determined by an electrical analysis performed by the design engineers. In those instances where the recloser would be located on an existing wood pole, that pole will be replaced with a pole that meets the compounded structural demands presented by that recloser.

(2) Feeder Reclosers

Reclosers are sophisticated devices that remotely detect faults within distribution lines, enable the isolation of circuit breakers linked to those faults—whether due to independent failures or breakdowns—and facilitate the swift restoration of power, often within milliseconds. This project will install three-phase and single-phase reclosers.

Three-Phase Recloser: A three-phase recloser is a protection device that is used on three-phase distribution feeders with high fault currents at the location. It is a single device with three switches that can open to interrupt fault currents and automatically reclose to restore power. Three-phase reclosers are communication-ready to enable remote control and visualization. The recloser’s wireless communication capability will provide connectivity to LUMA’s EMS so the system operator knows their status and can remotely control them. Deployment of the wireless communication devices includes configuration, testing, and commissioning of the wireless communication device, all networking devices, data acquisition, and control systems that form the connectivity path of the recloser to the EMS.

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The implementation of three-phase reclosers will preserve the continuity of electric services and avoid physical damage by pre-empting or minimizing disruptions. The three-phase reclosers can be triggered remotely and provide data back to the operations center, enabling LUMA to prioritize restoration activities, reduce customer outage time, and minimize the potential for cascading infrastructure damage. Installation of the three-phase reclosers and associated hardware is critical for the EMS and associated components to function with full capabilities, and to prevent loss of service and potential damage from future disasters. In this project we are installing seven three-phase reclosers.

Single-Phase Reclosers: A single-phase recloser is a single protection device with one switch that can open to interrupt fault currents and automatically reclose to restore power. A single-phase recloser performs the same functions as a three-phase recloser, but it does not have the ability to communicate with the EMS. This project will install single-phase reclosers on single-phase or two-phase distribution feeder and distribution lines branching from the feeder. Single-phase reclosers will also be used on feeders with three phases if fault currents are low at the location. In this project we are installing a total of nineteen single-phase reclosers.

(3) Communicating Fault Current Indicators

Installation of communicating fault current indicators ("cFCI") at strategic locations improves the outage management, restoration, and recovery process, specifically by decreasing the time required to detect and locate faults. The cFCIs operate independently of the feeder reclosers and help identify permanent and incipient faults in the distribution system, as well as collect voltage and current data, which can be used to detect system imbalance, prevent future issues due to harmonics and help in building a predictive failure model.

Data sent to the EMS aides the grid operator in making decisions that avoid outages and speed restoration. The cFCI can be programmed to send automatic notification/alarms based on user-set parameters. This allows for quick dispatch of field crews to specific sections of the feeders and to reduce the total restoration time during an outage event and to prevent physical damages. Installation of the three-phase reclosers and the communicating fault current indicators (communications ready) is critical for the EMS to efficiently mitigate the loss of service and potential damage in future disasters.

This project's scope does not contain fiber optics or communication capability that is included in other projects. This project is distinguishable from projects that include fiber optics as these feeders are using cellular technology for communications with the operations center. LUMA has developed this scope for cFCIs, reclosers, and their associated hardware only. The lack of fiber optics as a method of transmitting information in this scope of work does not prevent or limit the monitoring capabilities of the reclosers and cFCI or the automation capabilities of the reclosers on this feeder, nor does it prohibit the incorporation of fiber optics at a later date.

FACILITIES

FACILITIES LIST – BUILDINGS AND SUBSTATIONS

The following list includes the name, year of construction, and GPS coordinates of each building

or substation included in this project:

- None

FACILITIES LIST – OTHER FACILITIES

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

A. Facilities for Automation Group 20 Feeder Lines

Name	Feeder Number	GPS Start	GPS End
Caguas	2601-01	[redacted]	
Caguas	2601-03		

Name	Feeder Number	GPS Start	GPS End
Caguas	2602-02	[redacted]	
Caguas	2702-01		

Note: Please refer to APPENDIX B - Project Considerations for a list of all GPS locations that this project will impact.

B. Staging Area

All materials will be stored and dispatched from the existing LUMA Regional Warehouses. The warehouse assigned is the Caguas Regional Warehouse, whose address is # 1 Street, Jose Mercado Corner, Caguas, PR. Warehouse coordinates are [redacted] The staging area will also be in the warehouse located at [redacted]

PROJECT AREA MAP WITH BOUNDARIES OF CONSTRUCTION
A map of the project area is not available at this time.

SECTION 428 SCOPE OF WORK

The proposed type of work for this project:
[X] Standard Project: Restores the facility/facilities to pre-disaster design and function to locally-adopted codes/standards and/or FEMA-approved industry standards.
[] Improved Project: Restores the pre-disaster function of the facilities and incorporates improvements or changes to its pre-disaster design not required by codes or standards.
  [] Subrecipient's request letter included, see Appendix .
  [] Recipient's approval letter included, see Appendix .
[] Alternate Project: Does not restore the pre-disaster function of the damage facility. The Subrecipient, through the Recipients, must obtain approval from FEMA.
  [] Subrecipient's request letter included, see Appendix .
  [] Recipient's approval letter included, see Appendix .

In the obligated submission (Version 0), LUMA proposed:
• Removal and replacement of sixteen (16) damaged poles.
• Install four (4) new poles.
• Install seven (7) Three Phase Reclosers.
• Install fourteen (14) Single Phase Reclosers, remove fuses and close jumpers.
• Install six (6) 1 kVA transformers.
• Install twenty-four (24) communicating fault indicators.

LUMA requests the alignment the scope and cost of Project 752810 with the approved 406 mitigation proposal from Project 746309 FAASt [Automation Program Group 30], including
• Pole replacement to accommodate recloser installation: 406 mitigation will fund the additional cost for pole strengthening (i.e., 428: remove the existing pole and replace with a round galvanized, 406 install a 12-sided galvanized).
• Feeder reclosers: 406 Mitigation will fund 100% of the cost of three-phase reclosers on the feeder backbone and the additional cost (delta) for the replacement of fuse cutouts for a single-phase reclosers on lateral circuit lines.
• Communicating Fault Current Indicators: 406 mitigation will fund the additional cost for the replacement of Fault Current Indicators (FCIs) with communicating Fault Current Indicators (cFCIs).
• Distribution Transformers: 406 mitigation will fund the installation of 1kVA stainless steel transformers to serve either the load or source side of the three-phase recloser.

The obligated DSOW included new pole installations. This DSOW aligns the scope of these poles with a 406 mitigation proposal approved by FEMA.

As detailed in the appendix of the amendment request letter, LUMA requests the following component additions to the project scope of work and cost estimate that were not included in the obligated project:
• Radio Communications Kit:
o LUMA originally planned to transmit data to and from Three-Phase Reclosers using fiber optic cable, which also required the installation of additional poles. LUMA now proposes installing radio communication kits to enable communication with the Three-Phase Reclosers and the PREPA SCADA

system (EMS).
• Air Break Bypass Switches
o Air Break Bypass Switches are essential equipment of LUMA design standards for the Three-Phase Recloser. The cost of these switches was involuntarily omitted in the previous estimate. They are included in this proposed version. The purpose of this equipment is to isolate the recloser in case of failure or maintenance and keep the three-phase circuit energized while the situation is resolved.
• Due to engineering changes to the feeders in the project, this DSOW now includes six
(6) poles that were not part of Version 0 of the project.
o Three (3) new pole installations at new locations.
o Three (3) poles to be removed and replaced as part of the revised design.
o These changes align the scope with the 406 Mitigation proposal approved by FEMA, where applicable.

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

DESCRIPTION OF PROPOSED WORK TO BE PERFORMED

Below is a list of the "Proposed 428 Public Assistance Scope of Work" proposed for feeders of this group.

Feeder 2601-01

POLE FID	COORDINATES LAT, LONG	Existing (Remove)	428 (Replacement)	SCOPE OF WORK
NEW POLE	[redacted]	(NONE)	(50FT GALVANIZED ROUND	· Install a new 50FT galvanized round

POLE FID	COORDINATES LAT, LONG	Existing (Remove)	428 (Replacement)	SCOPE OF WORK
	[redacted]		POLE (OPS CP-C8) (S-6) (K-6) (ABS-3-XARM QTY=3)	tapered pole in new location mid sp · Install (2) primary and (1) second framings. · Install and connect one (1) set of Break Bypass Switch (ABS-3-XAR and the framing hardware to suppo them.
10351462		(45'C3 WOOD POLE) (S-1) (K-6)	(50FT GALVANIZED ROUND TAPERED POLE) (S-6) (K-6) (E-1-2-3) (F-1-3) (ABS-3-XARM QTY=3)	· Remove and dispose of the 45 wood pole and replace with a galvanized round pole. · Install (1) down guys. · Install (1) anchor. · Remove, dispose and repla primary and secondary framings. · Install and connect one (1) set of Break Bypass Switch (ABS-3-XAR and the framing hardware to suppo them.
NEW POLE		(NONE)	(50T GALVANIZED ROUND TAPERED POLE) (CP- C6 XARM) (ABS-3-XARM QTY=3)	· Install new 50FT galvanized round tapered pole. · Install primary framing. · Install and connect one (1) set of Break Bypass Switch (ABS-3-XARM the framing hardware to support them.
10357297		(ASSY 1509 (QTY=3))	(LABOR & REPAIR)	· Remove and dispose (3) Fuse C

10359335	[redacted]	(ASSY 1509 (QTY=3))	(LABOR & REPAIR)	· Remove and dispose (3) Fuse C
10352712		(ASSY 1509 (QTY=3))	(LABOR & REPAIR)	· Remove and dispose (3) Fuse C
1000522388		(ASSY 1509 (QTY=3))	(LABOR & REPAIR)	· Remove and dispose (3) Fuse C
10361043		(ASSY 1509 (QTY=3))	(LABOR & REPAIR)	· Remove and dispose (3) Fuse C
10352708		(45'-C3 WOOD POLE) (S-4- XARM) (CP-B5 XARM) (ASSY 1509 (QTY=2)) (K-5) (E-1-2-3 (QTY=2)) (F-1-3 (QTY=2)) (STL-10)	(50FT GALVANIZED ROUND TAPERED POLE) (S-6) (CP-B5 XARM) (K-5) (E-1-2-3) (F-1-3) (STL-10) ASSY 1509 (QTY=2)	· Remove and dispose of a 45' wood pole and replace with 50 galvanized round tapered pole. · Remove, dispose and replace primary and (1) secondary framings · Remove and dispose (2) dow Replace (1) downguy. · Remove and dispose (2) Replace (1) anchor.

POLE FID	COORDINATES LAT, LONG	Existing (Remove)	428 (Replacement)	SCOPE OF WORK
	[redacted]			· Remove, dispose and replace (2) Fuse Cutouts. · Remove, dispose and replace stre (LED Type).
10354083		(40'-C5 WOOD POLE) (CP-A6) (E-1-2-3) (F-1-3)	(50ft GALVANIZED ROUND TAPERED POLE) (CP- A6)	· Remove and dispose of a 40' wood pole and replace with 5 galvanized round tapered pole · Remove, dispose and replace fram · Remove, dispose and replace down guy. · Remove, dispose and replace (1) a · Remove, dispose and replace stre (LED Type).
10354093		(40'-C5 WOOD POLE) (CP-A6) (E- 1-2-3) (F-1-3) (K-7 B) (STL-10)	(50FT GALVANIZED ROUND TAPERED POLE) (CP- A3) (E-1-2-3) (F-1-3) (K-7 B) (STL-10)	· Remove and dispose of a 40ft. C5 wood pole and replace with 50ft. galvanized round tapered pole. · Remove, dispose and replace primary and secondary framings. · Remove, dispose and replace (1) down guy. · Remove, dispose and replace (1) a · Remove, dispose and replace Stre (LED Type).

10360709	[redacted]	(45'-C3 WOOD POLE) (S-6) (CP-B5 XARM) (E-1-2-3) (F-1-3) (K-7 B) (STL-10) (ASSY 1509 (QTY=2))	(50FT GALVANIZED ROUND TAPERED POLE) (S-6) (CP-B5 XARM) (E-1-2-3) (F-1-3) (K-7-B) (STL-10) ASSY 1509 (QTY=2))	· Remove and dispose of 45ft. wood pole and replace with 5(galvanized round tapered pole. · Remove, dispose and replace down guy. · Remove, dispose and Repla anchor. · Remove, dispose and rep Streetlight (LED Type). · Remove, dispose and replace (2) Cutouts.
10361952		(35'-C4 WOOD POLE) (S-5) (CP- B5 XARM) (K-7 A) (K-5) (E-1-2-3(QTY=2)) (F-1-3(QTY=2)) (STL-10)	(50FT GALVANIZED ROUND TAPERED POLE) (S-5) (CP-B5 XARM) (K-7 B) (E-1-2-3) (F-1-3) (STL-10)	· Remove and dispose of 35ft. wood pole and replace with 5(galvanized round tapered pole. · Remove and dispose (2) down guys. Replace (1) down guy. · Remove and dispose (2) anchors. Replace (1) anchor. · Remove, dispose and replace stre (LED Type).
10362263		(ASSY 1509 (QTY=2))	ASSY 1509 (QTY=2))	· Remove, dispose and replace (2)

POLE FID	COORDINATES LAT, LONG	Existing (Remove)	428 (Replacement)	SCOPE OF WORK
	[redacted]			Cutouts.
10354213		(ASSY 1509 (QTY=1))	ASSY 1509 (QTY=1))	· Remove, dispose and replace (1) Fuse cutout.
10362927		(ASSY 1509 (QTY=2))	(LABOR & REPAIR)	· Remove and dispose (2) Fuse cu
10354512		(ASSY 1509 (QTY=1))	(LABOR & REPAIR)	· Remove and dispose (1) Fuse cu
New pole		NONE	(50FT GALVANIZED ROUND TAPERED STEEL POLE) (CP-C6-XARM) (K-6)	· Install a new 50FT galvanized round tapered pole. · Install primary, neutral, and secondary framings.
10351775		LABOR, FUSE CUTOUT (QTY=3)	LABOR, JUMPER (QTY=3)) ASSY 1509 (QTY=3))	· Remove, dispose and replace (3 Fuse Cutouts. · Close jumpers.
Segment FID 6673763		None	(LABOR, FCI) (QTY=3)	· Install (3) Fault Current Indicators
Segment FID 10868121		None	(LABOR, FCI) (QTY=3)	· Install (3) Fault Current Indicators

Segment FID 1000522679	[redacted]	(50'H4 CONCRETE POLE) (S-6-2) (K-7-4) (STL-10)	(50FT GALVANIZED ROUND TAPERED POLE) (ABS-3-XARM) (S-6-2) (K-7 B) (K-5) (E-1-2-3 (QTY=2)) (F-4-2) (STL-10)	· Remove and dispose 50' H4 concrete pole and replace with 50 galvanized round tapered pole. · Install switch (ABS-3-XARM) due cFCI installation. · Remove, dispose and replace streetlight (LED Type). · Install primary and secondary fra · Install (2) down guys. · Install (1) anchor.

Feeder 2601-03

POLE FID	COORDINATES LAT, LONG	Existing (Remove)	428 (Replacement)	SCOPE OF WORK
1001734430	[redacted]	(45' H4 CONCRETE POLE) (S-6) (ASSY 1509(QTY=3)) (STL-10) (K-6) (K-5)	(50FT GALVANIZED ROUND TAPERED POLE) (S-6) (STL-10) (K-6) (K-5) (ABS-3-XARM QTY=3))	· Remove and dispose of 45' concrete pole and replace with galvanized round tapered pole · Remove, dispose and replac primary and secondary framing · Remove and dispose (3) Fuse Cutouts. · Install and connect one (1) s Air Break Bypass Switch (ABS- XARM) and the framing hardwa support them. · Use existing secondary conc as power supply for recloser lo side. · Remove, dispose and replac streetlight (LED Type).
7102218		40' H4 CONCRETE POLE) (K-6) (STL-10)	(50FT GALVANIZED ROUND TAPERED POLE) (S-6) (STL-10) (K-6) (ABS-3-XARMQTY=3))	· Remove and dispose of 40' H4 concrete pole and replace with 5 galvanized round tapered pole. · Remove, dispose and replace primary and secondary framing. · Remove, dispose and replace streetlight (LED type). · Install spacer starting at 60 inches from pole top. · Install and connect one (1) s Air Break Bypass Switch (A XARM) and the framing hardwa support them.
7103730		(ASSY 1509 QTY=1))	(LABOR & REPAIR)	· Remove and dispose (1) Fuse Cutouts.
Segment FID 6673772		None	(LABOR, FCI) (QTY=3)	Install (3) Fault Current Indicato
Segment FID 10955688		None	(LABOR, FCI) (QTY=3)	Install (3) Fault Current Indicato

Feeder 2602-02

POLE FID	COORDINATES LAT, LONG	Existing	Install	SCOPE OF WORK
7212183	[redacted]	(40'-C2 WOOD POLE) (S-3) (K-7 B) (E-1-2-3 (QTY = 1)) (F-1-3 (QTY =1))	(50ft GALVANIZED ROUND TAPERED POLE) (S-6) (K-7-4) (K-6) (E-1-2-3 (QTY = 1)) (F-1-3 (QTY =1)) (ABS-3-XARM QTY=3))	· Remove and dispose of a 40 wood pole and replace with galvanized round tapered pole. · Remove, dispose and replace (1 primary and (2) secondary framing · Remove, dispose and replace (1 Anchor. · Remove, dispose and replace (1 down guy. · Install and connect one (1) set Break Bypass Switch (ABS-3-X and the framing hardware to sup them.
7211855		(ASSY 1509 (QTY=3))	(LABOR & REPAIR)	· Remove and dispose (3) Fuse
7212343		(ASSY 1509 (QTY=3))	(LABOR & REPAIR)	· Remove and dispose (3) Fuse
7213634		(ASSY 1509 (QTY=3))	(LABOR & REPAIR)	· Remove and dispose (3) Fuse
7211911		(45 FT S3 GALVANIZED STEEL POLE) (CP-C1) (35 FT C2 WOOD STUB POLE) (E-2-1)	(50FT GALVANIZED ROUND TAPERED POLE) (ABS-3-XARM) (40 FT ROUND GALVANIZED STEEL STUB POLE) (E-2-1) (E-1-2-3) (F1-3)	· Remove and dispose 45' S3 and replace with a 50FT galva round tapered pole. · Remove, dispose and re primary and neutral framing. · Install (3) Manual Disconnecti Switches (**ABS-3-XARM).** · Remove and dispose stub po C2 wood stub pole and replace 40' galvanized round tapered pole at coordinates [redacted] · Remove, dispose and replace (1) spanguy wire · Install (1) down guy. · Install (1) anchor.
7211855		(LABOR, FUSE CUTOUT (QTY=3)) (LABOR, CROSSARM (QTY=2))	(LABOR, JUMPER (QTY=3)) (LABOR, PIN INSULATOR (QTY=1))	· Remove and dispose (3) Fuse Cutouts. · Remove and dispose (2) crossa · Close (3) Jumpers. · Pin (1) insulator.

POLE FID	COORDINATES LAT, LONG	Existing	Install	SCOPE OF WORK
7936496	[redacted]	(45'-C3 WOOD POLE) (CP-A6) (K-7 B)	(50FT GALVANIZED ROUND TAPERED POLE) (CP-A6) (K-7 B)	· Remove and dispose of a 45ft wood pole and replace with 50ft galvanized round tapered pole. · Remove, dispose and replace primary and secondary framings.
7212941		(40'-S3 GALVANIZED STEEL POLE) (CP-A6) (K- 7 A) (STL-10)	(50FT GALVANIZED ROUND TAPERED POLE) (CP-A6) (K-7 A) (STL- 10)	· Remove and dispose of 40ft. S galvanized steel pole and replac with 50ft. galvanized round tape pole. · Remove, dispose and replace primary and secondary framings · Remove, dispose and replace streetlight (LED Type).
7936127		(ASSY 1509 (QTY=1))	(LABOR & REPAIR)	· Remove, dispose and replace Fuse Cutout.
7936501		(ASSY 1509 (QTY=1))	(LABOR & REPAIR)	· Remove and dispose (1) Fuse Cutout.
1002011550		(ASSY 1509 (QTY=1))	(LABOR & REPAIR)	· Remove, dispose and replace Fuse Cutout.
7213095		(ASSY 1509 (QTY=1))	(LABOR & REPAIR)	· Remove and dispose (1) Fuse Cutout.
7213607		(ASSY 1509 (QTY=1))	(LABOR & REPAIR)	· Remove and dispose (1) Fuse Cutout.
NEW POLE		NONE	(50FT GALVANIZED ROUND TAPERED POLE) (CP-B12-XARM)	· Install new 50FT galvanized round tapered pole as midspar · Install primary and neutral fra
7214099		(LABOR, FUSE (QTY=2))	(LABOR, SOLID BLADE (QTY=2))	· Remove, dispose and replace Fuse Cutouts. · Install (2) Solid Blades.
Segment FID 7114242		(NONE)	(LABOR, FCI) (QTY=3)	· Install (3) Fault Current Indica
Segment FID 8432625		(NONE)	(LABOR, FCI) (QTY=3)	· Install (3) Fault Current Indica
Segment FID 8432625		50'-C2 WOOD POLE) (CP-C6 XARM) (K-7 B) (STL-10) (E-1-2-3) (F-1-3)	(50FT GALVANIZED ROUND TAPERED POLE) (CP-C6-XARM) (ABS-3-XARM) (K-7 B) (STL-10) (E-1-2-3)	· Remove and dispose of 50' C wood pole and replace with 50F galvanized round tapered pole. · Install (3) Manual Disconnecting Switch (ABS-3-XARM) · Remove, dispose and replace streetlight (LED type).

POLE FID	COORDINATES LAT, LONG	Existing	Install	SCOPE OF WORK
	[redacted]		(F-1-3) (T-1) (37.5KVA,2.40/4.16 KV - 120/240 V)	· Remove, dispose and replace primary and secondary framing · Remove, dispose and replace (1) anchor and (1) downguy. · Remove, dispose and replace transformer 37.5 kVA, 2.40/4.1 120/240V).
NEW POLE		NONE	(50FT GALVANIZD ROUND TAPERED POLE) (CP-A12) (K-6)	· Install new midspan 50FT Galvanized round tapered pole · Install primary, secondary, an neutral framings. · Install (1) Fuse Cutout.
7935831		(40 FT S3 STEEL POLE) (CP-A6) (K-7 FIG. A)	(50ft GALVANIZED ROUND TAPERED POLE) (CP-A12) (K-7 FIG. A)	· Remove and dispose 40' S3 s pole and replace with a 50FT galvanized round pole. · Remove, dispose and replace the primary, neutral and secondary framings. · Install (1) Fuse Cutout.
7936131		(45 FT H3 CONCRETE POLE) (CP-A1) (CP-A5) (K-7 FIG. A)	(50FT GALVANIZED ROUND TAPERED POLE) (CP-A7) (K-7 FIG. A)	· Remove and dispose 45' H3 concrete pole and replace with galvanized round pole. · Remove, dispose and replace primary, neutral and secondary framings. · Install (1) Fuse Cutout.

Feeder 2702-01

POLE FID	COORDINATES LAT, LONG	Existing	Install	SCOPE OF WORK
NEW POLE	[redacted]	(NONE)	(70FT GALVANIZED ROUND TAPERED POLE) (38KV VERTICAL SUSPENSION) (CP-C6 XARM) (ABS-3-XARM QTY=3)	· Install new midspan galvanize 70FT galvanized round pole. · Install primary framing. · Install 38kV vertical suspensi framing. · Install and connect one (1) s Air Break Bypass Switch (ABS-3 XARM) and the framing hardwa support them.
7117414		(50'H6 CONCRETE POLE) (38kV DEADEND-SC-VERTICAL DEADEND ASSY 10-60) (CP-C1) (CP-A5)	(70FT GALVANIZED ROUND TAPERED POLE) (38kV DEADEND-SC-VERTICAL DEADEND ASSY 10-60) (CP-C1) (CP-A5) (E-1-2-3(QTY-2)) (F 4-2)	· Remove and dispose of 50' H6 concrete pole and replace with a galvanized round pole. · Remove, dispose and replace transmission assembly. · Remove, dispose and replace (primary framing . · Install (2) downguys. · Install (1) anchor

10650343	[redacted]	(ASSY 1509 (QTY=3))	(LABOR & REPAIR)	· Remove and dispose (3) Fuse Cutouts.
1001756465		(ASSY 1509 (QTY=3))	(LABOR & REPAIR)	· Remove and dispose (3) Fuse
7157370		(65'-H6 CONCRETE POLE) (38KV VERTICAL SUSPENSION) (S-1)	(70FT GALVANIZED ROUND TAPERED POLE) (38KV VERTICAL SUSPENSION) (S-6)	· Remove and dispose 65' H6 co pole and replace with 70FT galv round tapered pole. · Remove, dispose and replace framing.
NEW POLE		(NONE)	(50FT GALVANIZED ROUND TAPERED POLE) (CP-B6 XARM)	· Install new midspan 50ft. galvanized round pole. · Install primary framing.
7118030		(FUSE REMOVAL (QTY=3))	(LABOR & REPAIR)	· Remove, dispose and replace (Cutouts.
7116210		(FUSE REMOVAL (QTY=3))	(LABOR & REPAIR)	· Remove and dispose (3) Fuse
1001325535		(FUSE REMOVAL (QTY=3))	(LABOR & REPAIR)	· Remove, dispose and replace (Cutouts.
7118824		(35' C4 WOOD POLE) (AC-C3 XARM) (STL-10) (E-1-2-3 (QTY=2)) (F-1-3 (QTY=2))	(50FT GALVANIZED ROUND TAPERED POLE) (CP-C3 XARM) (ABS-3-XARM) (STL-10)	· Remove and dispose of 35' C4 pole and replace with 50FT galv round tapered pole. · Remove, dispose and replace (primary framing.

POLE FID	COORDINATES LAT, LONG	Existing	Install	SCOPE OF WORK
	[redacted]	(K-7 B)	(E-1-2-3 (QTY=2)) (F-1-3 (QTY=2)) (K-7 B) (K-5)	· Remove and dispose (1) secondary framing. · Install (2) secondary framing. · Install (3) Manual Disconnecting Switches (ABS-3-XARM). · Remove, dispose and replace streetlight (LED Type). · Remove, dispose and replace (downguys. · Remove, dispose and replace (anchors.
Segment FID 67224656		None	(LABOR, FCI) (QTY=3)	Install (3) Fault Current Indicators
Segment FID 8454059		None	(LABOR, FCI) (QTY=3)	Install (3) Fault Current Indicators

Notes Regarding Proposed Work

1. Remove and replace poles, including hardware in the same location. If unable to install the replacement in the same location, the pole will be installed within the easement for overhead distribution lines. Easements are established with the purpose of providing LUMA reasonable access to its facilities, in

order to maintain, repair, improve, operate, and expand facilities.
2. Existing wood poles are to be replaced by galvanized tapered poles, at the locations identified in the table above. Refer to APPENDIX B - Project Considerations, column C (soil area and depth impact) for the depths of the galvanized tapered poles.
3. New guy wires and anchors are to be installed within the easement for guys. The maximum distance an anchor will be installed for a 50ft pole is 25ft from the base of the pole, within the easement for guys.
4. Existing overhead conductors, poles, assemblies, and attached components will be disconnected, removed, and replaced as outlined in the Scope of Work column in the table above. When existing overhead conductor, assemblies, and attached components are not being replaced, they will be re-attached to the pole to complete the scope of work.

CODES & STANDARDS

The following will be referenced when applying specific codes, specifications, and standards to the project design:
A. LUMA Overhead Electrical Distribution System Manual 4301.001 version 4, available in Grants Portal - Applicant Event Profiles.
B. Consensus-based codes, per FEMA's Public Assistance Alternative Procedures (Section 428) Guide for Permanent Work FEMA-4339-DR-PR (February 2020).
C. 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.
D. FEMA Recovery Interim Policy FP-104-009-11 Version 2.1, Consensus-Based Codes, Specifications, and Standards for Public Assistance.
E. LUMA's latest Design Criteria Document (DCD) which aggregates the design considerations for most of the consensus-based codes, specifications, and standards listed in FEMA Recovery Interim Policy 104-009-11 Version 2.1 (December 20, 2019).

COMMON EHP REVIEW INFORMATION

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

[X] **Ground disturbance outside of existing footprint.** If checked, provide a description of the ground disturbing activities including the extent, location, and depth of the disturbance.
• Poles - Refer to APPENDIX B - Project Considerations, column C (soil area and depth impact), for the depths of the poles to be installed.

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

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

[X] **Vegetative Removal.** If checked, describe the removal work to be performed, its location, and its extent.
• Vegetation clearance will be performed solely to the extent that it allows crews to conduct work and will be limited to a 10 ft radius surrounding the surface of the pole, but not to exceed the width of the easement. This is for the exclusive purpose of gaining access to the pole to conduct repairs. The costs related to vegetation clearance procedures are covered in project723883 FAASt [SanJuan] (Vegetation). The vegetation removal process will be managed in accordance with federal and state regulations.

[X] **Demolition**. If checked, include a description of what will be removed and the extent and depth of any ground disturbing activities. Additionally, include a description of (1) demolition debris type (construction debris, white goods, hazardous materials, etc.); (2) GPS location of temporary debris storage sites; (3) final debris disposal location; and (4) final debris disposal method.
• Debris will be separated and taken to an authorized waste disposal facility. Information on location of temporary debris storage sites, final debris disposal location, and final debris disposal method are not yet available.

[X] **Staging areas, landing areas for air transport, and access roads.** If checked, provide GPS location of staging areas, and access roads. Include a description of the extent of any related vegetative removal, ground disturbance, or stabilization measures required (such as gabion walls, retaining walls, paving, etc.).
• **Staging Area:** All materials will be stored and dispatched from the existing LUMA Regional Warehouses. The warehouse locations are described in Section 7.2 above. LUMA has not identified any other additional staging areas that will require.
• **Access Roads:** New access roads are not needed for this project. All poles to be installed, or removed and replaced, are adjacent to a road and work will be performed within the road easement.

[X] **Fill material.** If the project includes the use of fill material, provide the source of the fill material including the provider's name and address (if known).
• Fill, gravel, and sand materials will be obtained from an approved supplier as referenced in the following document: LUMA Vendor Directory List.

[] **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 ("A&E") design information. For a more detailed cost estimate refer to t Appendix A- LUMA Project Cost Estimate.

COST ESTIMATE		
Cost Element	**Costs**	
PLANNING	**$332,131.56**	
MANAGEMENT	**$95,774.44**	
LPCE Distribution Automation Group 20	**$1,652,653.61**	
GENERAL CONDITIONS	**$83,412.31**	
COST TOTALS	**$2,163,971.92**	
DEDUCTIONS	**TOTAL INSURANCE PROCEEDS RECEIVED**	**$-**
	DE-OBLIGATION TO FAASt IF APPLICABLE	**$-**
FAASt ALLOCATIONS	**FAAST PROJECT # 752810- 428**	**$1,614,232.03**
	FAASt A&E # 335168 - 428	**$346,930.18**
	FAASt E&M #673691 - 428	**$202,809.71**

428 Project Summary, Version 2:

Work to Be Completed (WTBC): $2,163,971.92

E&M Deduction (#673691) 428: -$202,809.71

A&E Deduction (Global A&E FAASt 335168):-$346,930.18

Project Total Cost: = $1,614,232.03

VERSION SUMMARY OF KEY CHANGES:

V0: $2,956,957.78 - $333,695.70 (WTBC, A&E Deduction)

V1: $2,163,971.92 - $202,809.71 - $346,930.18- $2,623,262.08 (WTBC, A&E Deduction, E&M Deduction, Reconcile funding from De-obligation of V0)

V2: $1,614,232.03 (WTBC, & Version 0 De-obligation)

Project Notes:
1. Refer to detailed SOW provided in document: "752810-DR4339PR- DSOW Group 20 Revision 08 - V1".
2. Refer to detailed cost estimate in document: "752810-DR4339PR-APPENDIX A -LUMA Project Cost Estimate Revision 08".
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 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 costs of equipment and/or material will be reduced from this project (not labor). All costs

associated with Planning, Management, General Conditions, and Contingencies will remain in this project.
5. This project is part of 136271-MEPA078 Puerto Rico Electrical Power Authority Island Wide FAASt Project.
6. The following attachments and appendices are provided with this DSOW: LUMA Project Cost Estimate; Project Considerations; LUMA's Active Projects; Pole Height Increase Justification.
7. 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 pro-cessed in the same version due to system limitation. Thus, two separate versions are re-quired to capture cost change. The current version will obligate the positive funds (whether 406 HMP or 428), and the future version will capture the negative portion. This guidance applies only to Sub-FAASt transactions; non-FAASt transactions remain unchanged. See document file: "SP 752810 - DR4339PR - Email Confirmation Sub-FAASt Transaction Guid-ance.pdf", and "SP 752810 - DR4339PR - Email for Version 1 Cost Change".

406 HMP Scope

Project number: 752810; FAASt [Automation Program Group 20] (Distribution)

Damage number: DI#1313024; FAASt [Automation Program Group 20: Caguas Feeders 2601-01, 2601-03, 2602-02] (Distribution]

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

Location: Caguas, Puerto Rico

GPS Latitude/Longitude: [redacted]

Hazard Mitigation Narrative

During the incident period from September 17, 2017, to November 15, 2017, the Commonwealth of Puerto Rico experienced hurricane-force winds, heavy rain, flooding, and power outage from Hurricane Maria. The incident caused damage to the electrical system, such as 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).

As part of the electrical grid rebuild, the subrecipient developed a Transmission & Distribution Automation Program ("Program") through which it will install advanced technology equipment (i.e., reclosers and communicating fault current indicators (cFCIs)) to reduce both physical damage and service interruptions to the electrical grid caused by disasters. Although the intent is to deploy automation equipment throughout PREPA's Transmission and Distribution ("T&D") system, the Program will be implemented through multiple projects across the island on both T&D systems.

The multiple projects within this Program are designed to fortify the electrical system's resilience, safeguard its infrastructure, and enhance service reliability during a disaster. The individual projects are interconnected and enhance each other, but each confers benefits independently. Distribution Automation (DA) projects will be submitted regionally as components of the real time monitoring and automation network being installed on island. DA projects are physically incorporated into the distribution line network.

Project Overview:

DA Group 20 is one of the Program's distribution-level projects. It installs hardened poles and advanced technology equipment (specifically reclosers and cFCIs) to reduce physical damage and service interruptions to the distribution grid that could be caused by a natural disaster. Implementing reclosers, their communication kits, and cFCIs is critical for the Energy Management System ("EMS") and related components to function at their full capabilities and mitigate loss of service and physical damage in the event of future hurricanes. This project is necessary for the EMS to maintain the continuity of the distribution power grid on Feeders 2601-01; 2601-03; 2602-02 and 2702-01.

The purpose of this project is to install real time monitoring to mitigate cascading effects and physical damage to critical components, protects federal investments, and reduces outage times to facilities. Key components of this project are: (1) pole replacement, (2) three-phase and single-phase reclosers, and (3) the installation of cFCIs.

Mitigation Approach:

The mitigation strategy to reduce or eliminate cascading effects and physical damage to critical components, and outage times at Feeders 2601-01; 2601-03; 2602-02 and 2702-01, and is accomplished by replacing round galvanized steel poles with a 12-sided galvanized steel poles as it is stronger than the round poles; replacing galvanized transformer by stainless steel transformer (more resistant to corrosion) as the island is located in a highly corrosive environment due to its size and proximity to the coast; replacing the fault current indicator (FCI) with a communication fault current indicator (cFCI) for real-time monitoring to prevent and communicate the location of the fault; and replacing fuse cutouts and manual disconnect switches with a single-phase and three-phase recloser on the feeder backbone. Additionally, install 1kVA transformers to power the reclosers; and install communication radios for the operation of the three-phase reclosers (wireless connection).

In order to minimize the damage and increase resilience, the subrecipient is proposing the installation of complementary equipment, technologies, and software systems that will provide visibility to the system, grid intelligence and automation. DA is a mitigation measure designed to protect the Puerto Rico Electric Power Authority's (PREPA) critical electric grid infrastructure and reduce risk to public health and safety from power outages caused by a natural disaster.

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)*

1. Pole Replacement to Accommodate the Installation of Reclosers:

The addition of three-phase reclosers imposes additional load on poles due to the weight of the devices and their components. It also increases the area exposed to extreme weather conditions, such as hurricanes, thereby increasing the structural load requirements these poles must meet. Where an existing pole cannot accommodate a recloser, it will be substituted with a higher-class pole constructed from steel or concrete to ensure compatibility with the recloser and adherence to design criteria. Any new structure and foundation will be designed to LUMA design criteria and industry standards to support the pole, recloser, and its attachments. In addition, LUMA is using a per-location approach to pole replacement because of the intricate dynamics of deploying three-phase reclosers. Furthermore, the integration of more connections, switches, and related infrastructure often necessitates taller poles to meet phase spacing and circuit-to-circuit spacing requirements. The locations of three-phase reclosers are determined by an electrical analysis performed by the design engineers.

As a mitigation strategy, 406 HM will fund the additional cost (delta) for 27ea pole strengthening (pole class, concrete base, and additional guywire).

Pole Description:

a. 40ft S5.7 12-sided galvanized steel poles = 1ea

b. 45ft S5.7 12-sided galvanized steel poles = 11ea

c. 50ft S8.5 12-sided galvanized steel poles = 11ea

d. *60ft S8.5 12-sided galvanized steel poles = 1ea

e. 70ft S8.5 12-sided galvanized steel poles = 3ea

*As part of the installation of the 3PH recloser, the subrecipient increased the pole height to accommodate the 3PH recloser. Pole height increase justification for one pole:

- Feeder 2601-01, WOP 3PH Recloser Installation – Segment FID 10860947: The proposed design scope includes the installation of a new 60-foot S8.5 steel pole at a midspan location. The structure will support two overhead distribution feeders operating at 13.2 kV (Feeder 2603-10) and 8.32 kV (Feeder 2601-01), respectively. Additionally, a three-phase recloser will be installed on the lower 8.32kV circuit to provide fault isolation and sectionalizing capabilities.

The decision to use a 60-foot pole, instead of the standard 50-foot alternative, is based on the requirement to comply with vertical clearance regulations and structural design standards associated with the installation of two independent distribution circuits on a single-pole structure, in addition to the integration of a three-phase (3F) recloser on the lower circuit (Feeder 2601-01).

2. Feeder Reclosers:

Reclosers are sophisticated devices that remotely detect faults within distribution lines, enable the isolation of circuit breakers linked to those faults—whether due to independent failures or breakdowns—and facilitate the swift restoration of power, often within milliseconds.

Three-Phase Recloser: A three-phase recloser is a protection device that is used on three-phase distribution feeders with high fault currents at the location. It is a single device with three switches that can open to interrupt fault currents and automatically reclose to restore power. Three-phase reclosers are communication-ready to enable remote control and visualization. The recloser's wireless communication capability will provide connectivity to LUMA's EMS so the system operator knows their status and can remotely control them.

The implementation of three-phase reclosers will preserve the continuity of electric services and avoid physical damage by pre-empting or minimizing disruptions. The three-phase reclosers can be triggered remotely and provide data back to the operations center, enabling LUMA to prioritize restoration activities, reduce customer outage time, and minimize the potential for cascading infrastructure damage. Installation of the three-phase reclosers and associated hardware is critical for the EMS and associated components to function with full capabilities, and to prevent loss of service and potential damage from future disasters.

Single-Phase Reclosers: A single-phase recloser is a single protection device with one switch that can open to interrupt fault currents and automatically reclose to restore power. A single-phase recloser performs the same functions as a three-phase recloser, but it does not have the ability to communicate with the EMS. This project will install single-phase reclosers on single-phase or two-phase distribution feeder and distribution lines branching from the feeder. Single-phase reclosers will also be used on feeders with three phases if fault currents are low at the location. In this project we are installing a total of two single-phase reclosers.

As a mitigation strategy, 406 HM will fund the additional cost (delta) for the replacement of 20ea fuse cutouts with **19ea** single-phase reclosers and the installation of **7ea** three-phase reclosers.

3. Communicating Fault Current Indicators:

Installation of communicating fault current indicators ("cFCI") at strategic locations improves the outage management, restoration, and recovery process, specifically by decreasing the time required to detect and locate faults. The cFCIs operate independently of the feeder reclosers and help identify permanent and incipient faults in the distribution system, as well as collect voltage and current data, which can be used to detect system imbalance, prevent future issues due to harmonics and help in building a predictive failure model.

cFCIs help reduce physical damage on the system by providing real-time monitoring and early detection of abnormal conditions. Essentially, cFCIs act as the eyes and ears of the system, reducing wear and tear by allowing quick, intelligent responses instead of waiting for catastrophic failure.

As a mitigation strategy, 406 HM will fund the additional cost (delta) for the replacement of **24ea** fault current indicators (FCIs) by **24ea** communicating fault current indicators (cFCIs).

4. Stainless Steel Transformer (37.5 kVA):

Galvanized steel transformers are being upgraded to high-strength stainless steel. 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 prevents debris impact better than galvanized steel. Transformer failure poses harm to the equipment and the public due to resulting loss of power. Therefore, the subrecipient proposes replacing the galvanized transformers with stainless-steel transformers located more than one mile from the shoreline as the existing transformers across the island suffer from corrosion, not just the ones close to the seashore.

Stainless steel transformer tanks offer several advantages over galvanized steel and other materials, including durability, overall strength, and corrosion resistance, therefore mitigating against damage in future disasters. Stainless steel is a high- strength material that can withstand a variety of harsh conditions that transformers are subjected to before, during, and after a hurricane, such as high temperatures, extreme pressures, and physical impact. They are made of non-combustible materials, so they resist fire more effectively than other materials often used in transformer construction, such as painted steel. This reduces the likelihood of fires which place the system at risk of further damage and neighborhoods at risk of life and property damage after a storm.

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.

As a mitigation strategy, 406 HM will fund the additional cost (delta) for the replacement of **1ea** galvanized transformer by **1ea** stainless steel transformer

Mitigation Measures *(Supplementary)*

1. Stainless Steel Transformer (1kVA):

To enable the operation of three-phase reclosers, it is essential to connect a 120/240V AC voltage source. In areas where this voltage is accessible, the recloser will be linked to the existing secondary line, ensuring that these facilities possess the capability to handle the load produced by the recloser. In instances where the necessary infrastructure to supply voltage to the recloser 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, which includes protection, automation, and communication functionalities. This ensures that the intelligent features of the recloser operate reliably, even in the event of a medium-voltage power interruption.

As a mitigation strategy, 406 HM will fund the installation of **6ea** 1kVA stainless steel transformers.

2. Radio Communication Kit for Three-Phase Reclosers:

The recloser's wireless communication capability will provide connectivity to LUMA's EMS in order to the system operator to know their status and can remotely control the three-phase reclosers. Deployment of the wireless communication devices includes configuration, testing, and commissioning of the wireless communication device, all networking devices, data acquisition, and control systems that form the connectivity path of the recloser to the EMS. Therefore, as part of the installation of the 2ea three-phase reclosers it will be necessary to install communication radios and commissioning for the operation of the reclosers (wireless connection).

As a mitigation strategy, 406 HM will fund the installation of **7ea** radio communication kit.

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Hazard Mitigation Proposal (HMP) Cost:

Total Net Hazard Mitigation Cost (Base Cost) =	$ 671,727.82
+ HM (Subrecipient A&E, Management & General Conditions) =	$ 245,747.26

Hazard Mitigation Total Cost = **$ 917,475.07**

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Hazard Mitigation Proposal (HMP) Cost Distribution:

Equipment and Materials (E&M) = $ 358,776.21

Architecture and Engineering (A&E) = $ 147,943.48

Construction Cost = $ 410,755.38

Hazard Mitigation Total Cost = **$ 917,475.07**

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 **$917,475.07 (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	$2,956,957.78	Uncompleted
3510	1	Lump Sum	($333,695.70)	Uncompleted
9201	1	Lump Sum	$0.00	Completed
3510	1	Lump Sum	$0.00	Uncompleted
9001	1	Lump Sum	$0.00	Uncompleted
9001	1	Lump Sum	$0.00	Uncompleted
3510	1	Lump Sum	$0.00	Uncompleted
9001	1	Lump Sum	$0.00	Uncompleted
9001	1	Lump Sum	($2,956,957.78)	Uncompleted
3510	1	Lump Sum	$333,695.70	Uncompleted
9001	1	Lump Sum	$2,163,971.92	Uncompleted
3510	1	Lump Sum	($346,930.18)	Uncompleted
9001	1	Lump Sum	($202,809.71)	Uncompleted

CRC Gross Cost	$1,614,232.03
Total 406 HMP Cost	$917,475.07
Total Insurance Reductions	$0.00
CRC Net Cost	$2,531,707.10
Federal Share (90.00%)	$2,278,536.39
Non-Federal Share (10.00%)	$253,170.71

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.
- 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.
- 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 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

9/2/2026

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.

6/11/2026

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 Program Group 20] (Distribution) (Cost Only)**.

406 Mitigation

There is no additional mitigation information on **FAASt [Automation Program Group 20] (Distribution) (Cost Only)**.

Environmental Historical Preservation

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

EHP Conditions

- Any change to the approved scope of work will require re-evaluation for compliance with NEPA and other Laws and Executive Orders.
- This review does not address all federal, state and local requirements. Acceptance of federal funding requires recipient to comply with all federal, state and local laws. Failure to obtain all appropriate federal, state and local environmental permits and clearances may jeopardize funding.
- If ground disturbing activities occur during construction, applicant will monitor ground disturbance and if any potential archaeological resources are discovered, will immediately cease construction in that area and notify the State and FEMA.
- a. The Subrecipient and/or Subrecipient's contractor shall follow the Low Impact Debris Removal Stipulations (LIDRS) as stated in Appendix E of the Project-Specific Programmatic Agreement Among FEMA, the SHPO, ACHP, COR3, and PREPA (PSPA), executed on August 2, 2022. b. Unexpected Discoveries: Pursuant to Stipulation III.B of the PSPA, if, in the course of implementing this Individual Undertaking(s), previously unidentified structures, sites, buildings, objects, districts, or archaeological deposits, that

may be eligible for listing in the National Register, or human remains are uncovered, or if it appears that an Individual Undertaking has affected or will affect a previously identified historic property in an unanticipated manner, the contractor must notify Subrecipient who will immediately notify the Recipient. Work must stop in the vicinity of the discovery and measures must be taken to protect the discovery and avoid additional harm. c. Additional staging areas and/or work pads within work site area haven't been identified yet. The Recipient/Subrecipient and/or private operator must provide the information of any additional staging areas or work pads for EHP evaluation as soon as available specially if any construction activity will be necessary to prepare the site(s). Information for staging areas and/or work pads confined to previously disturbed or hardened surfaces can be provided at close-out d. All borrow or fill material must come from pre-existing stockpiles, material reclaimed from maintained roadside ditches (provided the designed width or depth of the ditch is not increased), or commercially procured material from a source existing prior to the event. For any FEMA-funded project requiring the use of a non-commercial source or a commercial source that was not permitted to operate prior to the event (e.g., a new pit, agricultural fields, road ROWs, etc.) in whole or in part, regardless of cost, the Applicant must notify FEMA and the Recipient prior to extracting material. FEMA must review the source for compliance with all applicable federal environmental planning and historic preservation laws and executive orders prior to a Sub-recipient or their contractor beginning borrow extraction. Consultation and regulatory permitting may be required. Non-compliance with this requirement may jeopardize receipt of federal funding. Documentation of borrow sources utilized is required at close-out and must include fill type (private, commercial, etc.), name, fill site GPS coordinates (not of the company/governmental office), address, and type of material.

- The Applicant shall handle, manage, and dispose of all types of hazardous waste in accordance with requirements of local, state, and federal laws, regulations, and ordinances. In addition, the Applicant shall ensure that all debris is separated and disposed of in a manner consistent with the PR DNER guidelines at a permitted site or landfill. The contractor/applicant will be responsible for the proper disposition of construction debris in authorized landfills providing the name, location, coordinates and permits of the facility to the corresponding authorities. Unusable equipment, debris, white goods, scrap metal any other material shall be disposed in approved manner and location. In the event significant items are discovered during the implementation or development of the project the Applicant shall handle, manage, and dispose petroleum products, hazardous materials, and toxic waste in accordance with the requirements of the local and federal agencies. Noncompliance with these requirements may jeopardize receipt of federal funds.
- 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.
- Puerto Rican boa (PR boa; Chilabothrus inornatus) In 2023, the Service amended a Programmatic Biological Opinion (PBO) for the Puerto Rican boa and the Virgin Islands tree boa. The below measures are included as Terms and Conditions (T&Cs) in the amended PBO (USFWS 2023). These T&Cs shall be part of FEMA&#65533;s conditions in projects where these species can occur, and a copy of the PBO should be made available to the Applicant for compliance. 1. Inform all project personnel about the potential presence of the Puerto Rican (PR) boa and Virgin Islands (VI) boa in areas where the proposed work will be conducted and provide training on PR and VI boa identification. A pre-construction meeting will be conducted to inform all project personnel about the need to avoid harming these species. All personnel will be advised that there are civil and criminal penalties for harming, harassing, or killing species protected under the Endangered Species Act of 1973. An educational poster or sign with photo or illustration of these species will be displayed at the project site. 2. Prior to any construction activity, including removal of vegetation and earth movement, the boundaries of the project area and any area to be excluded and protected will be clearly marked in the project plan and in the field to avoid further habitat degradation outside of the footprint of the project.
- 3. Once areas are clearly marked, and right before the use of heavy machinery and any construction activity (including removal of vegetation and earth movement), biologist or designated project personnel with experience on these species will survey the areas to be cleared to verify the presence of any PR or VI boa within the Action Area. If a PR or VI boa is found during the search, it should be captured and managed as per #6 below. Once the removal of vegetation begins, the biologist or designated personnel must remain at the work site and be ready to capture any boa that might be in harms way as the result of the habitat disturbance (see #6). 4. For VI boas, once the Action Area has been searched, vegetation will be cut about one meter above ground prior to the use of heavy machinery for land clearing. Cutting vegetation by hand will allow VI boas present on site to move away on their own to adjacent available habitat. If there is no suitable habitat adjacent to the project site, any VI boa found will be relocated accordingly (see #6). 5.For all boa sightings (dead or alive), record the time and date of the sighting and the specific location where it was found. Data will also include a photo of the animal (dead or alive), relocation site GPS coordinates, time and date of the relocation, and comments on how the animal was detected and its behavior. 6. If any PR or VI boa (dead or alive) is found within the Action Area and on harms way, the action will stop, and information will be recorded (see #5). All attempts will be made to immediately safely capture and relocate the animal within suitable habitat (forested) at least 1km from the Action Area and away from construction areas. PR boa relocation sites will be pre-determined before the project starts and sites shared with the Service for revision and concurrence. Relocation of PR boas will be conducted by trained, designated personnel ensuring the animal is not harmed or injured during the capture and relocation process.
- 7. Measures will be taken to avoid and minimize PR boa and VI boa casualties by heavy machinery or motor vehicles being left in the Action Area. Any heavy machinery left on site (staging areas) or near potential PR or VI boa habitat will be thoroughly inspected each morning before work starts to ensure that no boas have sheltered within engine compartments or other areas of the heavy

machinery. If a PR boa or VI boa is found within vehicles or heavy machinery, boas will be safely captured accordingly. If not possible, the animal will be left alone until it leaves the vehicle or machine by itself. The PR boa and VI boa may seek shelter within debris piles. Measures should be taken to avoid and minimize boa casualties associated with sheltering in new debris piles as a result of project activities. New debris piles should be placed in areas as far as possible from forested areas. Prior to moving, disposing, or shredding, debris piles should be carefully inspected for the presence of PR boas and VI boas. If debris piles will be left on site, we recommend they be placed in an undisturbed area. In the event a PR boa and VI boa is found dead within the project area, the Federal Agency and the Recipient must contact the Service to appropriately dispose the animal. If a PR boa or a VI boa is accidentally injured or killed during capture and relocation activities during the Action, the Federal Agency and the Recipient shall terminate the authorized activities and contact the Service within 24 hours to reinitiate consultation. The Federal Agency will consult with the Service to determine whether authorized activities should continue as proposed and whether modifications are warranted. Should the forms of take reach the amount of exempted take during the Action, the Federal Agency and the Recipient shall terminate the authorized activities and contact the Service within 24 hours to reinitiate consultation. The Federal Agency will consult with the Service to determine whether authorized activities should continue as proposed and whether modifications are warranted.

- For questions and to submit reports, the Service's Point of Contact (POC) is Jose Cruz-Burgos, Endangered Species Coordinator, and can be contacted at: Mobile: 305-304-1386 Office phone: 786-244-0081 Office Direct Line: 939-320-3120 Email: Caribbean_es@fws.gov or jose_cruz-burgos@fws.gov
- Coqui Guajon (Eleutherodactylus cooki) Conservation Measures to be implemented for a coqui guajon: i. Inform all project personnel about the potential presence of the coqui guajon in areas where the proposed work will be conducted. A pre-construction meeting must be conducted to inform all project personnel about the requirement of avoiding harm to the species. All personnel will be advised that there are civil and criminal penalties for harming, harassing, or killing species protected under the Endangered Species Act of 1973, as amended. An educational poster or sign with photos or illustrations of the species should be displayed at the project site. ii. Project boundaries, buffer zones and areas to be excluded or protected must be clearly marked in the project plans and in the field, prior to any construction activity, including removal of vegetation and earth movement. iii. Erosion and Sedimentation Control Best Management Practices (BMPs) must be included in the project scope of work when working within or adjacent to the coqui guajon habitat (e.g., rivers, streams, drainages, ravines, big boulder areas) to avoid or minimize erosion and sedimentation. Sediment runoff from the project can adversely affect the species and its habitat by filling the caves and crevices where the species occurs and uses to lay its eggs. As water is a very important component of the species; habitat, any stream, creek, or similar body of water with the habitat characteristics indicated above may harbor the species, hence it shall be protected to the maximum extent possible. iv. All project associated with streams, rivers, bridges, culverts, etc., must follow the Post-Disaster Guidance for Repair, Replacement, and Clean-up Projects in Streams and Waterways of Puerto Rico from Hurricane Maria. The guide is available at: https://www.fws.gov/media/guidance-repair-replacement-and-clean-structures-streams-and-waterways-puerto-rico-and-us If at any time you have doubts if the species or its habitat are present within a particular project or if the project may affect or not the species and its habitat, you may contact: Jose Cruz-Burgos, Endangered Species Program Coordinator. Mobile: 305-304-1386. Office phone: 786-244-0081. Office Direct Line: 939-320-3120. Email: jose_cruz-burgos@fws.gov
- The below conservation measures apply to the following species: Puerto Rican parrot (Amazona vittata) and Puerto Rican broad-winged hawk (Buteo platypterus brunnescens). All personnel will be advised that there are civil and criminal penalties for harming, harassing, or killing species protected under the Endangered Species Act of 1973, as amended. During breeding seasons (see below), nest surveys shall be conducted if a project occurs within the range of any of the species listed above and if habitat for those species will be impacted by the proposed actions. Nest searches must be conducted by qualified personnel with the appropriate permits from the Puerto Rico Department of Natural and Environmental Resources (PRDNER) prior to start of work. If nesting activity is detected, all construction activities or human disturbance must be avoided within a 50-meter buffer around any nest(s) found within the project area. This avoidance strategy must be kept until fledglings successfully leave the nest(s) permanently. Outside the breeding season no nest surveys are required, but if a nest is encountered, all construction activities or human disturbance must be avoided within a 50-meter buffer around that nest(s). This avoidance strategy must be kept until fledglings successfully leave the nest(s) permanently. Furthermore, if any of the species indicated above is observed (e.g., foraging, resting) within the project area, avoid any disturbance to the individual(s) and do not flush the bird until it leaves on its own. Nesting seasons: Puerto Rican parrot: February-June. Puerto Rican broad-winged hawk: December-June.
- For all nest sightings, the Applicant must record the time and date of the sighting and the specific location where it was found. All sightings and incidental lethal take reports should be sent to the USFWS Caribbean Ecological Services Field Office at Caribbean_es@fws.gov. For questions, the Point of Contact (POC) is Jose Cruz-Burgos, Endangered Species Program Coordinator, and can be contacted at: Mobile: 305-304-1386 Office phone: 786-244-0081 Office Direct Line: 939-320-3120 Email: jose_cruz-burgos@fws.gov
- For Feeders 2601-03 and 2702-01: Applicant must obtain any required permits from the Puerto Rico Permits Management Office (OGPe) prior to initiating work and comply with any conditions of the permit established by the Planning Board (JP) for constructions in floodplains. All coordination (emails, letters, documented phone calls) pertaining to these activities and compliance must be provided and maintained in the Applicant s permanent files.
- The Applicant must provide documentation at close-out that proves completion of required Conservation Measures.
- ***Disregard previous conditions***
- ***Disregard previous conditions***
- ***Disregard previous conditions***
- ***Disregard previous conditions***
- 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 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 in-formation and data for this project pertaining to applicable environmental laws and regulations into this REC when it is received from DOE.
- 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 with 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 May 16, 2025, the Secretary of the U.S. Department of Energy (DOE) issued Order 202-25-2 (Order), pursuant to the authority vested in him by section 202(c) of the Federal Power Act (FPA), 16 U.S.C. § 824a(c), and section 301(b) of the Department of Energy Organization Act, 42 U.S.C. § 7151(b). The Order sought to expedite repair and maintenance efforts to the electrical grid of Puerto Rico by directing the Puerto Rico Electric Power Authority (PREPA) to perform vegetation management, including vegetation clearing to re-establish a right-of-way, for particular transmission and distribution facilities in the Territory as specified in the Order. The Order required PREPA to identify certain parameters by which the directed work would be performed, and required that all work be performed, to the maximum extent practicable, in a manner consistent with all applicable Federal, State, or local environmental laws or regulations and minimize any ad-verse 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 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.
- Additional staging areas and/or work pads within work site area havent been identified yet. The Recipient/Subrecipient and/or private operator must provide the information of any additional staging areas or work pads for EHP evaluation as soon as available specially if any construction activity will be necessary to prepare the site(s). Information for staging areas and/or work pads confined to hardened surfaces can be provided at close-out.

EHP Additional Info

There is no additional environmental historical preservation on **FAASt [Automation Program Group 20] (Distribution) (Cost Only)**.

Final Reviews

Final Review

Reviewed By LEFRANC-GARCIA, CARLOS L. **Reviewed On** 09/11/2026 8:56 PM PDT

Review Comments

Version 2 reflects the negative cost for PA reconciliation process. Change request - $1,009,030.05 for a total Federal share for this project of 2,278,536.39.

Recipient Review

Reviewed By Mulero, Noel **Reviewed On** 09/22/2026 7:54 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

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 $2,531,707.10 for subaward number 108001 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
No Records							

Drawdown History

EMMIE Drawdown Status As of Date	IFMIS Obligation #	Expenditure Number	Expended Date	Expended Amount
3/20/2026	4339DRPRP01080011	20173YOZ-06102025	6/9/2025	$590,233.97
3/20/2026	4339DRPRP01080011	20173YOZ-03042026	3/3/2026	($590,233.97)

Obligation History

Version #	Date Obligated	Obligated Cost	Cost Share	IFMIS Status	IFMIS Obligation #
0	2/6/2025	$2,360,935.88	90%	Accepted	4339DRPRP01080011
1	8/27/2026	$825,727.56	90%	Accepted	4339DRPRP01080011
2	9/25/2026	($908,127.05)	90%	Accepted	4339DRPRP01080011

Department of Homeland Security
Federal Emergency Management Agency

v0

General Info

Project #	755211 **P/W #** 108022	**Project Type**	Specialized
Project Category	F - Utilities	**Applicant**	PR Electric Power Authority (000-UA2QU-00)
Project Title	FAASt [Automation Program Group 15] (Distribution) (Cost Only)	**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 #1392753; FAASt [Automation Program Group 15: San Juan, Feeder: 1646-02] (Distribution)

General Facility Information:

- **Facility Type:** Power generation, transmission, and distribution facilities
- **Facility:** Automation Program Group 15: San Juan, Feeder: 1646-02
- **Facility Description:** Transmission and Distribution Automation Feeder 1646-02
- **Approx. Year Built:** 1980
- **Start GPS Latitude/Longitude:** [redacted]
- **End GPS Latitude/Longitude:** [redacted]

Final Scope

1392753 **FAASt [Automation Program Group 15: San Juan, Feeder: 1646-02] (Distribution)**

Introduction:

This document is to submit for approval a Detailed Scope of Work ("SOW") to COR3 and FEMA for the Transmission and Distribution Automation Progran under DR-4339-PR Public Assistance. The document provides a description of the project, including scope, schedule, and cost estimates. 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 according to the Transmission and Distribution Operations & Maintenance Agreement between Puerto Rico Electric Powe Authority ("PREPA"), the Puerto Rico Public-Private Partnerships Authority ("P3A"), and LUMA Energy, and following the Consent to Federal Funding Lette issued by PREPA and P3A, 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.

Background:

In order to rebuild the entire electrical grid, the Transmission & Distribution Automation Program ("Program") installs advanced technology equipment (*i.e.*, reclosers and communicating fault current indicators) to reduce service interruptions to the electrical grid caused by disaster-related damage. The multiple projects within this Program are designed to fortify the electrical system's resilience, safeguard its infrastructure, and enhance service reliability. The strategy is to deploy full automation equipment to the transmission and to the distribution systems. While the individual projects are interconnected and enhance each other, each can also be implemented independent of each other, and each confers benefits independently. The Program includes multiple projects being implemented across the island on both systems. Automation is one of several initiatives to complete final restoration of the transmission and distribution systems. The 3.5 million residents throughout Puerto Rico are dependent upon the successful completion of the Program and its ability to sustain the power grid in future disasters.

Project 755211 is one of the Program's distribution-level projects. It installs hardened poles, advanced technology equipment (specifically three-phase reclosers and communicating fault current indicators), and online protection devices to reduce service interruptions to the distribution grid that could be caused by disaster-

related damage. Implementing the reclosers and communicating fault current indicators is critical for the Energy Management System ("EMS") and related components to function at their full capabilities and mitigate loss of service and potential damages for upcoming occurrences. This project is necessary for the EMS to maintain the continuity of the distribution power grid on Feeder 1646-02.

Key components of this project are (1) pole replacement, (2) the installation of three-phase and single-phase reclosers, and (3) the installation of communicating fault current indicators. Each of these components and their benefit to the grid are described further below:

(1) Pole Replacement to Accommodate the Installation of Reclosers:

The addition of three-phase reclosers imposes additional load on poles due to the weight and operational components of the devices and it also increases the wind area exposed to extreme weather conditions, such as hurricanes, thereby augmenting the structural load these poles must withstand. Pole loading analysis will be used to determine whether a recloser pole and/or pole adjacent to the recloser will maintain structural integrity. If the pole cannot maintain structural integrity, higher-class (strength) structures/poles made of steel or concrete will be installed to comply with codes and standards. This includes adjacent poles (*i.e.*, poles that are on either side of the recloser pole supporting the overhead line conductors). Any new structure and foundation will be designed to LUMA design and industry standards so they can support the pole, recloser, and its attachments.

In addition, LUMA is using a per-location approach to pole replacement because of the intricate dynamics of deploying three-phase reclosers. Furthermore, the integration of more connections, switches, and related infrastructure often necessitates taller poles to meet phase spacing and circuit-to-circuit spacing requirements. Therefore, LUMA will replace all wood poles where three-phase reclosers are being installed, irrespective of their current condition, to address the compounded structural demands and spacing prerequisites, and ensure the resilience and reliability of the electrical grid infrastructure.

(2) Feeder Reclosers:

Reclosers are sophisticated devices that remotely detect faults within distribution lines, enable the isolation of circuit breakers linked to those faults—whether due to independent failures or breakdowns—and facilitate the swift restoration of power, often within milliseconds. This project will install three-phase and single phase reclosers on a distribution feeder.

> **Three-Phase Reclosers** A three-phase recloser is a protection device that is used on three-phase distribution feeders with high fault currents at the location. It is a single device with three switches that can open to interrupt fault currents and automatically reclose to restore power. Three-phase reclosers are communication-ready to enable remote control and visualization.
>
> Implementation of reclosers will preserve the continuity of electric services by pre-empting or minimizing power disruptions. The three-phase reclosers can be triggered remotely and provide data back to the operations center, enabling LUMA to prioritize restoration activities, reduce customer outage time, and minimize the potential for cascading infrastructure damage. Installation of the three-phase reclosers and associated hardware is critical for the EMS and associated components to function with full capabilities and to prevent loss of service and potential damages in future disasters.
>
> **Single-Phase Reclosers** A single-phase recloser performs the same functions as a three-phase recloser, but it does not have the ability to communicate with the EMS. This project will install single-phase reclosers on the distribution feeder and distribution lines branching from the feeder. It is a protection device that is used on a single-phase or a two-phase distribution feeder. Single-phase reclosers are used on feeders with three-phases if fault currents are low at the location. A single-phase recloser is a single device with one switch that can open to interrupt fault currents and automatically reclose to restore power.

(3) Communicating Fault Current Indicators

Install communicating fault current indicators ("cFCI") at strategic locations to improve the outage management, restoration, and recovery process, specifically by decreasing the time required to detect and locate faults. cFCI operate independent of the feeder reclosers. cFCI help identify permanent and incipient faults in the distribution system and collect voltage and current data which can be used to detect system imbalance, prevent future issues due to harmonics and help in building a predictive failure models. That data is used by the grid operator to make decisions on operations, management and restoration. The cFCI can be programmed to send automatic notification/alarms based on user set parameters. This allows for quick dispatch of field crews to specific sections of the feeders and reduces the total restoration time during an outage event which saves. Installation of the three-phase reclosers and associated hardware, the communicating fault current indicators (communications ready) are critical for the Energy Management System ("EMS") and associated components to function with full capabilities and to mitigate the loss of service and potential damages in future disasters.

This project is distinguishable from projects where the reclosers are installed on microgrids, such as those in Vieques and Culebra. Microgrids require extremely fast communications that fiber optics can provide; other advanced technology such as Phasor Measurement Units may also require such high speed/bandwidth communications. That speed/bandwidth is not required on a standard feeder and would significantly increase the cost. LUMA has developed this scope for reclosers and their associated hardware only. cFCIs and reclosers can communicate through a few different modes of communications, so the lack of fiber optics in this scope of work does not prevent or limit the monitoring capabilities of reclosers and cFCIs or the automation capabilities of reclosers. Furthermore, it does not prohibit the incorporation of fiber optics later.

Facilities:

Facilities Description

The facilities listed below are part of the electrical distribution system. All feeders originate from a substation (start) and serve customers along the route to various locations (end). The coordinates shown below represent the mainline backbone of each feeder. Please refer to the ***APPENDIX D - LUMA Active Projects*** to show no duplication of scope elements.

Facilities List

Name	Damage Number	Feeder Number	GPS Location
San Juan	1392753	1646-02	[redacted]

Note: Please refer to **Appendix C —Project Considerations** for a list of all GPS locations that this project will impact.

Project Scope of Work:

Below is a list of the "Proposed 428 Public Assistance Scope of Work" proposed for Feeder 1646- 02.

Proposed 428 Public Assistance Scope of Work Feeder 1646-02

Pole FID	Coordinates Lat, Long	Existing	428 Replacement	SCOPE OF WORK
New Pole	[redacted]	None	(60' S10 STEEL POLE) (CP-C6- XARM) (CP-C5-XARM) (ASSY-1509) (E-1-2-3) (F-1-3) (K-5) (STL-10) (REC-2-1-1 ver 1)	• Install new 60' S-10 Galvanized steel pole as a midspan po • Install Primary and secondary framing. • Install (1) three- phase recloser 1646- 02-A on a non- configuration. • Install (2) 1kva transformer (13.2/7.62- 120/240v) to recloser from source side and load side.
22795938		(65'-H6 CONCRETE POLE) (38KV SC VERTICAL TANGENT 10(QTY=1)) (CP1C8(QTY=1)) (S-1(QTY=1))	(70' S8 12-SIDED GALVANIZED STEEL POLE) (38KV SC TANGENT DELTA SUSPENSION(QTY=1) REC-2-1-1 VER1(QTY=1)) (S-1(QTY=1))	• Remove and dispose 65' H6 Concrete pole • Replace with 70' S8 12-sided galvanized steel pole. • Install (1) three-Phase recloser 1646- 02B on a radial configuration. • Replace primary framing. • Install (2) 1kva transformer (13.2/7.62- 120/240v) to recloser from source Side and load side

Pole FID	Coordinates Lat, Long	Existing	428 Replacement	SCOPE OF WORK
NEW POLE	[redacted]	(NONE)	(60' S8 12-SIDED GALVANIZED STEEL POLE) (38KV 3P DELTA SUSPENSION) (CP-C9-XARM) (REC-3-C) (K-6 (QTY=1))	• Install new 60' S8 12-sided galvanized steel pole as a Mds • Install 38kv standards framing. • Install primary and secondary framing. • Install (3) Cutout Mounted Single-Phase Recloser on segm 26851351.
15158761		(55'-C2 WOOD POLE) (CP-C1) (K-6 (QTY=1	(45' S5.7 STEEL POLE) (CP-C6-VERT) (REC-3-C-VERT) (K-6 (QTY=1))	• Remove and dispose 55'C2 wood pole. • Replace with 45' S5.7 12-sided galvanized steel pole. • Replace primary and secondary framing. • Install (3) cutout mounted Single-Phase recloser on segme 26851351.
15158776		(ASSY- 1509(QTY=3))	(LABOR & REPAIR)	• Remove and dispose fuses (fid: 26521870 (qty=3)) and cl jumpers due to cutout mounted single-phase recloser install in pole fid: 15158761.
15152286		(ASSY- 1509(QTY=3))	(LABOR & REPAIR)	• Remove and dispose fuses (fid: 26521895 (qty=3)) and cl jumpers due to cutout mounted single-[hase recloser installa in segment fid: 26522009.
28482726		(ASSY- 1509(QTY=3))	(LABOR & REPAIR)	• Remove and dispose fuses (qty=3) and close jumpers due cutout mounted single-phase recloser installation in segment 26851351.
15158633		(ASSY- 1509(QTY=3))	(LABOR & REPAIR)	• Remove and dispose fuses (qty=3) and close jumpers due cutout mounted single-phase recloser installation in segment 26851351.

N/A	[redacted]	NONE	(LABOR, cFCI) (QTY=3	• Labor to install communicating fault current indicator on segment 23399078.
N/A	[redacted]	NONE	(LABOR, cFCI) (QTY=3	• Labor to install communicating fault current indicator on se 26522373.

For more detailed information about the scope of work please refer to the ***APPENDIX B- LUMA Project Cost Estimate.***

Scope Notes:

1) The work will be performed in accordance with the notes below, the Distribution Construction Standards (Concrete Base Standard) and LUMA Overhead Electrical Distribution System Manual V4, and **APPENDIX C – Project Considerations.**

Pole Replacement

a. Remove and dispose and replace poles, including hardware in the same location. If unable to install the replacement in the same location, the pole will be installed within 3 feet.

b. Most pole installations are to replace existing pole locations; there are two new pole locations included in this scope of work. Refer to **APPENDIX C – Project Considerations**, column C (soil area and depth impact) for the depths of the poles to be installed.

c. Adjacent poles will be installed, in locations noted in table above, in conformance with LUMA and industry standards.

d. New guy wire/ anchors are to be installed in compliance with the LUMA Overhead Electrical Distribution System Manual within 3ft of the existing anchor. The maximum distance an anchor will be installed for a 50ft pole is 25ft from the base of the pole, within the right-of-way.

e. The brushing of vegetation will be limited to a 10 ft radius that surrounds the surface of the pole without exceeding the width of the right-of-way. No tree removal will occur as part of this scope. Refer to **APPENDIX C- Project Considerations** for locations where vegetation brushing is anticipated. The vegetation removal process will be managed according to applicable federal and state regulations.

f. All existing overhead conductors, poles, assemblies, and attached components will be disconnected, removed, and replaced as outlined in the scope of work. When poles, assemblies, and attached components are not being replaced per the scope of work, all assemblies and components will be re-installed to the pole, with the overhead conductor re-attached to complete the installation and reconstruction of the feeder.

g. All work for this program will be performed within the current electrical right- of-way.

2) Debris will be separated and taken to an approved waste disposal facility in compliance with applicable federal and local regulations.

3) The construction of **access roads** is not required for this scope of work. Poles are close to the roads and are site accessible.

4) **Staging area** requirements were considered for the new equipment to be installed and the equipment to be retired. All materials will be stored and dispatched from the assigned LUMA's Regional Warehouse. The warehouse assigned is the Carolina District Warehouse, whose address is #21 Campeche Street, Industrial Julio N. Matos, Martin González Ward, Carolina, PR. Coordinates are [redacted] Refer to document *Warehouse Locations.*

5) Fill, Gravel, and Sand materials will be obtained from an approved supplier as referenced in the document *LUMA Vendor Directory List.*

6) The equipment to be used is *a Skid Steer, Excavator, Dump truck, Manlift, 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 a *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.

7) Specific List of Permits Required:
   a. Department of Transportation and Public Works - ("DTOP") Endorsements & Municipality Notifications
   b. Excavation and Demolition Notification in the DTOP
   c. LUMA will provide proof of all permits.

Proposed 406 Hazard Mitigation Scope of Work

This version of the project will be fully funded using PA 428 funds. A future version of this project may contain PA 406 HM measures.

Type of Project:

Restoration to Codes/Standards: Restores the facility(s) to pre-disaster function and to approved codes and standards.

This work will follow FEMA (Public Assistance Alternative Procedures (Section 428) Guide for Permanent Work FEMA-4339-DR-PR February 2020).

Note: If preliminary A&E work has not been completed, the type of project designation is considered initial and based on currently available information. The designation may be revised based on the completed preliminary A&E work results.

Codes and Standards:

The following will be referenced when applying specific codes, specifications, and standards to the project design:

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

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

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

4. LUMA's latest Design Criteria Document (DCD) 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).

Project Schedule:

Milestone	Target Date
FEMA Obligation Funds	September 2024
Start Procurement of Long-Lead Items	July 2023
Start Environmental and Permitting	September 2024
Start Detailed Design Engineering	January 2024
Start Project Construction	October 2024
In-Service-Date	April 2025

Project Cost Estimate (PCE):

The estimated costs (Class 3 Accuracy +/-30%) to complete the project are captured in the table(s) below. The cost estimate was developed utilizing preliminary Architectural and Engineering design information and is subject to being updated. LUMA has allocated 10% of the project cost to mitigate potential known risks. For more details refer to **APPENDIX B- Detailed Cost Estimate.**

COST ESTIMATE			
COST ELEMENT	**428**	**406**	**PROJECT TOTAL**
PLANNING	**$50,770.52**	**-**	**$50,770.52**
MANAGEMENT	**$31,088.05**	**-**	**$31,088.05**
Group 15- DAUT	**$533,842.94**	**-**	**$533,842.94**
GENERAL CONDITIONS	**$33,428.39**	**-**	**$33,428.39**
CONTINGENCY	**$76,289.52**	**-**	**$76,289.52**
COST TOTALS	**$725,419.42**	**-**	**$725,419.42**
DEDUCTIONS	**TOTAL INSURANCE PROCEEDS RECEIVED**		**$0**
FAASt ALLOCATIONS	**FAASt Project # 755211 TOTAL**		**$643,560.85**
	FAASt A&E # 335168 TOTAL		**$81,858.57**

Project Cost Summary, Version 0:

Work to be Completed (WTBC): $725,419.42

A&E Deduction (Global A&E FAASt 335168): -$81,858.57

Project Total: $643,560.85

Attachments:

755211-DR4339PR-APPENDIX A - Initial Scope of Work

755211-DR4339PR-APPENDIX B – Detailed Cost Estimate

755211-DR4339PR-APPENDIX C - Project Considerations

755211-DR4339PR-APPENDIX D - LUMA's Active Projects

Project Notes:

1. Refer to the detailed SOW provided in document named: ***755211- DR4339PR- DSOW Group 15 DAUT Revision 01.pdf.***

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

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

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

5. The permanent staging area will be located inside the existing PREPA facilities.

6. For detailed cost estimate, please refer to document named: *755211-DR4339PR-APPENDIX B- DETAILED COST ESTIMATE.xlsx.*

406 HMP Scope

406 Hazard Mitigation measures were not requested by the subrecipient for this project in Version 0. However, the mitigation opportunities will be applied in a future version (V1) of the Permanent Work Project. The project is ready for Insurance completion.

Cost

Code	Quantity	Unit	Total Cost	Section
9001	1	Lump Sum	$725,419.42	Uncompleted
3510	1	Lump Sum	($81,858.57)	Uncompleted
9201	1	Lump Sum	$0.00	Completed

CRC Gross Cost	$643,560.85
Total 406 HMP Cost	$0.00
Total Insurance Reductions	$0.00
CRC Net Cost	$643,560.85
Federal Share (90.00%)	$579,204.77
Non-Federal Share (10.00%)	$64,356.08

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

9/3/2026

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

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

5/14/2025

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 Program Group 15] (Distribution) (Cost Only)**.

406 Mitigation

There is no additional mitigation information on **FAASt [Automation Program Group 15] (Distribution) (Cost Only)**.

Environmental Historical Preservation

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

EHP Conditions

- Any change to the approved scope of work will require re-evaluation for compliance with NEPA and other Laws and Executive Orders.
- This review does not address all federal, state and local requirements. Acceptance of federal funding requires recipient to comply with all federal, state and local laws. Failure to obtain all appropriate federal, state and local environmental permits and clearances may jeopardize funding.
- If ground disturbing activities occur during construction, applicant will monitor ground disturbance and if any potential archaeological resources are discovered, will immediately cease construction in that area and notify the State and FEMA.
- The Applicant must provide documentation at close-out that proves completion of required Conservation Measures
- Puerto Rican Boa (Chilabothrus inornatus) 1. Inform all project personnel about the potential presence of the Puerto Rican (PR) boa and Virgin Islands (VI) boa in areas where the proposed work will be conducted and provide training on PR and VI boa identification. A pre-construction meeting will be conducted to inform all project personnel about the need to avoid harming these species. All personnel will be advised that there are civil and criminal penalties for harming, harassing, or killing species protected under the Endangered Species Act of 1973. An educational poster or sign with photo or illustration of these species will be displayed at the project site. 2. Prior to any construction activity, including removal of vegetation and earth movement, the boundaries of the project area and any area to be excluded and protected will be clearly marked in the project plan and in the field to avoid further habitat degradation outside of the footprint of the project. 3. Once areas are clearly marked, and right before the use of heavy machinery and any construction activity (including removal of vegetation and earth movement), biologist or designated project personnel with experience on these species will survey the areas to be cleared to verify the presence of any PR or VI boa within the Action Area. If a PR or VI boa is found during the search, it should be captured and managed as per #6 below. Once the removal of vegetation begins, the biologist or designated personnel must remain at the work site and be ready to capture any boa that might be in harm's way as the result of the habitat disturbance (see #6). 4. For VI boas, once the Action Area has been searched, vegetation will be cut about one meter above ground prior to the use of heavy machinery for land clearing. Cutting vegetation by hand will allow VI boas present on site to move away on their own to adjacent available habitat. If there is no suitable habitat adjacent to the project site, any VI boa found will be relocated accordingly (see #6). 5.For all boa sightings (dead or alive), record the time and date of the sighting and the specific location where it was found. Data will also include a photo of the animal (dead or alive),relocation site GPS coordinates, time and date of the relocation, and comments on how the animal was detected and its behavior. 6.If any PR or VI boa (dead or alive) is found within the Action Area and on harm's way, the action will stop, and information will be recorded (see #5). All attempts will be made to immediately safely capture and relocate the animal within suitable habitat (forested)at least1kmfrom the Action Area and away from construction areas. PR boa relocation sites will be pre-determined before the project start sand sites shared with the Service for revision and concurrence. Relocation of PR boas will be conducted by trained, designated personnel ensuring the animal is not harmed or injured during the capture and relocation process.

- 7.Measures will be taken to avoid and minimize PR boa and VI boa casualties by heavy machinery or motor vehicles being left in the Action Area. *.Any heavy machinery left on site (staging areas) or near potential PR or VI boa habitat will be thoroughly inspected each morning before work starts to ensure that no boa shave sheltered within engine compartments or other areas of the heavy machinery. Ifa PR boa or VI boa is found within vehicles or heavy machinery, boas will be safely captured accordingly. If not possible, the animal will be left alone until it leaves the vehicle or machine by itself. *.The PR boa and VI boa may seek shelter within debris piles. Measures should be taken to avoid and minimize boa casualties associated with sheltering in new debris piles as a result of project activities. New debris piles should be placed in areas as far as possible from forested areas. Prior to moving, disposing, or shredding, debris piles should be carefully inspected for the presence of PR boas and VI boas. If debris piles will be left on site, we recommend they be placed in an undisturbed area. *.In the event a PR boa and VI boa is found dead within the project area, the Federal Agency and the Recipient must contact the Service to appropriately dispose the animal. *.If a PR boa or a VI boa is accidentally injured or killed during capture and relocation activities during the Action, the Federal Agency and the Recipient shall terminate the authorized activities and contact the Service within 24 hours to reinitiate consultation. The Federal Agency will consult with the Service to determine whether authorized activities should continue as proposed and whether modifications are warranted. *.Should the forms of take reach the amount of exempted take during the Action, the Federal Agency and the Recipient shall terminate the authorized activities and contact the Service within 24 hours to reinitiate consultation. The Federal Agency will consult with the Service to determine whether authorized activities should continue as proposed and whether modifications are warranted. For questions and to submit reports, the Service's Point of Contact (POC) is José Cruz-Burgos, Endangered Species Coordinator, and can be contacted at:¿Mobile: 305-304-1386 ¿Office phone: 786-244-0081 ¿Office Direct Line: 939-320-3120 ¿Email: Caribbean_es@fws.gov or jose_cruz-burgos@fws.gov
- The Applicant shall handle, manage, and dispose of all types of hazardous waste in accordance with requirements of local, state, and federal laws, regulations, and ordinances. In addition, the Applicant shall ensure that all debris is separated and disposed of in a manner consistent with the PR DNER guidelines at a permitted site or landfill. The contractor/applicant will be responsible for the proper disposition of construction debris in authorized landfills providing the name, location, coordinates and permits of the facility to the corresponding authorities.
- Unusable equipment, debris, white goods, scrap metal any other material shall be disposed in approved manner and location. In the event significant items are discovered during the implementation or development of the project the Applicant shall handle, manage, and dispose petroleum products, hazardous materials, and toxic waste in accordance with the requirements of the local and federal agencies. Noncompliance with these requirements may jeopardize receipt of federal funds.
- Applicant must obtain any required permits from the Puerto Rico Permits Management Office (OGPe) prior to initiating work and comply with any conditions of the permit established by the Planning Board (JP) for constructions in floodplains. All coordination (emails, letters, documented phone calls) pertaining to these activities and compliance must be provided and maintained in the Applicant's permanent files
- 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 PCBsinto the environment. If damaged equipment or materialstorage 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.
- The Subrecipient and/or Subrecipients contractor must follow the Low Impact Debris Removal Stipulations (LIDRS) outlined in Appendix E of the Project-Specific Programmatic Agreement Among FEMA, the SHPO, ACHP, COR3, and PREPA (PSPA), executed on August 2, 2022.
- Pursuant to Stipulation III.B of the PSPA, if, in the course of implementing this Individual Undertaking(s), previously unidentified structures, sites, buildings, objects, districts, or archaeological deposits, that may be eligible for listing in the National Register, or human remains are uncovered, or if it appears that an Individual Undertaking has affected or will affect a previously identified historic property in an unanticipated manner, the contractor must notify Subrecipient who will immediately notify the Recipient. Work must stop in the vicinity of the discovery and measures must be taken to protect the discovery and avoid additional harm.
- Additional staging areas and/or work pads within work site area havent been identified yet. The Subrecipient and/or private operator must provide the information of any additional staging areas or work pads for EHP evaluation as soon as available specially if any construction activity will be necessary to prepare the site(s). Information for staging areas and/or work pads confined to previously disturbed or hardened surfaces can be provided at close-out.
- All borrow or fill material must come from pre-existing stockpiles, material reclaimed from maintained roadside ditches (provided the designed width or depth of the ditch is not increased), or commercially procured material from a source existing prior to the event. For any FEMA-funded project requiring the use of a non-commercial source or a commercial source that was not permitted to operate prior to the event (e.g., a new pit, agricultural fields, road ROWs, etc.) in whole or in part, regardless of cost, the Applicant must notify FEMA and the Recipient prior to extracting material. FEMA must review the source for compliance with all applicable federal environmental planning and historic preservation laws and executive orders prior to a Sub-recipient or their contractor beginning borrow extraction. Consultation and regulatory permitting may be required. Non-compliance with this requirement may jeopardize receipt of federal funding. Documentation of borrow sources utilized is required at close-out and must include fill type (private, commercial, etc.), name, fill site GPS coordinates (not of the company/governmental office), address, and type of material.
- Additional staging areas and/or work pads within work site area haven't been identified yet. The Recipient/Subrecipient and/or private operator must provide the information of any additional staging areas or work pads for EHP evaluation as soon as available specially if any construction activity will be necessary to prepare the site(s). Information for staging areas and/or work pads confined to previously disturbed or hardened surfaces can be provided at close-out.

EHP Additional Info

There is no additional environmental historical preservation on **FAASt [Automation Program Group 15] (Distribution) (Cost Only)**.

Final Reviews

Final Review

Reviewed By Amaro, Luis N. **Reviewed On** 12/17/2024 8:11 PM PDT

Review Comments

LNA 12/17/24. This project has been reviewed, found eligible and cost reasonable, and it is ready to continue the award process.

Recipient Review

Reviewed By Salgado, Gabriel **Reviewed On** 12/19/2024 5:31 PM PDT

Review Comments

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

Project Signatures

Reviewed By Unsigned **Reviewed On** Unsigned

General Info

Project #	755211 **P/W #** 108022	**Project Type**	Specialized
Project Category	F - Utilities	**Applicant**	PR Electric Power Authority (000-UA2QU-00)
Project Title	FAASt [Automation Program Group 15] (Distribution) (Cost Only)	**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 #1392753; FAASt [Automation Program Group 15: San Juan, Feeder: 1646-02] (Distribution)

General Facility Information:

- **Facility Type:** Power generation, transmission, and distribution facilities
- **Facility:** Automation Program Group 15: San Juan, Feeder: 1646-02
- **Facility Description:** Transmission and Distribution Automation Feeder 1646-02
- **Approx. Year Built:** 1980
- **Start GPS Latitude/Longitude:** [redacted]
- **End GPS Latitude/Longitude:** [redacted]

Final Scope

1392753 **FAASt [Automation Program Group 15: San Juan, Feeder: 1646-02] (Distribution)**

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

Version 1 was created to address fund code correction from FC6E to FC06 for FAASt projects. This administrative amendment does not change the previously approved scope of work or costs, however, to be able to process the correction a version is being submitted for de-obligating the available balance in this PW, and a next version will be submitted to reconcile available funding in the correct code. Per the Financial Management Section, the amount to be de-obligated in this version is -$643,560.85 (100%) / -$579,204.77 (90%).

Note: SOW from previous version has been removed from the current SOW. It can be found in the *Versioning and Amendments* tab in GM.

406 HMP Scope

406 Hazard Mitigation measures were not requested by the subrecipient for this project in Version 0. However, the mitigation opportunities will be applied in a future version (V1) of the Permanent Work Project. The project is ready for Insurance completion.

Cost

Code	Quantity	Unit	Total Cost	Section
9001	1	Lump Sum	$725,419.42	Uncompleted
3510	1	Lump Sum	($81,858.57)	Uncompleted
9201	1	Lump Sum	$0.00	Completed
9001	1	Lump Sum	($643,560.85)	Uncompleted

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

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.
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- 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

9/3/2026

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

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

5/14/2025

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 Program Group 15] (Distribution) (Cost Only)**.

406 Mitigation

There is no additional mitigation information on **FAASt [Automation Program Group 15] (Distribution) (Cost Only)**.

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.
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- Puerto Rican Boa (Chilabothrus inornatus) 1. Inform all project personnel about the potential presence of the Puerto Rican (PR) boa and Virgin Islands (VI) boa in areas where the proposed work will be conducted and provide training on PR and VI boa identification. A pre-construction meeting will be conducted to inform all project personnel about the need to avoid harming these species. All personnel will be advised that there are civil and criminal penalties for harming, harassing, or killing species protected under the Endangered Species Act of 1973. An educational poster or sign with photo or illustration of these species will be displayed at the project site. 2. Prior to any construction activity, including removal of vegetation and earth movement, the boundaries of the project area and any area to be excluded and protected will be clearly marked in the project plan and in the field to avoid further habitat degradation outside of the footprint of the project. 3. Once areas are clearly marked, and right before the use of heavy machinery and any construction activity (including removal of vegetation and earth movement), biologist or designated project personnel with experience on these species will survey the areas to be cleared to verify the presence of any PR or VI boa within the Action Area. If a PR or VI boa is found during the search, it should be captured and managed as per #6 below. Once the removal of vegetation begins, the biologist or designated personnel must remain at the work site and be ready to capture any boa that might be in harm's way as the result of the habitat disturbance (see #6). 4. For VI boas, once the Action Area has been searched, vegetation will be cut about one meter above ground prior to the use of heavy machinery for land clearing. Cutting vegetation by hand will allow VI boas present on site to move away on their own to adjacent available habitat. If there is no suitable habitat adjacent to the project site, any VI boa found will be relocated accordingly (see #6). 5.For all boa sightings (dead or alive), record the time and date of the sighting and the specific location where it was found. Data will also include a photo of the animal (dead or alive),relocation site GPS coordinates, time and date of the relocation, and comments on how the animal was detected and its behavior. 6.If any PR or VI boa (dead or alive) is found within the Action Area and on harm's way, the action will stop, and information will be recorded (see #5). All attempts will be made to immediately safely capture and relocate the animal within suitable habitat (forested)at least1kmfrom the Action Area and away from construction areas. PR boa relocation sites will be pre-determined before the project start sand sites shared with the Service for revision and concurrence. Relocation of PR boas will be conducted by trained, designated personnel ensuring the animal is not harmed or injured during the capture and relocation process.

- 7.Measures will be taken to avoid and minimize PR boa and VI boa casualties by heavy machinery or motor vehicles being left in the Action Area. *.Any heavy machinery left on site (staging areas) or near potential PR or VI boa habitat will be thoroughly inspected each morning before work starts to ensure that no boa shave sheltered within engine compartments or other areas of the heavy machinery. Ifa PR boa or VI boa is found within vehicles or heavy machinery, boas will be safely captured accordingly. If not possible, the animal will be left alone until it leaves the vehicle or machine by itself. *.The PR boa and VI boa may seek shelter within debris piles. Measures should be taken to avoid and minimize boa casualties associated with sheltering in new debris piles as a result of project activities. New debris piles should be placed in areas as far as possible from forested areas. Prior to moving, disposing, or shredding, debris piles should be carefully inspected for the presence of PR boas and VI boas. If debris piles will be left on site, we recommend they be placed in an undisturbed area. *.In the event a PR boa and VI boa is found dead within the project area, the Federal Agency and the Recipient must contact the Service to appropriately dispose the animal. *.If a PR boa or a VI boa is accidentally injured or killed during capture and relocation activities during the Action, the Federal Agency and the Recipient shall terminate the authorized activities and contact the Service within 24 hours to reinitiate consultation. The Federal Agency will consult with the Service to determine whether authorized activities should continue as proposed and whether modifications are warranted. *.Should the forms of take reach the amount of exempted take during the Action, the Federal Agency and the Recipient shall terminate the authorized activities and contact the Service within 24 hours to reinitiate consultation. The Federal Agency will consult with the Service to determine whether authorized activities should continue as proposed and whether modifications are warranted. For questions and to submit reports, the Service's Point of Contact (POC) is José Cruz-Burgos, Endangered Species Coordinator, and can be contacted at:¿Mobile: 305-304-1386 ¿Office phone: 786-244-0081 ¿Office Direct Line: 939-320-3120 ¿Email: Caribbean_es@fws.gov or jose_cruz-burgos@fws.gov
- The Applicant shall handle, manage, and dispose of all types of hazardous waste in accordance with requirements of local, state, and federal laws, regulations, and ordinances. In addition, the Applicant shall ensure that all debris is separated and disposed of in a manner consistent with the PR DNER guidelines at a permitted site or landfill. The contractor/applicant will be responsible for the proper disposition of construction debris in authorized landfills providing the name, location, coordinates and permits of the facility to the corresponding authorities.
- Unusable equipment, debris, white goods, scrap metal any other material shall be disposed in approved manner and location. In the event significant items are discovered during the implementation or development of the project the Applicant shall handle, manage, and dispose petroleum products, hazardous materials, and toxic waste in accordance with the requirements of the local and federal agencies. Noncompliance with these requirements may jeopardize receipt of federal funds.
- Applicant must obtain any required permits from the Puerto Rico Permits Management Office (OGPe) prior to initiating work and comply with any conditions of the permit established by the Planning Board (JP) for constructions in floodplains. All coordination (emails, letters, documented phone calls) pertaining to these activities and compliance must be provided and maintained in the Applicant's permanent files
- 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 PCBsinto the environment. If damaged equipment or materialstorage 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.
- The Subrecipient and/or Subrecipients contractor must follow the Low Impact Debris Removal Stipulations (LIDRS) outlined in Appendix E of the Project-Specific Programmatic Agreement Among FEMA, the SHPO, ACHP, COR3, and PREPA (PSPA), executed on August 2, 2022.
- Pursuant to Stipulation III.B of the PSPA, if, in the course of implementing this Individual Undertaking(s), previously unidentified structures, sites, buildings, objects, districts, or archaeological deposits, that may be eligible for listing in the National Register, or human remains are uncovered, or if it appears that an Individual Undertaking has affected or will affect a previously identified historic property in an unanticipated manner, the contractor must notify Subrecipient who will immediately notify the Recipient. Work must stop in the vicinity of the discovery and measures must be taken to protect the discovery and avoid additional harm.
- Additional staging areas and/or work pads within work site area havent been identified yet. The Subrecipient and/or private operator must provide the information of any additional staging areas or work pads for EHP evaluation as soon as available specially if any construction activity will be necessary to prepare the site(s). Information for staging areas and/or work pads confined to previously disturbed or hardened surfaces can be provided at close-out.
- All borrow or fill material must come from pre-existing stockpiles, material reclaimed from maintained roadside ditches (provided the designed width or depth of the ditch is not increased), or commercially procured material from a source existing prior to the event. For any FEMA-funded project requiring the use of a non-commercial source or a commercial source that was not permitted to operate prior to the event (e.g., a new pit, agricultural fields, road ROWs, etc.) in whole or in part, regardless of cost, the Applicant must notify FEMA and the Recipient prior to extracting material. FEMA must review the source for compliance with all applicable federal environmental planning and historic preservation laws and executive orders prior to a Sub-recipient or their contractor beginning borrow extraction. Consultation and regulatory permitting may be required. Non-compliance with this requirement may jeopardize receipt of federal funding. Documentation of borrow sources utilized is required at close-out and must include fill type (private, commercial, etc.), name, fill site GPS coordinates (not of the company/governmental office), address, and type of material.
- Additional staging areas and/or work pads within work site area haven't been identified yet. The Recipient/Subrecipient and/or private operator must provide the information of any additional staging areas or work pads for EHP evaluation as soon as available specially if any construction activity will be necessary to prepare the site(s). Information for staging areas and/or work pads confined to previously disturbed or hardened surfaces can be provided at close-out.

EHP Additional Info

There is no additional environmental historical preservation on **FAASt [Automation Program Group 15] (Distribution) (Cost Only)**.

Final Reviews

Final Review

Reviewed By LEFRANC-GARCIA, CARLOS L. **Reviewed On** 05/08/2025 5:04 PM PDT

Review Comments

"Version to address fund code correction from FC6E to FC06 for FAASt projects. This administrative amendment does not change the previously approved scope of work or costs, however, to be able to process the correction a version is being submitted for de-obligating the available balance in this PW. Per the Financial Management Section, the amount to be de-obligated in this version is -$643,560.86 (100%) / -$579,204.77 (90%)."

Recipient Review

Reviewed By LEFRANC-GARCIA, CARLOS L. **Reviewed On** 05/08/2025 5:05 PM PDT

Review Comments

"Version to address fund code correction from FC6E to FC06 for FAASt projects. This administrative amendment does not change the previously approved scope of work or costs, however, to be able to process the correction a version is being submitted for de-obligating the available balance in this PW. Per the Financial Management Section, the amount to be de-obligated in this version is -$643,560.86 (100%) / -$579,204.77 (90%)."

Project Signatures

Reviewed By Unsigned **Reviewed On** Unsigned

General Info

Project #	755211 **P/W #** 108022	**Project Type**	Specialized
Project Category	F - Utilities	**Applicant**	PR Electric Power Authority (000-UA2QU-00)
Project Title	FAASt [Automation Program Group 15] (Distribution) (Cost Only)	**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	Canceled		

Damage Description and Dimensions

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

Damage #1392753; FAASt [Automation Program Group 15: San Juan, Feeder: 1646-02] (Distribution)

General Facility Information:

- **Facility Type:** Power generation, transmission, and distribution facilities
- **Facility:** Automation Program Group 15: San Juan, Feeder: 1646-02
- **Facility Description:** Transmission and Distribution Automation Feeder 1646-02
- **Approx. Year Built:** 1980
- **Start GPS Latitude/Longitude:** [redacted]
- **End GPS Latitude/Longitude:** [redacted]

Final Scope

1392753 **FAASt [Automation Program Group 15: San Juan, Feeder: 1646-02] (Distribution)**

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

Version 1 was created to address fund code correction from FC6E to FC06 for FAASt projects. This administrative amendment does not change the previously approved scope of work or costs, however, to be able to process the correction a version is being submitted for de-obligating the available balance in this PW, and a next version will be submitted to reconcile available funding in the correct code. Per the Financial Management Section, the amount to be de-obligated in this version is -$643,560.85 (100%) / -$579,204.77 (90%).

Note: SOW from previous version has been removed from the current SOW. It can be found in the *Versioning and Amendments* tab in GM.

406 HMP Scope

406 Hazard Mitigation measures were not requested by the subrecipient for this project in Version 0. However, the mitigation opportunities will be applied in a future version (V1) of the Permanent Work Project. The project is ready for Insurance completion.

Cost

Code	Quantity	Unit	Total Cost	Section
9001	1	Lump Sum	$725,419.42	Uncompleted
3510	1	Lump Sum	($81,858.57)	Uncompleted
9201	1	Lump Sum	$0.00	Completed
9001	1	Lump Sum	($643,560.85)	Uncompleted

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

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

9/3/2026

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

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

5/14/2025

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 Program Group 15] (Distribution) (Cost Only)**.

406 Mitigation

There is no additional mitigation information on **FAASt [Automation Program Group 15] (Distribution) (Cost Only)**.

Environmental Historical Preservation

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

EHP Conditions

- Any change to the approved scope of work will require re-evaluation for compliance with NEPA and other Laws and Executive Orders.
- This review does not address all federal, state and local requirements. Acceptance of federal funding requires recipient to comply with all federal, state and local laws. Failure to obtain all appropriate federal, state and local environmental permits and clearances may jeopardize funding.
- If ground disturbing activities occur during construction, applicant will monitor ground disturbance and if any potential archaeological resources are discovered, will immediately cease construction in that area and notify the State and FEMA.
- The Applicant must provide documentation at close-out that proves completion of required Conservation Measures
- Puerto Rican Boa (Chilabothrus inornatus) 1. Inform all project personnel about the potential presence of the Puerto Rican (PR) boa and Virgin Islands (VI) boa in areas where the proposed work will be conducted and provide training on PR and VI boa identification. A pre-construction meeting will be conducted to inform all project personnel about the need to avoid harming these species. All personnel will be advised that there are civil and criminal penalties for harming, harassing, or killing species protected under the Endangered Species Act of 1973. An educational poster or sign with photo or illustration of these species will be displayed at the project site. 2. Prior to any construction activity, including removal of vegetation and earth movement, the boundaries of the project area and any area to be excluded and protected will be clearly marked in the project plan and in the field to avoid further habitat degradation outside of the footprint of the project. 3. Once areas are clearly marked, and right before the use of heavy machinery and any construction activity (including removal of vegetation and earth movement), biologist or designated project personnel with experience on these species will survey the areas to be cleared to verify the presence of any PR or VI boa within the Action Area. If a PR or VI boa is found during the search, it should be captured and managed as per #6 below. Once the removal of vegetation begins, the biologist or designated personnel must remain at the work site and be ready to capture any boa that might be in harm's way as the result of the habitat disturbance (see #6). 4. For VI boas, once the Action Area has been searched, vegetation will be cut about one meter above ground prior to the use of heavy machinery for land clearing. Cutting vegetation by hand will allow VI boas present on site to move away on their own to adjacent available habitat. If there is no suitable habitat adjacent to the project site, any VI boa found will be relocated accordingly (see #6). 5.For all boa sightings (dead or alive), record the time and date of the sighting and the specific location where it was found. Data will also include a photo of the animal (dead or alive),relocation site GPS coordinates, time and date of the relocation, and comments on how the animal was detected and its behavior. 6.If any PR or VI boa (dead or alive) is found within the Action Area and on harm's way, the action will stop, and information will be recorded (see #5). All attempts will be made to immediately safely capture and relocate the animal within suitable habitat (forested)at least1kmfrom the Action Area and away from construction areas. PR boa relocation sites will be pre-determined before the project start sand sites shared with the Service for revision and concurrence. Relocation of PR boas will be conducted by trained, designated personnel ensuring the animal is not harmed or injured during the capture and relocation process.

- 7.Measures will be taken to avoid and minimize PR boa and VI boa casualties by heavy machinery or motor vehicles being left in the Action Area. *.Any heavy machinery left on site (staging areas) or near potential PR or VI boa habitat will be thoroughly inspected each morning before work starts to ensure that no boa shave sheltered within engine compartments or other areas of the heavy machinery. Ifa PR boa or VI boa is found within vehicles or heavy machinery, boas will be safely captured accordingly. If not possible, the animal will be left alone until it leaves the vehicle or machine by itself. *.The PR boa and VI boa may seek shelter within debris piles. Measures should be taken to avoid and minimize boa casualties associated with sheltering in new debris piles as a result of project activities. New debris piles should be placed in areas as far as possible from forested areas. Prior to moving, disposing, or shredding, debris piles should be carefully inspected for the presence of PR boas and VI boas. If debris piles will be left on site, we recommend they be placed in an undisturbed area. *.In the event a PR boa and VI boa is found dead within the project area, the Federal Agency and the Recipient must contact the Service to appropriately dispose the animal. *.If a PR boa or a VI boa is accidentally injured or killed during capture and relocation activities during the Action, the Federal Agency and the Recipient shall terminate the authorized activities and contact the Service within 24 hours to reinitiate consultation. The Federal Agency will consult with the Service to determine whether authorized activities should continue as proposed and whether modifications are warranted. *.Should the forms of take reach the amount of exempted take during the Action, the Federal Agency and the Recipient shall terminate the authorized activities and contact the Service within 24 hours to reinitiate consultation. The Federal Agency will consult with the Service to determine whether authorized activities should continue as proposed and whether modifications are warranted. For questions and to submit reports, the Service's Point of Contact (POC) is José Cruz-Burgos, Endangered Species Coordinator, and can be contacted at:¿Mobile: 305-304-1386 ¿Office phone: 786-244-0081 ¿Office Direct Line: 939-320-3120 ¿Email: Caribbean_es@fws.gov or jose_cruz-burgos@fws.gov
- The Applicant shall handle, manage, and dispose of all types of hazardous waste in accordance with requirements of local, state, and federal laws, regulations, and ordinances. In addition, the Applicant shall ensure that all debris is separated and disposed of in a manner consistent with the PR DNER guidelines at a permitted site or landfill. The contractor/applicant will be responsible for the proper disposition of construction debris in authorized landfills providing the name, location, coordinates and permits of the facility to the corresponding authorities.
- Unusable equipment, debris, white goods, scrap metal any other material shall be disposed in approved manner and location. In the event significant items are discovered during the implementation or development of the project the Applicant shall handle, manage, and dispose petroleum products, hazardous materials, and toxic waste in accordance with the requirements of the local and federal agencies. Noncompliance with these requirements may jeopardize receipt of federal funds.
- Applicant must obtain any required permits from the Puerto Rico Permits Management Office (OGPe) prior to initiating work and comply with any conditions of the permit established by the Planning Board (JP) for constructions in floodplains. All coordination (emails, letters, documented phone calls) pertaining to these activities and compliance must be provided and maintained in the Applicant's permanent files
- 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 PCBsinto the environment. If damaged equipment or materialstorage 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.
- The Subrecipient and/or Subrecipients contractor must follow the Low Impact Debris Removal Stipulations (LIDRS) outlined in Appendix E of the Project-Specific Programmatic Agreement Among FEMA, the SHPO, ACHP, COR3, and PREPA (PSPA), executed on August 2, 2022.
- Pursuant to Stipulation III.B of the PSPA, if, in the course of implementing this Individual Undertaking(s), previously unidentified structures, sites, buildings, objects, districts, or archaeological deposits, that may be eligible for listing in the National Register, or human remains are uncovered, or if it appears that an Individual Undertaking has affected or will affect a previously identified historic property in an unanticipated manner, the contractor must notify Subrecipient who will immediately notify the Recipient. Work must stop in the vicinity of the discovery and measures must be taken to protect the discovery and avoid additional harm.
- Additional staging areas and/or work pads within work site area havent been identified yet. The Subrecipient and/or private operator must provide the information of any additional staging areas or work pads for EHP evaluation as soon as available specially if any construction activity will be necessary to prepare the site(s). Information for staging areas and/or work pads confined to previously disturbed or hardened surfaces can be provided at close-out.
- All borrow or fill material must come from pre-existing stockpiles, material reclaimed from maintained roadside ditches (provided the designed width or depth of the ditch is not increased), or commercially procured material from a source existing prior to the event. For any FEMA-funded project requiring the use of a non-commercial source or a commercial source that was not permitted to operate prior to the event (e.g., a new pit, agricultural fields, road ROWs, etc.) in whole or in part, regardless of cost, the Applicant must notify FEMA and the Recipient prior to extracting material. FEMA must review the source for compliance with all applicable federal environmental planning and historic preservation laws and executive orders prior to a Sub-recipient or their contractor beginning borrow extraction. Consultation and regulatory permitting may be required. Non-compliance with this requirement may jeopardize receipt of federal funding. Documentation of borrow sources utilized is required at close-out and must include fill type (private, commercial, etc.), name, fill site GPS coordinates (not of the company/governmental office), address, and type of material.
- Additional staging areas and/or work pads within work site area haven't been identified yet. The Recipient/Subrecipient and/or private operator must provide the information of any additional staging areas or work pads for EHP evaluation as soon as available specially if any construction activity will be necessary to prepare the site(s). Information for staging areas and/or work pads confined to previously disturbed or hardened surfaces can be provided at close-out.

EHP Additional Info

There is no additional environmental historical preservation on **FAASt [Automation Program Group 15] (Distribution) (Cost Only)**.

Final Reviews

Final Review

Reviewed By Not Reviewed

Reviewed On Not Reviewed

Review Comments

No comments available for the Final Review step

Recipient Review

Reviewed By Not Reviewed

Reviewed On Not Reviewed

Review Comments

No comments available for the Final Review step

Project Signatures

Reviewed By Unsigned

Reviewed On Unsigned

General Info

Project #	755211 **P/W #** 108022	**Project Type**	Specialized
Project Category	F - Utilities	**Applicant**	PR Electric Power Authority (000-UA2QU-00)
Project Title	FAASt [Automation Program Group 15] (Distribution) (Cost Only)	**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 #1392753; FAASt [Automation Program Group 15: San Juan, Feeder: 1646-02] (Distribution)

General Facility Information:

- **Facility Type:** Power generation, transmission, and distribution facilities
- **Facility:** Automation Program Group 15: San Juan, Feeder: 1646-02
- **Facility Description:** Transmission and Distribution Automation Feeder 1646-02
- **Approx. Year Built:** 1980
- **Start GPS Latitude/Longitude:** [redacted]
- **End GPS Latitude/Longitude:** [redacted]

Final Scope

1392753 **FAASt [Automation Program Group 15: San Juan, Feeder: 1646-02] (Distribution)**

********** Version 3 **********

Version 3 was created to address fund code correction from FC6E to FC06 for FAASt projects. This version is being approved to re-obligate available the balance de-obligated in a previous version as part of the fund code fix under FC06. This administrative amendment does not change the previously approved scope of work or costs, however, to be able to process the correction a version is being submitted for re-obligating the available balance in this PW. Per the Financial Management Section, the amount to be re-obligated in this version is $643,560.85 (100%) / $579,204.77 (90%).

Note: SOW from previous version has been removed from the current SOW. It can be found in the *Versioning and Amendments* tab in GM.

406 HMP Scope

406 Hazard Mitigation measures were not requested by the subrecipient for this project in Version 0. However, the mitigation opportunities will be applied in a future version (V1) of the Permanent Work Project. The project is ready for Insurance completion.

Cost

Code	Quantity	Unit	Total Cost	Section
9001	1	Lump Sum	$725,419.42	Uncompleted
3510	1	Lump Sum	($81,858.57)	Uncompleted
9201	1	Lump Sum	$0.00	Completed
9001	1	Lump Sum	($643,560.85)	Uncompleted
9001	1	Lump Sum	$643,560.85	Uncompleted

CRC Gross Cost	$643,560.85
Total 406 HMP Cost	$0.00
Total Insurance Reductions	$0.00
CRC Net Cost	$643,560.85
Federal Share (90.00%)	$579,204.77
Non-Federal Share (10.00%)	$64,356.08

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

9/3/2026

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

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

5/14/2025

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 Program Group 15] (Distribution) (Cost Only)**.

406 Mitigation

There is no additional mitigation information on **FAASt [Automation Program Group 15] (Distribution) (Cost Only)**.

Environmental Historical Preservation

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

EHP Conditions

- Any change to the approved scope of work will require re-evaluation for compliance with NEPA and other Laws and Executive Orders.
- This review does not address all federal, state and local requirements. Acceptance of federal funding requires recipient to comply with all federal, state and local laws. Failure to obtain all appropriate federal, state and local environmental permits and clearances may jeopardize funding.
- If ground disturbing activities occur during construction, applicant will monitor ground disturbance and if any potential archaeological resources are discovered, will immediately cease construction in that area and notify the State and FEMA.
- The Applicant must provide documentation at close-out that proves completion of required Conservation Measures
- Puerto Rican Boa (Chilabothrus inornatus) 1. Inform all project personnel about the potential presence of the Puerto Rican (PR) boa and Virgin Islands (VI) boa in areas where the proposed work will be conducted and provide training on PR and VI boa identification. A pre-construction meeting will be conducted to inform all project personnel about the need to avoid harming these species. All personnel will be advised that there are civil and criminal penalties for harming, harassing, or killing species protected under the Endangered Species Act of 1973. An educational poster or sign with photo or illustration of these species will be displayed at the project site. 2. Prior to any construction activity, including removal of vegetation and earth movement, the boundaries of the project area and any area to be excluded and protected will be clearly marked in the project plan and in the field to avoid further habitat degradation outside of the footprint of the project. 3. Once areas are clearly marked, and right before the use of heavy machinery and any construction activity (including removal of vegetation and earth movement), biologist or designated project personnel with experience on these species will survey the areas to be cleared to verify the presence of any PR or VI boa within the Action Area. If a PR or VI boa is found during the search, it should be captured and managed as per #6 below. Once the removal of vegetation begins, the biologist or designated personnel must remain at the work site and be ready to capture any boa that might be in harm's way as the result of the habitat disturbance (see #6). 4. For VI boas, once the Action Area has been searched, vegetation will be cut about one meter above ground prior to the use of heavy machinery for land clearing. Cutting vegetation by hand will allow VI boas present on site to move away on their own to adjacent available habitat. If there is no suitable habitat adjacent to the project site, any VI boa found will be relocated accordingly (see #6). 5.For all boa sightings (dead or alive), record the time and date of the sighting and the specific location where it was found. Data will also include a photo of the animal (dead or alive),relocation site GPS coordinates, time and date of the relocation, and comments on how the animal was detected and its behavior. 6.If any PR or VI boa (dead or alive) is found within the Action Area and on harm's way, the action will stop, and information will be recorded (see #5). All attempts will be made to immediately safely capture and relocate the animal within suitable habitat (forested)at least1kmfrom the Action Area and away from construction areas. PR boa relocation sites will be pre-determined before the project start sand sites shared with the Service for revision and concurrence. Relocation of PR boas will be conducted by trained, designated personnel ensuring the animal is not harmed or injured during the capture and relocation process.

- 7.Measures will be taken to avoid and minimize PR boa and VI boa casualties by heavy machinery or motor vehicles being left in the Action Area. *.Any heavy machinery left on site (staging areas) or near potential PR or VI boa habitat will be thoroughly inspected each morning before work starts to ensure that no boa shave sheltered within engine compartments or other areas of the heavy machinery. Ifa PR boa or VI boa is found within vehicles or heavy machinery, boas will be safely captured accordingly. If not possible, the animal will be left alone until it leaves the vehicle or machine by itself. *.The PR boa and VI boa may seek shelter within debris piles. Measures should be taken to avoid and minimize boa casualties associated with sheltering in new debris piles as a result of project activities. New debris piles should be placed in areas as far as possible from forested areas. Prior to moving, disposing, or shredding, debris piles should be carefully inspected for the presence of PR boas and VI boas. If debris piles will be left on site, we recommend they be placed in an undisturbed area. *.In the event a PR boa and VI boa is found dead within the project area, the Federal Agency and the Recipient must contact the Service to appropriately dispose the animal. *.If a PR boa or a VI boa is accidentally injured or killed during capture and relocation activities during the Action, the Federal Agency and the Recipient shall terminate the authorized activities and contact the Service within 24 hours to reinitiate consultation. The Federal Agency will consult with the Service to determine whether authorized activities should continue as proposed and whether modifications are warranted. *.Should the forms of take reach the amount of exempted take during the Action, the Federal Agency and the Recipient shall terminate the authorized activities and contact the Service within 24 hours to reinitiate consultation. The Federal Agency will consult with the Service to determine whether authorized activities should continue as proposed and whether modifications are warranted. For questions and to submit reports, the Service's Point of Contact (POC) is José Cruz-Burgos, Endangered Species Coordinator, and can be contacted at:¿Mobile: 305-304-1386 ¿Office phone: 786-244-0081 ¿Office Direct Line: 939-320-3120 ¿Email: Caribbean_es@fws.gov or jose_cruz-burgos@fws.gov
- The Applicant shall handle, manage, and dispose of all types of hazardous waste in accordance with requirements of local, state, and federal laws, regulations, and ordinances. In addition, the Applicant shall ensure that all debris is separated and disposed of in a manner consistent with the PR DNER guidelines at a permitted site or landfill. The contractor/applicant will be responsible for the proper disposition of construction debris in authorized landfills providing the name, location, coordinates and permits of the facility to the corresponding authorities.
- Unusable equipment, debris, white goods, scrap metal any other material shall be disposed in approved manner and location. In the event significant items are discovered during the implementation or development of the project the Applicant shall handle, manage, and dispose petroleum products, hazardous materials, and toxic waste in accordance with the requirements of the local and federal agencies. Noncompliance with these requirements may jeopardize receipt of federal funds.
- Applicant must obtain any required permits from the Puerto Rico Permits Management Office (OGPe) prior to initiating work and comply with any conditions of the permit established by the Planning Board (JP) for constructions in floodplains. All coordination (emails, letters, documented phone calls) pertaining to these activities and compliance must be provided and maintained in the Applicant's permanent files
- 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 PCBsinto the environment. If damaged equipment or materialstorage 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.
- The Subrecipient and/or Subrecipients contractor must follow the Low Impact Debris Removal Stipulations (LIDRS) outlined in Appendix E of the Project-Specific Programmatic Agreement Among FEMA, the SHPO, ACHP, COR3, and PREPA (PSPA), executed on August 2, 2022.
- Pursuant to Stipulation III.B of the PSPA, if, in the course of implementing this Individual Undertaking(s), previously unidentified structures, sites, buildings, objects, districts, or archaeological deposits, that may be eligible for listing in the National Register, or human remains are uncovered, or if it appears that an Individual Undertaking has affected or will affect a previously identified historic property in an unanticipated manner, the contractor must notify Subrecipient who will immediately notify the Recipient. Work must stop in the vicinity of the discovery and measures must be taken to protect the discovery and avoid additional harm.
- Additional staging areas and/or work pads within work site area havent been identified yet. The Subrecipient and/or private operator must provide the information of any additional staging areas or work pads for EHP evaluation as soon as available specially if any construction activity will be necessary to prepare the site(s). Information for staging areas and/or work pads confined to previously disturbed or hardened surfaces can be provided at close-out.
- All borrow or fill material must come from pre-existing stockpiles, material reclaimed from maintained roadside ditches (provided the designed width or depth of the ditch is not increased), or commercially procured material from a source existing prior to the event. For any FEMA-funded project requiring the use of a non-commercial source or a commercial source that was not permitted to operate prior to the event (e.g., a new pit, agricultural fields, road ROWs, etc.) in whole or in part, regardless of cost, the Applicant must notify FEMA and the Recipient prior to extracting material. FEMA must review the source for compliance with all applicable federal environmental planning and historic preservation laws and executive orders prior to a Sub-recipient or their contractor beginning borrow extraction. Consultation and regulatory permitting may be required. Non-compliance with this requirement may jeopardize receipt of federal funding. Documentation of borrow sources utilized is required at close-out and must include fill type (private, commercial, etc.), name, fill site GPS coordinates (not of the company/governmental office), address, and type of material.
- Additional staging areas and/or work pads within work site area haven't been identified yet. The Recipient/Subrecipient and/or private operator must provide the information of any additional staging areas or work pads for EHP evaluation as soon as available specially if any construction activity will be necessary to prepare the site(s). Information for staging areas and/or work pads confined to previously disturbed or hardened surfaces can be provided at close-out.

EHP Additional Info

There is no additional environmental historical preservation on **FAASt [Automation Program Group 15] (Distribution) (Cost Only)**.

Final Reviews

Final Review

Reviewed By LEFRANC-GARCIA, CARLOS L. **Reviewed On** 05/15/2025 6:17 PM PDT

Review Comments

Version to address fund code correction from FC6E to FC06 for FAASt projects. This administrative amendment does not change the previously approved scope of work or costs, however, to be able to process the correction a version is being submitted for re-obligating the available balance in this PW. Per the Financial Management Section, the amount to be re-obligated in this version is $643,560.86 (100%) / $579,204.77 (90%).

Recipient Review

Reviewed By LEFRANC-GARCIA, CARLOS L. **Reviewed On** 05/15/2025 6:17 PM PDT

Review Comments

Version to address fund code correction from FC6E to FC06 for FAASt projects. This administrative amendment does not change the previously approved scope of work or costs, however, to be able to process the correction a version is being submitted for re-obligating the available balance in this PW. Per the Financial Management Section, the amount to be re-obligated in this version is $643,560.86 (100%) / $579,204.77 (90%).

Project Signatures

Reviewed By Unsigned **Reviewed On** Unsigned

General Info

Project #	755211 **P/W #** 108022	**Project Type**	Specialized
Project Category	F - Utilities	**Applicant**	PR Electric Power Authority (000-UA2QU-00)
Project Title	FAASt [Automation Program Group 15] (Distribution) (Cost Only)	**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	Signed	**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 #1392753; FAASt [Automation Program Group 15: San Juan, Feeder: 1646-02] (Distribution)

General Facility Information:

- **Facility Type:** Power generation, transmission, and distribution facilities
- **Facility:** Automation Program Group 15: San Juan, Feeder: 1646-02
- **Facility Description:** Transmission and Distribution Automation Feeder 1646-02
- **Approx. Year Built:** 1980
- **Start GPS Latitude/Longitude:** [redacted]
- **End GPS Latitude/Longitude:** [redacted]

Final Scope

1392753 **FAASt [Automation Program Group 15: San Juan, Feeder: 1646-02] (Distribution)**

********** VERSION 4 **********

Version 4 has been created to capture the LUMA change in cost of the project, aa request an amendment to the Scope of Work (SOW).LUMA requests component additions to the project scope of work and cost estimate that were not included in the obligated project: • Radio communications kits: - LUMA originally planned to transmit data to and from Three-Phase Reclosers using fiber optic cable which also required the installation of additional poles. LUMA now proposes installing radio communication kits to enable communication with the Three-Phase Reclosers and the PREPA SCADA system (EMS). • Air Break Bypass Switches: Air Break Bypass Switches are essential equipment of LUMA design standards for the Three-Phase Recloser. The cost of these switches was involuntarily omitted in the previous estimate. They are included in this proposed version. The purpose of this equipment is to isolate the recloser in case of failure or maintenance and keep the three-phase circuit energized while the situation is resolved. 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 this version.

SOW from previous version 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 de?nes the activities that will be performed using Public Assistance ("PA") funding and it may include § 406 hazard mitigation proposals ("HMPs").

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

This document contains the detailed SOW for FEMA PA project 755211 Automation Program Group 15 (Distribution) under DR-4339-PR Public Assistance. The document provides a detailed description of the project, the scope of PA construction activities to be completed, common EHP review information, and project cost estimates. LUMA is seeking approval from COR3 and FEMA for PA funding for the scope

described in this document.

LUMA submits this Detailed SOW pursuant to the Transmission and Distribution Operations and Maintenance Agreement between

the Puerto Rico Electric Power Authority ("PREPA"), the Puerto Rico Public-Private Partnerships Authority ("P3A"), and LUMA, and in accordance with the Consent to Federal Funding Letter issued by PREPA and P3A, which collectively provide 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

As part of the electrical grid rebuild, LUMA developed a Transmission & Distribution Automation Program ("Program") through which it will install advanced technology equipment (*i.e.*, reclosers and communicating fault current indicators ("cFCIs")) to reduce both physical damage and service interruptions to the electrical grid caused by disasters. Although the intent is to deploy automation equipment throughout PREPA's transmission and distribution ("T&D") system, the Program will be implemented through multiple projects across the island on both T&D systems. The multiple projects within this Program are designed to fortify the electrical system's resilience, safeguard its infrastructure, and enhance service reliability during a disaster. The individual projects are interconnected and enhance each other, but each confers bene?ts independently. Automation is necessary to add modern resiliency capabilities to the T&D system. The 3.2 million Residents throughout Puerto Rico are dependent upon the successful completion of the Program and its ability to sustain the power grid in future disasters.

Project 745859 is one of the Program's distribution-level projects. It installs hardened poles and advanced technology equipment (speci? cally reclosers and cFCIs) to reduce physical damage and service interruptions to the distribution grid that could be caused by a disaster. Implementing reclosers, their communication kits, and cFCIs is critical for the Energy Management System ("EMS") and related components to function at their full capabilities and mitigate loss of service and physical damage in the event of future hurricanes. This project is necessary for the EMS to maintain the continuity of the distribution power grid on Feeder 1646-02.

Key components of this project are: (1) pole replacement, (2) the three-phase reclosers and single-phase reclosers, and (3) the installation of cFCIs. Each of these components and their bene?t to the grid are described further below:

(1) Pole Replacement to Accommodate the Installation of Reclosers

The addition of three-phase reclosers imposes additional load on poles due to the weight of the devices and their components. It also increases the area exposed to extreme weather conditions, such as hurricanes, thereby increasing the structural load requirements these poles must meet. Where an existing pole cannot accommodate a recloser, it will be substituted with a higher-class pole constructed from steel or concrete to ensure compatibility with the recloser and adherence to design criteria. This includes adjacent poles (i.e., poles that are on either side of the recloser pole supporting the overhead line conductors). Any new structure and foundation will be designed to LUMA design criteria and industry standards to support the pole, recloser, and its attachments.

In addition, LUMA is using a per-location approach to pole replacement because of the intricate dynamics of deploying three-phase reclosers. Furthermore, the integration of more connections, switches, and related infrastructure often necessitates taller poles to meet phase spacing a n d circuit-to-circuit spacing requirements. The locations of three-phase reclosers are determined by an electrical analysis performed by the design engineers. In those instances where the recloser would be located on an existing wood pole, that pole will be replaced with a pole that meets the compounded structural demands presented by that recloser.

(2) Feeder Reclosers

Reclosers are sophisticated devices that remotely detect faults within distribution lines, enable the isolation of circuit breakers linked to those faults —whether due to independent failures or breakdowns—and facilitate the swift restoration of power, often within milliseconds. This project will install three-phase and single-phase reclosers.

Three-Phase Recloser: A three-phase recloser is a protection device that is used on three-phase distribution feeders with high fault currents at the location. It is a single device with three switches that can open to interrupt fault currents and automatically reclose to restore power. Three-phase reclosers are communication-ready to enable remote control and visualization. The recloser's wireless communication capability will provide connectivity to LUMA's EMS so the system operator knows their status and can remotely control them. Deployment of the wireless communication devices includes configuration, testing, and commissioning of the wireless communication device, all networking devices, data acquisition, and control systems that form the connectivity path of the recloser to the EMS.

The implementation of three-phase reclosers will preserve the continuity of electric services and avoid physical damage by pre-empting or minimizing disruptions. The three-phase reclosers can be triggered remotely and provide data back to the operations center, enabling LUMA to prioritize restoration activities, reduce customer outage time, and minimize the potential for cascading infrastructure damage. Installation of the three-phase reclosers and associated hardware is critical for the EMS and associated components to function with full capabilities, and to prevent loss of service and potential damage from future disasters. In this project we are installing two three-phase reclosers.

Single-Phase Reclosers: A single-phase recloser is a single protection device with one switch that can open to interrupt fault currents and automatically reclose to restore power. A single-phase recloser performs the same functions as a three-phase recloser, but it does not have the ability to communicate with the EMS. This project will install single-phase reclosers on single-phase or two-phase distribution feeder and distribution lines branching from the feeder. Single-phase reclosers will also be used on feeders with three phases if fault currents are low at the location. In this project we are installing a total of six single-phase reclosers.

(3) Communicating Fault Current Indicators

Installation of communicating fault current indicators ("cFCI") at strategic locations improves the outage management, restoration, and recovery process, specifically by decreasing the time required to detect and locate faults. The cFCIs operate independently of the feeder reclosers and help identify permanent and incipient faults in the distribution system, as well as collect voltage and current data, which can be used to detect system imbalance, prevent future issues due to harmonics and help in building a predictive failure model.

Data sent to the EMS aides the grid operator in making decisions that avoid outages and speed restoration. The cFCI can be programmed to send automatic notification/alarms based on userset parameters. This allows for quick dispatch of field crews to specific sections of the feeders and to reduce the total restoration time during an outage event and to prevent physical damages. Installation of the three-phase reclosers and the communicating fault current indicators (communications ready) is critical for the EMS to efficiently mitigate the loss of service and potential damage in future disasters.

This project's scope does not contain fiber optics or communication capability that is included in other projects. This project is distinguishable from

projects that include fiber optics as these feeders are using cellular technology for communications with the operations center. LUMA has developed this scope for cFCIs, reclosers, and their associated hardware only. The lack of fiber optics as a method of transmitting information in this scope of work does not prevent or limit the monitoring capabilities of the reclosers and cFCI or the automation capabilities of the reclosers on this feeder, nor does it prohibit the incorporation of fiber optics at a later date.

Facilities

FACILITIES LIST – BUILDINGS AND SUBSTATIONS

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

- None

FACILITIES LIST – OTHER FACILITIES

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

A. Facilities for Automation Group 15 Feeder Lines

Name	Feeder Number	GPS Start	GPS End
San Juan	1646-02	[redacted]	

Note: Please refer to *APPENDIX B - Project Considerations* for a list of all GPS locations that this project will impact.

B. Staging Area

All materials will be stored and dispatched from the existing LUMA Regional Warehouses. The warehouse assigned is the Sabana Llana Regional Warehouse, whose address is # 654 De Diego Final Street, Rio Piedras, San Juan, PR.The warehouse coordinates are [redacted]. The staging area will be located at Carolina where coordinates are [redacted]

Project Area Map with Boundaries of Construction

A map of the project area is not available at this time.

Section 428 Scope of Work

The proposed type of work for this project:

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

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

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

__ Recipient's approval letter included, see **Appendix** ____. Alternate Project: Does not restore the pre-disaster function of the damage facility. The Subrecipient, through the Recipients, must obtain approval from FEMA.

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

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

In the obligated submission (Version 0), LUMA proposed:

- Removal and replacement of two (2) damaged concrete poles.
- Install two (2) new poles.
- Install two (2) Three-Phase Reclosers.
- Install six (6) Single Phase Reclosers, remove fuses, and close jumpers.
- Install four (4) 1 kVA transformers.
- Install two (2) communicating fault indicators (cFCIs).

LUMA requests the alignment of the scope of work of Project 755211 with the approved 406 mitigation proposal from Project 746309 FAASt [Automation Program Group 30], including:

• Pole replacement to accommodate recloser installation: 406 mitigation will fund the additional cost for pole strengthening (i.e., 428: remove the existing pole and replace with a round galvanized, 406 install a 12-sided galvanized).

• Feeder reclosers: 406 mitigation will fund 100% cost for the three-phase reclosers on the feeder backbone and the additional cost (delta) for the replacement of fuse cutouts for a single-phase reclosers on laterals circuit lines.

• Communicating Fault Current Indicators: 406 mitigation will fund the additional cost for the replacement of Fault Current Indicators (FCIs) with Fault Current Indicators (cFCIs).

• Distribution Transformers: 406 mitigation will fund the installation of 1kVA stainless steel transformers to serve either the load or source side of the three-phase recloser.

As detailed in the appendix of the amendment request letter, LUMA requests the following component additions to the project scope of work and cost estimate that were not included in the obligated project:

- Radio communications kits:
  - LUMA originally planned to transmit data to and from Three-Phase Reclosers using fiber optic cable which also required the installation of additional poles. LUMA now proposes installing radio communication kits to enable communication with the

    Three-Phase Reclosers and the PREPA SCADA system (EMS).

- Air Break Bypass Switches
  - Air Break Bypass Switches are essential equipment of LUMA design standards for the Three-Phase Recloser. The cost of these switches was involuntarily omitted in the previous estimate. They are included in this proposed version. The purpose of this equipment is to isolate the recloser in case of failure or maintenance and keep the three-phase circuit energized while the situation is resolved.

FEMA Distribution Automation (DA) 406 HM Determination Amendment V2.1:

During the development and discussion of the "FAASt PREPA HM Resolution – Automation System V2.0", it was agreed that 406 HM would fund the installation of new reclosers at critical facilities to create redundancy (loop) and would cover the delta for replacing the manual disconnect switch with an automatic recloser at a strategic location to sectionalize the fault and prevent physical damage to the system.

However, in the Distribution Automation projects Group 15 (PN755211) and Group 18 (PN745859) submitted to FEMA for review on 10/1/2025, the subrecipient clarified that the manual disconnects switches ("Air Break Bypass Switches") are essential equipment for energizing and disconnecting the three-phase automatic recloser. The subrecipient explains that the cost of these switches was involuntarily omitted from the Group 30 Automation project, so from now on it will be included in the Automation Program projects. The purpose of this equipment is to isolate the recloser in the event of a fault or maintenance, keeping the three-phase circuit energized while the situation is resolved. In this case, the 406 HM team agreed that the Air Break Bypass Switches would be covered by 428 PA funds (in accordance with the FCE) and the automatic reclosers by 406 HM (100%); and if the installation of an automatic recloser creates new redundancy in critical facilities (loop feeder), 406 HM could cover 100% of the costs (Air Break Bypass Switches and automatic recloser).

DESCRIPTION OF PROPOSED WORK TO BE PERFORMED

Below is a list of the "Proposed 428 Public Assistance Scope of Work" proposed for feeders of this group.

POLE FID	Coordinates Lat, Long	Existing	428 Scope of Work	Scope of work
22795938	[redacted]	(65'-H6 CONCRETE POLE)	(65' GALVANIZED TAPERED ROUND STEEL POLE)	• Remove and dispose 65ft. H6 Concrete pole. Replace with a 65 galvanized • tapered round pole.
		(38KV SC VERTICAL TANGENT 10(QTY=1)) (CP1C8(QTY=1)) (S-1(QTY=1))	(38KV SC TANGENT DELTA SUSPENSION(QTY=1) VER1(QTY=1)) (S-1(QTY=1)) (ABS-3-XARM QTY=3)	• Remove, dispose and replace primary framing. • Remove, dispose and replace 38KV tangent. • Install and connect three (3) sets of Air Break Bypass (ABS-3-XARM) and the framing hardware to support them.
NEW POLE		NONE	50' GALVANIZED ROUND TAPERED POLE (ABS-3-XARM QTY=3)	• Install a new 50ft. galvanized steel round tapered pole. • Install and connect three (3) sets of Air Break Bypass (ABS-3-XARM) and the framing hardware to support them.
NEW POLE		NONE	70'GALVANIZED ROUND TAPERED POLE 38kv STANDARD	• Install a new 70ft. galvanized round tapered pole as a Midspan. Install 38kV standard, distribution primary and secondary framing.
15158761		(55'-C2 WOOD POLE) (CP-C1) (K-6 (QTY=1)	(55' GALVANIZED TAPERED ROUND POLE) (CP-C6-VERT) (K-6 (QTY=1))	• Remove and dispose 55ft. C2 wood pole. Replace with a 55ft. galvanized tapered round pole. Remove, dispose and replace primary and secondary framing.
15158776		(ASSY-1509(QTY=3))	(LABOR & REPAIR)	• Remove, dispose and replace (3) fuse Cutouts. Labor to Close Jumpers.
15152286		(ASSY-1509(QTY=3))	(LABOR & REPAIR)	• Remove and dispose (3) Fuse Cutouts. Labor to Close Jumpers.
28482726		(ASSY-1509(QTY=3))	(LABOR & REPAIR)	• Remove, dispose and replace (3) fuse cutouts. Labor to close Jumpers.
15158633		(ASSY-1509(QTY=3))	(LABOR & REPAIR)	• Remove and dispose (3) Fuse Cutouts. Labor to Close Jumpers.
N/A		NONE	(LABOR, FCI) (QTY=3	Install (3) Fault Current Indicators.
N/A		NONE	(LABOR, FCI) (QTY=3	Install (3) Fault Current Indicators.

Notes Regarding Proposed Work

1. Remove and replace poles, including hardware in the same location. If unable to install the replacement in the same location, the pole will be installed within the easement for overhead distribution lines. Easements are established with the purpose of providing LUMA reasonable access to its facilities, in order to maintain, repair, improve, operate, and expand facilities.

2. The existing wood pole is to be replaced by galvanized tapered poles, at the locations identi?ed in the table above. Refer to APPENDIX B - Project Considerations, column B (soil area and depth impact) for the depths of the galvanized tapered poles.

3. New guy wires and anchors are to be installed within the easement for guys. The maximum distance an anchor will be installed for a 50ft pole is 25ft from the base of the pole, within the easement for guys.

4. Existing overhead conductors, poles, assemblies, and attached components will be disconnected, removed, and replaced as outlined in the Scope of Work column in the table above. When existing overhead conductor, assemblies, and attached components are not being replaced, they will be re-attached to the pole to complete the scope of work.

CODES & STANDARDS

The following will be referenced when applying specific codes, specifications, and standards to the project design:

A. LUMA Overhead Electrical Distribution System Manual 4301.001 version 4, available in Grants Portal - Applicant Event Profiles.
B. Consensus-based codes, per FEMA's Public Assistance Alternative Procedures (Section 428) Guide for Permanent Work FEMA-4339-DR-PR (February 2020).

C. 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.

D. FEMA Recovery Interim Policy FP-104-009-11 Version 2.1, Consensus-Based Codes, Specifications, and Standards for Public Assistance.
E. LUMA's latest Design Criteria Document (DCD) which aggregates the design considerations for most of the consensus-based codes, specifications, and standards listed in FEMA Recovery Interim Policy 104-009-11 Version 2.1 (December 20, 2019).

COMMON EHP REVIEW INFORMATION

Please check any items applicable to the proposed scope of work in this Project. If an item is checked, describe the scope, extent, and location of the selected activity.
_X_ **Ground disturbance outside of existing footprint**. If checked, describe the ground disturbing activities, including the extent, location, and depth of the disturbance.

- Poles - Refer to *APPENDIX B - Project Considerations,* column B (soil area and depth impact), for the depths of the poles to be installed.

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

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

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

- Vegetation clearance will be performed solely to the extent that it allows crews to conduct work and will be limited to a 10 ft radius surrounding the surface of the pole, but not to exceed the width of the right-of-way. This is for the exclusive purpose of gaining access to the pole to conduct repairs. The costs related to vegetation clearance procedures are covered in project 723883 FAASt [SanJuan] (Vegetation). The vegetation removal process will be managed in accordance with federal and state regulations.

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

- Debris will be separated and taken to an authorized waste disposal facility. Information on location of temporary debris storage sites, ?nal debris disposal location, and ?nal debris disposal method are not yet available.

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

- **Staging Area**: All materials will be stored and dispatched from the existing LUMA Regional Warehouses. The warehouse locations are described in section 7.2 above. LUMA has not yet identified any other additional staging areas that it will require.
- **Access Roads**: New access roads are not needed for this project. All poles to be installed, or removed and replaced, are adjacent to a road and work will be performed within the easement.

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

- Fill, gravel, and sand materials will be obtained from an approved supplier as referenced in the following document: LUMA Vendor Directory List.

__ 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 ("A&E") design information. For a more detailed cost estimate refer to *Appendix A- LUMA Project Cost Estimate*.

COST ESTIMATE SUMMARY			
COST ELEMENT	**428**	**406**	**PROJECT TOTAL**
PLANNING	**$25,796.06**	**$0.00**	**$25,796.06**
MANAGEMENT	**$18,201.05**	**$0.00**	**$18,201.05**
LPCE Distribution Automation Group 15	**$298,190.03**	**$0.00**	**$298,190.03**
GENERAL CONDITIONS	**$15,596.91**	**$0.00**	**$15,596.91**
COST TOTALS	**$357,784.05**	**$0.00**	**$357,784.05**
DEDUCTIONS	**TOTAL INSURANCE PROCEEDS RECEIVED**		**$ 0**
FAASt ALLOCATIONS		**428 FAASt PROJECT # 755211 TOTAL**	**$276,**
		FAASt E&M #673691 - 428	$53,
		FAASt A&E # 335168 TOTAL	$28,

428 Project Summary, Version 4:

Work To Be Completed (WTBC): $357,784.05

E&M Deduction (#673691) 428: -$53,139.71

A&E Deduction (Global A&E FAASt 335168): -$28,366.57

Project Total Cost: $276,277.77

Total Project Cost V4: V3 - (V3 De-obligation V4) + V4 (Cost Change) = $643,560.85 - $643,560.85 + $276,277.77= $276,277.77

VERSION SUMMARY OF KEY CHANGES:

V0: $643,560.85 (WTBC, A&E Deduction)

V1: $276,277.77 (WTBC, A&E Deduction, E&M Deduction, Reconcile funding from De-obligation of V3)

Project Notes:

1. Refer to detailed SOW provided in document: *755211-DR4339PR-DSOW Group 15 Automation- Revision 006- V4.pdf.*

2. Refer to detailed cost estimate in document: *755211-DR4339PR-755211-DR4339PR-APPENDIX A- LUMA PROJECT COST ESTIMATE V4 Rev 06.xlsx.*

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

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 136271-MEPA078 Puerto Rico Electrical Power Authority Island Wide FAASt Project.

406 HMP Scope

Project number: 755211 FAASt [Automation Program Group 15] (Distribution)

Damage #1392753; FAASt [Automation Program Group 15: San Juan, Feeder: 1646-02] (Distribution).

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

Location: Carolina, Puerto Rico

GPS Latitude/Longitude: [redacted]

Hazard Mitigation Narrative

During the incident period from September 17, 2017, to November 15, 2017, the Commonwealth of Puerto Rico experienced hurricane-force winds, heavy rain, flooding, and power outage from Hurricane Maria. The incident caused damage to the electrical system, such as 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).

As part of the electrical grid rebuild, the subrecipient developed a Transmission & Distribution Automation Program ("Program") through which it will install advanced technology equipment (i.e., reclosers and communicating fault current indicators (cFCIs)) to reduce both physical damage and service interruptions to the electrical grid caused by disasters. Although the intent is to deploy automation equipment throughout PREPA's Transmission and Distribution ("T&D") system, the Program will be implemented through multiple projects across the island on both T&D systems.

The multiple projects within this Program are designed to fortify the electrical system's resilience, safeguard its infrastructure, and enhance service reliability during a disaster. The individual projects are interconnected and enhance each other, but each confers benefits independently. Distribution Automation (DA) projects will be submitted regionally as components of the real time monitoring and automation network being installed on island. DA projects are physically incorporated into the distribution line network.

Hazard Mitigation Proposal (HMP) Scope of Work:

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

Mitigation Measures *(Replacement)*

1. **Pole Replacement to Accommodate the Installation of Reclosers:**

   The addition of three-phase reclosers imposes additional load on poles due to the weight of the devices and their components. It also increases the area exposed to extreme weather conditions, such as hurricanes, thereby increasing the structural load requirements these poles must meet. Where an existing pole cannot accommodate a recloser, it will be substituted with a higher-class pole constructed from steel or concrete to ensure compatibility with the recloser and adherence to design criteria. This includes adjacent poles (i.e., poles that are on either side of the recloser pole supporting the overhead line conductors). Any new structure and foundation will be designed to LUMA design criteria and industry standards to support the pole, recloser, and its attachments. In addition, LUMA is using a per-location approach to pole replacement because of the intricate dynamics of deploying three-phase reclosers. Furthermore, the integration of more connections, switches, and related infrastructure often necessitates taller poles to meet phase spacing and circuit-to-circuit spacing requirements. The locations of three-phase reclosers are determined by an electrical analysis performed by the design engineers. In those instances where the recloser would be located on an existing

wood pole, that pole will be replaced with a pole that meets the compounded structural demands presented by that recloser.

As a mitigation strategy, 406 HM will fund the additional cost (delta) for pole strengthening (pole, concrete base, and additional guywire) for recovery work to the feeder or poles. In this project:

a) One (1ea) new 50ft round galvanized pole will be installed as PA recovery solution, and 406 HM will replace round pole with 1ea 60ft (S10) 12-sided galvanized pole

b) Existing 65ft concrete pole will be replaced with 1ea 65' round galvanized pole (PA recovery solution), and 406 HM will replace round pole with 1ea 70ft 12-sided galvanized pole.

c) Existing 55ft wood pole will be replaced by 1ea 55' round galvanized pole (PA recovery solution), and 406 HM will replace round pole with 1ea 60ft (S8.5) 12-sided galvanized pole.

d) One (1ea) new 70ft round galvanized pole will be installed as PA recovery solution, and 406 HM will replace round pole with 1ea 70ft (S8.5) 12-sided galvanized pole.

As part of the installation of the 3PH recloser, the subrecipient increased the pole height to accommodate the 3PH recloser. Pole height increase justification for three each pole:

a) Feeder 1646-02, WOP 3PH Recloser Installation – Segment FID 26522974:

The decision to use a 60-foot pole, instead of the standard 50-foot alternative, is based on the requirement to comply with vertical clearance regulations and structural design standards associated with the installation of two independent distribution circuits on a single-pole structure, in addition to the integration of a three-phase (3F) recloser on the upper circuit (Feeder 1646-02). Therefore, the increased pole height ensures adequate vertical and horizontal clearances between both distribution circuits and the reliability device, and guarantees compliance with applicable structural codes, including the capacity to withstand wind loads (pole loading analysis) up to 160 mph.

b) Feeder 1646-02, WOP 3PH Recloser Installation – Pole FID 22795938:

The selection to increase the existing 65-foot H6 concrete pole with a 70-foot 12-sided tapered galvanized steel pole was because the existing pole does not need to be replaced as it meets the 160 mph LUMA codes and standards (C&S). However, due to clearance purposes caused by the installation of the three-phase automatic recloser and the presence of the existing 38kV transmission circuit and the two-distribution feeder, it is now necessary to replace it.

c) Feeder 1646-02, WOP 1PH Recloser Installation – Pole FID 15158761:

The decision to use a 60-foot pole instead of a 50-foot standard pole is based on two primary engineering considerations:

1. Proximity to Adjacent Structures:

A building is located adjacent to the primary distribution line. To ensure compliance with safety regulations, the design must meet the minimum vertical and horizontal clearance requirements between energized conductors and nearby structures.

2. Existing Line Construction:

The existing line is built on 55-foot wooden poles. To maintain or improve existing clearances and ensure structural consistency, the new steel pole must exceed the current height.

2. **Feeder Reclosers:**

Reclosers are sophisticated devices that remotely detect faults within distribution lines, enable the isolation of circuit breakers linked to those faults—whether due to independent failures or breakdowns—and facilitate the swift restoration of power, often within milliseconds. This project will install three-phase and single-phase reclosers.

Three-Phase Recloser: A three-phase recloser is a protection device that is used on three-phase distribution feeders with high fault currents at the location. It is a single device with three switches that can open to interrupt fault currents and automatically reclose to restore power. Three-phase reclosers are communication-ready to enable remote control and visualization. The recloser's wireless communication capability will provide connectivity to LUMA's EMS so the system operator knows their status and can remotely control them.

The implementation of three-phase reclosers will preserve the continuity of electric services and avoid physical damage by pre-empting or minimizing disruptions. The three-phase reclosers can be triggered remotely and provide data back to the operations center, enabling LUMA to prioritize restoration activities, reduce customer outage time, and minimize the potential for cascading infrastructure damage. Installation of the three-phase reclosers and associated hardware is critical for the EMS and associated components to function with full capabilities, and to prevent loss of service and potential damage from future disasters. In this project we are installing three three-phase reclosers.

Single-Phase Reclosers: A single-phase recloser is a single protection device with one switch that can open to interrupt fault currents and automatically reclose to restore power. A single-phase recloser performs the same functions as a three-phase recloser, but it does not have the ability to communicate with the EMS. This project will install single-phase reclosers on single-phase or two-phase distribution feeder and distribution lines branching from the feeder. Single-phase reclosers will also be used on feeders with three phases if fault currents are low at the

location. In this project we are installing a total of two single-phase reclosers.

As a mitigation strategy, 406 HM will fund the additional cost (delta) for the replacement of 2ea fuse cutouts by 2ea single-phase reclosers and install 2ea three-phase reclosers.

3. **Communicating Fault Current Indicators:**

Installation of communicating fault current indicators ("cFCI") at strategic locations improves the outage management, restoration, and recovery process, specifically by decreasing the time required to detect and locate faults. The cFCIs operate independently of the feeder reclosers and help identify permanent and incipient faults in the distribution system, as well as collect voltage and current data, which can be used to detect system imbalance, prevent future issues due to harmonics and help in building a predictive failure model.

cFCIs help reduce physical damage on the system by providing real-time monitoring and early detection of abnormal conditions. Essentially, cFCIs act as the eyes and ears of the system, reducing wear and tear by allowing quick, intelligent responses instead of waiting for catastrophic failure.

Benefits of cFCIs include:

- Early Fault Detection: cFCIs can detect issues like overcurrent, overvoltage, temperature rise, or partial discharge before they escalate into major faults. This allows for proactive repair or shutdowns, preventing physical damage to transformers, lines, and other components.
- Fault Location: cFCIs help quickly locate faults on the line (like short circuits or open conductors). This minimizes the time the system operates under stress, reducing the risk of cascading failures and associated mechanical damage.
- Load Monitoring: By constantly measuring the current and voltage, sensors help ensure that equipment is not overloaded. Overloads can cause overheating and physical wear on cables, breakers, and other components.
- Lightning and Surge Detection: cFCIs detect transient surges caused by lightning or switching. By identifying these events, protective measures can be optimized to prevent insulation breakdown or physical burnout.

SCADA systems collect data from cFCIs and provide real-time visualization, control, and historical analysis. Integration helps in several ways:

- Real-Time Monitoring: Operators can see live data like voltage, current, temperature, and power flow. Any abnormal readings trigger alarms.
- Automated Alerts: If a cFCIs detects anomalies (e.g., a line sag or high current), SCADA immediately alerts operators for quick action —preventing physical stress or failure.
- Remote Control: In response to cFCI data, SCADA can remotely open/close breakers or switches, isolating the problem before it spreads.
- Predictive Maintenance: Historical data trends help predict insulation degradation, hotspot development, or corrosion—allowing scheduled repairs before damage occurs.

Protection systems (relays, breakers, reclosers, fuses) work closely with cFCIs to respond automatically to faults:

- Fast Trip Commands: cFCIs detect faults faster and more precisely. They send data to protection relays, which then trip the appropriate breakers/reclosers.
- Adaptive Protection: With real-time data from cFCIs, settings can be dynamically adjusted to match system conditions (e.g., load variations), preventing unnecessary trips or stress on components. Fault Location and Isolation: cFCIs help pinpoint the fault location, enabling automatic or operator-assisted sectionalizing—reducing the impact area and protecting healthy parts of the system.
- Communication-Based Protection: In modern smart grids, cFCIs can communicate DNP3 protocols with reclosers, creating a fast, coordinated protection scheme.

As a mitigation strategy, 406 HM will fund the additional cost (delta) for the replacement of 2 (two) fault current indicators (FCIs) by 2 (two) communicating fault current indicators (cFCIs). For a total of 6ea cFCI.

Mitigation Measures *(Supplementary)*

1. **Stainless Steel Transformer (1kVA):**

   To enable the operation of three-phase reclosers, it is essential to connect a 120/240V AC voltage source. In areas where this voltage is accessible, the recloser will be linked to the existing secondary line, ensuring that these facilities possess the capability to handle the load produced by the recloser. In instances where the necessary infrastructure to supply voltage to the recloser 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, which includes protection, automation, and communication functionalities. This ensures that the intelligent features of the recloser operate reliably, even in the event of a medium-voltage power interruption.

   As a mitigation strategy, 406 HM will fund the installation of 3ea 1kVA stainless steel transformers.

2. **Radio communication kit for three phase reclosers:**

   The recloser's wireless communication capability will provide connectivity to LUMA's EMS in order to the system operator knows their status and can remotely control the 3-phase reclosers. Deployment of the wireless communication devices includes configuration, testing, and commissioning of the wireless communication device, all networking devices, data acquisition, and control systems that form the connectivity path of the recloser to the EMS. Therefore, as part of the installation of the 2ea 3-phase reclosers it will be necessary to install communication radios and commissioning for the operation of the reclosers (wireless connection).

   As a mitigation strategy, 406 HM will fund the installation of 2ea Radio communication kit.

(III) Hazard Mitigation Proposal (HMP) Cost

Total Net Hazard Mitigation Cost (Base Cost) =	$ 199,267.98
+ HM (Subrecipient A&E, Management & General Conditions) =	$ 51,631.08
Hazard Mitigation Total Cost =	**$250,899.06**

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

Equipment and Materials (E&M) =	$ 103,164.29
Architecture and Engineering (A&E) =	$ 19,875.89
Construction Cost =	$ 127,858.87
Hazard Mitigation Total Cost =	**$250,899.06**

(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 cos 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 o 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$250,899.06 (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 eligib 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	$725,419.42	Uncompleted
3510	1	Lump Sum	($81,858.57)	Uncompleted
9201	1	Lump Sum	$0.00	Completed
9001	1	Lump Sum	($643,560.85)	Uncompleted
9001	1	Lump Sum	$643,560.85	Uncompleted
9001	1	Lump Sum	$357,784.05	Uncompleted
3510	1	Lump Sum	($28,366.57)	Uncompleted
9001	1	Lump Sum	($53,139.71)	Uncompleted
9001	1	Lump Sum	($643,560.85)	Uncompleted

CRC Gross Cost	$276,277.77
Total 406 HMP Cost	$250,899.06
Total Insurance Reductions	$0.00
CRC Net Cost	$527,176.83
Federal Share (90.00%)	$474,459.15
Non-Federal Share (10.00%)	$52,717.68

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

9/3/2026

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

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

5/14/2025

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 Program Group 15] (Distribution) (Cost Only)**.

406 Mitigation

There is no additional mitigation information on **FAASt [Automation Program Group 15] (Distribution) (Cost Only)**.

Environmental Historical Preservation

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

EHP Conditions

- Any change to the approved scope of work will require re-evaluation for compliance with NEPA and other Laws and Executive Orders.
- This review does not address all federal, state and local requirements. Acceptance of federal funding requires recipient to comply with all federal, state and local laws. Failure to obtain all appropriate federal, state and local environmental permits and clearances may jeopardize funding.
- If ground disturbing activities occur during construction, applicant will monitor ground disturbance and if any potential archaeological resources are discovered, will immediately cease construction in that area and notify the State and FEMA.
- The Applicant must provide documentation at close-out that proves completion of required Conservation Measures
- Puerto Rican Boa (Chilabothrus inornatus) 1. Inform all project personnel about the potential presence of the Puerto Rican (PR) boa and Virgin Islands (VI) boa in areas where the proposed work will be conducted and provide training on PR and VI boa identification. A pre-construction meeting will be conducted to inform all project personnel about the need to avoid harming these species. All personnel will be advised that there are civil and criminal penalties for harming, harassing, or killing species protected under the Endangered Species Act of 1973. An educational poster or sign with photo or illustration of these species will be displayed at the project site. 2. Prior to any construction activity, including removal of vegetation and earth movement, the boundaries of the project area and any area to be excluded and protected will be clearly marked in the project plan and in the field to avoid further habitat degradation outside of the footprint of the project. 3. Once areas are clearly marked, and right before the use of heavy machinery and any construction activity (including removal of vegetation and earth movement), biologist or designated project personnel with experience on these species will survey the areas to be cleared to verify the presence of any PR or VI boa within the Action Area. If a PR or VI boa is found during the search, it should be captured and managed as per #6 below. Once the removal of vegetation begins, the biologist or designated personnel must remain at the work site and be ready to capture any boa that might be in harm's way as the result of the habitat disturbance (see #6). 4. For VI boas, once the Action Area has been searched, vegetation will be cut about one meter above ground prior to the use of heavy machinery for land clearing. Cutting vegetation by hand will allow VI boas present on site to move away on their own to adjacent available habitat. If there is no suitable habitat adjacent to the project site, any VI boa found will be relocated accordingly (see #6). 5.For all boa sightings (dead or alive), record the time and date of the sighting and the specific location where it was found. Data will also include a photo of the animal (dead or alive),relocation site GPS coordinates, time and date of the relocation, and comments on how the animal was detected and its behavior. 6.If any PR or VI boa (dead or alive) is found within the Action Area and on harm's way, the action will stop, and information will be recorded (see #5). All attempts will be made to immediately safely capture and relocate the animal within suitable habitat (forested)at least1kmfrom the Action Area and away from construction areas. PR boa relocation sites will be pre-determined before the project start sand sites shared with the Service for revision and concurrence. Relocation of PR boas will be conducted by trained, designated personnel ensuring the animal is not harmed or injured during the capture and relocation process.

- 7.Measures will be taken to avoid and minimize PR boa and VI boa casualties by heavy machinery or motor vehicles being left in the Action Area. *.Any heavy machinery left on site (staging areas) or near potential PR or VI boa habitat will be thoroughly inspected each morning before work starts to ensure that no boa shave sheltered within engine compartments or other areas of the heavy machinery. Ifa PR boa or VI boa is found within vehicles or heavy machinery, boas will be safely captured accordingly. If not possible, the animal will be left alone until it leaves the vehicle or machine by itself. *.The PR boa and VI boa may seek shelter within debris piles. Measures should be taken to avoid and minimize boa casualties associated with sheltering in new debris piles as a result of project activities. New debris piles should be placed in areas as far as possible from forested areas. Prior to moving, disposing, or shredding, debris piles should be carefully inspected for the presence of PR boas and VI boas. If debris piles will be left on site, we recommend they be placed in an undisturbed area. *.In the event a PR boa and VI boa is found dead within the project area, the Federal Agency and the Recipient must contact the Service to appropriately dispose the animal. *.If a PR boa or a VI boa is accidentally injured or killed during capture and relocation activities during the Action, the Federal Agency and the Recipient shall terminate the authorized activities and contact the Service within 24 hours to reinitiate consultation. The Federal Agency will consult with the Service to determine whether authorized activities should continue as proposed and whether modifications are warranted. *.Should the forms of take reach the amount of exempted take during the Action, the Federal Agency and the Recipient shall terminate the authorized activities and contact the Service within 24 hours to reinitiate consultation. The Federal Agency will consult with the Service to determine whether authorized activities should continue as proposed and whether modifications are warranted. For questions and to submit reports, the Service's Point of Contact (POC) is José Cruz-Burgos, Endangered Species Coordinator, and can be contacted at:¿Mobile: 305-304-1386 ¿Office phone: 786-244-0081 ¿Office Direct Line: 939-320-3120 ¿Email: Caribbean_es@fws.gov or jose_cruz-burgos@fws.gov
- The Applicant shall handle, manage, and dispose of all types of hazardous waste in accordance with requirements of local, state, and federal laws, regulations, and ordinances. In addition, the Applicant shall ensure that all debris is separated and disposed of in a manner consistent with the PR DNER guidelines at a permitted site or landfill. The contractor/applicant will be responsible for the proper disposition of construction debris in authorized landfills providing the name, location, coordinates and permits of the facility to the corresponding authorities.
- Unusable equipment, debris, white goods, scrap metal any other material shall be disposed in approved manner and location. In the event significant items are discovered during the implementation or development of the project the Applicant shall handle, manage, and dispose petroleum products, hazardous materials, and toxic waste in accordance with the requirements of the local and federal agencies. Noncompliance with these requirements may jeopardize receipt of federal funds.
- Applicant must obtain any required permits from the Puerto Rico Permits Management Office (OGPe) prior to initiating work and comply with any conditions of the permit established by the Planning Board (JP) for constructions in floodplains. All coordination (emails, letters, documented phone calls) pertaining to these activities and compliance must be provided and maintained in the Applicant's permanent files
- 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 PCBsinto the environment. If damaged equipment or materialstorage 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.
- The Subrecipient and/or Subrecipients contractor must follow the Low Impact Debris Removal Stipulations (LIDRS) outlined in Appendix E of the Project-Specific Programmatic Agreement Among FEMA, the SHPO, ACHP, COR3, and PREPA (PSPA), executed on August 2, 2022.
- Pursuant to Stipulation III.B of the PSPA, if, in the course of implementing this Individual Undertaking(s), previously unidentified structures, sites, buildings, objects, districts, or archaeological deposits, that may be eligible for listing in the National Register, or human remains are uncovered, or if it appears that an Individual Undertaking has affected or will affect a previously identified historic property in an unanticipated manner, the contractor must notify Subrecipient who will immediately notify the Recipient. Work must stop in the vicinity of the discovery and measures must be taken to protect the discovery and avoid additional harm.
- Additional staging areas and/or work pads within work site area havent been identified yet. The Subrecipient and/or private operator must provide the information of any additional staging areas or work pads for EHP evaluation as soon as available specially if any construction activity will be necessary to prepare the site(s). Information for staging areas and/or work pads confined to previously disturbed or hardened surfaces can be provided at close-out.
- All borrow or fill material must come from pre-existing stockpiles, material reclaimed from maintained roadside ditches (provided the designed width or depth of the ditch is not increased), or commercially procured material from a source existing prior to the event. For any FEMA-funded project requiring the use of a non-commercial source or a commercial source that was not permitted to operate prior to the event (e.g., a new pit, agricultural fields, road ROWs, etc.) in whole or in part, regardless of cost, the Applicant must notify FEMA and the Recipient prior to extracting material. FEMA must review the source for compliance with all applicable federal environmental planning and historic preservation laws and executive orders prior to a Sub-recipient or their contractor beginning borrow extraction. Consultation and regulatory permitting may be required. Non-compliance with this requirement may jeopardize receipt of federal funding. Documentation of borrow sources utilized is required at close-out and must include fill type (private, commercial, etc.), name, fill site GPS coordinates (not of the company/governmental office), address, and type of material.
- ***DISREGARD PREVIOUS CONDITIONS*** The following conditions apply only to DI #1392753: Puerto Rican boa (PR boa; Chilabothrus inornatus) a. Inform all project personnel about the potential presence of the PR boa in areas where the proposed work will be conducted. A pre-construction meeting should be conducted to inform all project personnel about the need to avoid harming the species as well as penalties for harassing or harming PR boas. An educational poster or sign with photo or illustration of the species should be displayed at the project site. b. Prior to any construction activity, including removal of vegetation and earth movements, the boundaries of the project and areas to be excluded and protected should be clearly marked in the project plan and in the field in order to avoid further habitat degradation into forested and conservation areas.
- c. Once areas are clearly marked, and prior to the use of heavy machinery and any construction activity (including removal of vegetation and earth movement), a biologist or project personnel with experience on this species should survey the areas to be cleared to verify the presence of any PR boa within the work area. d. If a PR boa is found within any of the working or construction areas, activities should stop at that area and information recorded (see #e). Do not capture the boa. If boas need to be moved out of harm's way, designated personnel shall immediately contact the Puerto Rico Department of Natural and Environmental Resources (PRDNER) Rangers for safe capture and relocation of the animal: (787) 999-2200 ext. 2911. If immediate relocation is not an option, project-related activities at that area must stop until the boa moves out of harm's way on its own. Activities at other work sites, where no boas have been found after surveying the area, may continue. e. For all boa

sightings (dead or alive), record the time and date of the sighting and the specific location where it was found. PR boa data should also include a photo of the animal (dead or alive), site GPS coordinates, the time and date, and comments on how the animal was detected and its behavior.

- f. If a PR boa is captured by PRDNER personnel, record the name of that person and information on where the PR boa will be taken. This information should be reported to the Service. g. Measures should be taken to avoid and minimize PR boa casualties by heavy machinery or motor vehicles being used on site. Any heavy machinery left on site (staging) or near potential PR boa habitat (within 50 meters of potential boa habitat), needs to be thoroughly inspected each morning before work starts to ensure that no boas have sheltered within engine compartments or other areas of the equipment. If PR boas are found within vehicles or equipment, do not capture the animal, and let it move on its own or call PRDNER Rangers for safe capture and relocation of the animal (see #d). If not possible, the animal should be left alone until it leaves the vehicle on its own.
- h. PR boas may seek shelter in debris piles. Measures should be taken to avoid and minimize boa casualties associated with sheltering in debris piles as a result of project activities. Debris piles should be placed far away from forested areas. Prior to moving, disposing or shredding, debris piles should be carefully inspected for the presence of boas. If debris piles will be left on site, we recommend they be placed in areas that will not be disturbed in the future. i. If a dead PR boa is found, immediately cease all work in that area and record the information accordingly (see #e). If the PR boa was accidentally killed as part of the project actions, please include information on what conservation measures had been implemented and what actions will be taken to avoid further killings. A dead boa report should be sent by email to the Service at Caribbean_es@fws.gov, within 48 hours of the event. j. Projects must comply with all state laws and regulations. Please contact the PRDNER for further guidance.
- The Sub-recipient must provide documentation at close-out that proves completion of required Conservation Measures.
- Additional staging areas and/or work pads within work site area haven't been identified yet. The Recipient/Subrecipient and/or private operator must provide the information of any additional staging areas or work pads for EHP evaluation as soon as available specially if any construction activity will be necessary to prepare the site(s). Information for staging areas and/or work pads confined to previously disturbed or hardened surfaces can be provided at close-out.

EHP Additional Info

There is no additional environmental historical preservation on **FAASt [Automation Program Group 15] (Distribution) (Cost Only)**.

Final Reviews

Final Review

Reviewed By LEFRANC-GARCIA, CARLOS L. **Reviewed On** 12/30/2025 1:19 PM PDT

Review Comments

V4 includes 406 Hazard Mitigation measures for a total amount of $250,899.06. Project version has been reviewed, found eligible and reasonable. CLG 12/30/2025

Recipient Review

Reviewed By Mulero, Noel **Reviewed On** 12/30/2025 2:20 PM PDT

Review Comments

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

Project Signatures

Reviewed By Unsigned **Reviewed On** Unsigned

General Info

Project #	755211 **P/W #** 108022	**Project Type**	Specialized
Project Category	F - Utilities	**Applicant**	PR Electric Power Authority (000-UA2QU-00)
Project Title	FAASt [Automation Program Group 15] (Distribution) (Cost Only)	**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 #1392753; FAASt [Automation Program Group 15: San Juan, Feeder: 1646-02] (Distribution)

General Facility Information:

- **Facility Type:** Power generation, transmission, and distribution facilities
- **Facility:** Automation Program Group 15: San Juan, Feeder: 1646-02
- **Facility Description:** Transmission and Distribution Automation Feeder 1646-02
- **Approx. Year Built:** 1980
- **Start GPS Latitude/Longitude:** [redacted]
- **End GPS Latitude/Longitude:** [redacted]

Final Scope

1392753 **FAASt [Automation Program Group 15: San Juan, Feeder: 1646-02] (Distribution)**

********** **VERSION 5** **********

Version 5 has been created to capture the LUMA change in project cost, as an amendment at the request of Event Leadership (see INC2129477).

The project currently reflects a negative pending federal share obligated. To address this, a new amendment/version was created specifically to offset the CRC gross cost from the previous version. Since the project was in Pending Award status, the Budget Analyst initiated this amendment/version.

In the current version, $367,283.08 will be reobligated to the CRC gross cost, effectively canceling out the CRC gross cost from the prior version. Once this amendment/version moves to Pending Award, only the 406 Hazard Mitigation Program (HMP) amount of $250,899.06 will be net obligated for 406 HM costs.

This process ensures that the CRC gross cost is properly accounted for and that only the eligible 406 HMP costs are reflected in the pending award.

The scope of work (SOW) from the previous version has been removed from the current SOW. It can be found in the “Versioning and Amendments” tab in GM.

V5 Project Total Cost: $367,283.08

VERSION SUMMARY OF KEY CHANGES:

- V0: $643,560.85 (WTBC, A&E Deduction)
- V1: Fund code correction
- V2: Fund code correction
- V3: Fund code correction
- V4: $276,277.77 (WTBC, A&E Deduction, E&M Deduction, Reconciliation of funding from de-obligation of V3)
- V5: Event Leadership Request to offset the CRC gross cost from the previous version (Sub-FAASt Transaction guidance).

406 HMP Scope

Project number: 755211 FAASt [Automation Program Group 15] (Distribution)

Damage #1392753; FAASt [Automation Program Group 15: San Juan, Feeder: 1646-02] (Distribution).

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

Location: Carolina, Puerto Rico

GPS Latitude/Longitude: [redacted].

Hazard Mitigation Narrative

During the incident period from September 17, 2017, to November 15, 2017, the Commonwealth of Puerto Rico experienced hurricane-force winds, heavy rain, flooding, and power outage from Hurricane Maria. The incident caused damage to the electrical system, such as 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).

As part of the electrical grid rebuild, the subrecipient developed a Transmission & Distribution Automation Program ("Program") through which it will install advanced technology equipment (i.e., reclosers and communicating fault current indicators (cFCIs)) to reduce both physical damage and service interruptions to the electrical grid caused by disasters. Although the intent is to deploy automation equipment throughout PREPA's Transmission and Distribution ("T&D") system, the Program will be implemented through multiple projects across the island on both T&D systems.

The multiple projects within this Program are designed to fortify the electrical system's resilience, safeguard its infrastructure, and enhance service reliability during a disaster. The individual projects are interconnected and enhance each other, but each confers benefits independently. Distribution Automation (DA) projects will be submitted regionally as components of the real time monitoring and automation network being installed on island. DA projects are physically incorporated into the distribution line network.

Hazard Mitigation Proposal (HMP) Scope of Work:

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

Mitigation Measures *(Replacement)*

1. **Pole Replacement to Accommodate the Installation of Reclosers:**

   The addition of three-phase reclosers imposes additional load on poles due to the weight of the devices and their components. It also increases the area exposed to extreme weather conditions, such as hurricanes, thereby increasing the structural load requirements these poles must meet. Where an existing pole cannot accommodate a recloser, it will be substituted with a higher-class pole constructed from steel or concrete to ensure compatibility with the recloser and adherence to design criteria. This includes adjacent poles (i.e., poles that are on either side of the recloser pole supporting the overhead line conductors). Any new structure and foundation will be designed to LUMA design criteria and industry standards to support the pole, recloser, and its attachments. In addition, LUMA is using a per-location approach to pole replacement because of the intricate dynamics of deploying three-phase reclosers. Furthermore, the integration of more connections, switches, and related infrastructure often necessitates taller poles to meet phase spacing and circuit-to-circuit spacing requirements. The locations of three-phase reclosers are determined by an electrical analysis performed by the design engineers. In those instances where the recloser would be located on an existing wood pole, that pole will be replaced with a pole that meets the compounded structural demands presented by that recloser.

   As a mitigation strategy, 406 HM will fund the additional cost (delta) for pole strengthening (pole, concrete base, and additional guywire) for recovery work to the feeder or poles. In this project:

   a) One (1ea) new 50ft round galvanized pole will be installed as PA recovery solution, and 406 HM will replace round pole with 1ea 60ft (S10) 12-sided galvanized pole

   b) Existing 65ft concrete pole will be replaced with 1ea 65' round galvanized pole (PA recovery solution), and 406 HM will replace round pole with 1ea 70ft 12-sided galvanized pole.

   c) Existing 55ft wood pole will be replaced by 1ea 55' round galvanized pole (PA recovery solution), and 406 HM will replace round pole with 1ea 60ft (S8.5) 12-sided galvanized pole.

   d) One (1ea) new 70ft round galvanized pole will be installed as PA recovery solution, and 406 HM will replace round pole with 1ea 70ft (S8.5) 12-sided galvanized pole.

   As part of the installation of the 3PH recloser, the subrecipient increased the pole height to accommodate the 3PH recloser. Pole height increase justification for three each pole:

   a) Feeder 1646-02, WOP 3PH Recloser Installation – Segment FID 26522974:

   The decision to use a 60-foot pole, instead of the standard 50-foot alternative, is based on the requirement to comply with vertical clearance regulations and structural design standards associated with the installation of two independent distribution circuits on a single-pole structure, in addition to the integration of a three-phase (3F) recloser on the upper circuit (Feeder 1646-02). Therefore, the increased

pole height ensures adequate vertical and horizontal clearances between both distribution circuits and the reliability device, and guarantees compliance with applicable structural codes, including the capacity to withstand wind loads (pole loading analysis) up to 160 mph.

b) Feeder 1646-02, WOP 3PH Recloser Installation – Pole FID 22795938:

The selection to increase the existing 65-foot H6 concrete pole with a 70-foot 12-sided tapered galvanized steel pole was because the existing pole does not need to be replaced as it meets the 160 mph LUMA codes and standards (C&S). However, due to clearance purposes caused by the installation of the three-phase automatic recloser and the presence of the existing 38kV transmission circuit and the two-distribution feeder, it is now necessary to replace it.

c) Feeder 1646-02, WOP 1PH Recloser Installation – Pole FID 15158761:

The decision to use a 60-foot pole instead of a 50-foot standard pole is based on two primary engineering considerations:

1. Proximity to Adjacent Structures:

A building is located adjacent to the primary distribution line. To ensure compliance with safety regulations, the design must meet the minimum vertical and horizontal clearance requirements between energized conductors and nearby structures.

2. Existing Line Construction:

The existing line is built on 55-foot wooden poles. To maintain or improve existing clearances and ensure structural consistency, the new steel pole must exceed the current height.

2. **Feeder Reclosers:**

Reclosers are sophisticated devices that remotely detect faults within distribution lines, enable the isolation of circuit breakers linked to those faults—whether due to independent failures or breakdowns—and facilitate the swift restoration of power, often within milliseconds. This project will install three-phase and single-phase reclosers.

Three-Phase Recloser: A three-phase recloser is a protection device that is used on three-phase distribution feeders with high fault currents at the location. It is a single device with three switches that can open to interrupt fault currents and automatically reclose to restore power. Three-phase reclosers are communication-ready to enable remote control and visualization. The recloser's wireless communication capability will provide connectivity to LUMA's EMS so the system operator knows their status and can remotely control them.

The implementation of three-phase reclosers will preserve the continuity of electric services and avoid physical damage by pre-empting or minimizing disruptions. The three-phase reclosers can be triggered remotely and provide data back to the operations center, enabling LUMA to prioritize restoration activities, reduce customer outage time, and minimize the potential for cascading infrastructure damage. Installation of the three-phase reclosers and associated hardware is critical for the EMS and associated components to function with full capabilities, and to prevent loss of service and potential damage from future disasters. In this project we are installing three three-phase reclosers.

Single-Phase Reclosers: A single-phase recloser is a single protection device with one switch that can open to interrupt fault currents and automatically reclose to restore power. A single-phase recloser performs the same functions as a three-phase recloser, but it does not have the ability to communicate with the EMS. This project will install single-phase reclosers on single-phase or two-phase distribution feeder and distribution lines branching from the feeder. Single-phase reclosers will also be used on feeders with three phases if fault currents are low at the location. In this project we are installing a total of two single-phase reclosers.

As a mitigation strategy, 406 HM will fund the additional cost (delta) for the replacement of 2ea fuse cutouts by 2ea single-phase reclosers and install 2ea three-phase reclosers.

3. **Communicating Fault Current Indicators:**

Installation of communicating fault current indicators ("cFCI") at strategic locations improves the outage management, restoration, and recovery process, specifically by decreasing the time required to detect and locate faults. The cFCIs operate independently of the feeder reclosers and help identify permanent and incipient faults in the distribution system, as well as collect voltage and current data, which can be used to detect system imbalance, prevent future issues due to harmonics and help in building a predictive failure model.

cFCIs help reduce physical damage on the system by providing real-time monitoring and early detection of abnormal conditions. Essentially, cFCIs act as the eyes and ears of the system, reducing wear and tear by allowing quick, intelligent responses instead of waiting for catastrophic failure.

Benefits of cFCIs include:

- Early Fault Detection: cFCIs can detect issues like overcurrent, overvoltage, temperature rise, or partial discharge before they escalate into major faults. This allows for proactive repair or shutdowns, preventing physical damage to transformers, lines, and other components.

- Fault Location: cFCIs help quickly locate faults on the line (like short circuits or open conductors). This minimizes the time the system operates under stress, reducing the risk of cascading failures and associated mechanical damage.

- Load Monitoring: By constantly measuring the current and voltage, sensors help ensure that equipment is not overloaded. Overloads can cause overheating and physical wear on cables, breakers, and other components.

- Lightning and Surge Detection: cFCIs detect transient surges caused by lightning or switching. By identifying these events, protective measures can be optimized to prevent insulation breakdown or physical burnout.

SCADA systems collect data from cFCIs and provide real-time visualization, control, and historical analysis. Integration helps in several ways:

- Real-Time Monitoring: Operators can see live data like voltage, current, temperature, and power flow. Any abnormal readings trigger alarms.

- Automated Alerts: If a cFCIs detects anomalies (e.g., a line sag or high current), SCADA immediately alerts operators for quick action —preventing physical stress or failure.

- Remote Control: In response to cFCI data, SCADA can remotely open/close breakers or switches, isolating the problem before it spreads.

- Predictive Maintenance: Historical data trends help predict insulation degradation, hotspot development, or corrosion—allowing scheduled repairs before damage occurs.

Protection systems (relays, breakers, reclosers, fuses) work closely with cFCIs to respond automatically to faults:

- Fast Trip Commands: cFCIs detect faults faster and more precisely. They send data to protection relays, which then trip the appropriate breakers/reclosers.

- Adaptive Protection: With real-time data from cFCIs, settings can be dynamically adjusted to match system conditions (e.g., load variations), preventing unnecessary trips or stress on components. Fault Location and Isolation: cFCIs help pinpoint the fault location, enabling automatic or operator-assisted sectionalizing—reducing the impact area and protecting healthy parts of the system.

- Communication-Based Protection: In modern smart grids, cFCIs can communicate DNP3 protocols with reclosers, creating a fast, coordinated protection scheme.

As a mitigation strategy, 406 HM will fund the additional cost (delta) for the replacement of 2 (two) fault current indicators (FCIs) by 2 (two) communicating fault current indicators (cFCIs). For a total of 6ea cFCI.

Mitigation Measures *(Supplementary)*

1. **Stainless Steel Transformer (1kVA):**

   To enable the operation of three-phase reclosers, it is essential to connect a 120/240V AC voltage source. In areas where this voltage is accessible, the recloser will be linked to the existing secondary line, ensuring that these facilities possess the capability to handle the load produced by the recloser. In instances where the necessary infrastructure to supply voltage to the recloser 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, which includes protection, automation, and communication functionalities. This ensures that the intelligent features of the recloser operate reliably, even in the event of a medium-voltage power interruption.

   As a mitigation strategy, 406 HM will fund the installation of 3ea 1kVA stainless steel transformers.

2. **Radio communication kit for three phase reclosers:**

   The recloser's wireless communication capability will provide connectivity to LUMA's EMS in order to the system operator knows their status and can remotely control the 3-phase reclosers. Deployment of the wireless communication devices includes configuration, testing, and commissioning of the wireless communication device, all networking devices, data acquisition, and control systems that form the connectivity path of the recloser to the EMS. Therefore, as part of the installation of the 2ea 3-phase reclosers it will be necessary to install communication radios and commissioning for the operation of the reclosers (wireless connection).

   As a mitigation strategy, 406 HM will fund the installation of 2ea Radio communication kit.

(III) Hazard Mitigation Proposal (HMP) Cost

Total Net Hazard Mitigation Cost (Base Cost) =	$ 199,267.98
+ HM (Subrecipient A&E, Management & General Conditions) =	$ 51,631.08
Hazard Mitigation Total Cost =	**$250,899.06**

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

Equipment and Materials (E&M) =	$ 103,164.29
Architecture and Engineering (A&E) =	$ 19,875.89
Construction Cost =	$ 127,858.87
Hazard Mitigation Total Cost =	**$250,899.06**

(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 cos 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 o 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$250,899.06 (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 eligib 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	$725,419.42	Uncompleted
3510	1	Lump Sum	($81,858.57)	Uncompleted
9201	1	Lump Sum	$0.00	Completed
9001	1	Lump Sum	($643,560.85)	Uncompleted
9001	1	Lump Sum	$643,560.85	Uncompleted
9001	1	Lump Sum	$357,784.05	Uncompleted
3510	1	Lump Sum	($28,366.57)	Uncompleted
9001	1	Lump Sum	($53,139.71)	Uncompleted
9001	1	Lump Sum	($643,560.85)	Uncompleted
9001	1	Lump Sum	$367,283.08	Uncompleted

CRC Gross Cost	$643,560.85
Total 406 HMP Cost	$250,899.06
Total Insurance Reductions	$0.00
CRC Net Cost	$894,459.91
Federal Share (90.00%)	$805,013.92
Non-Federal Share (10.00%)	$89,445.99

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

9/3/2026

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

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

5/14/2025

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 Program Group 15] (Distribution) (Cost Only)**.

406 Mitigation

There is no additional mitigation information on **FAASt [Automation Program Group 15] (Distribution) (Cost Only)**.

Environmental Historical Preservation

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

EHP Conditions

- Any change to the approved scope of work will require re-evaluation for compliance with NEPA and other Laws and Executive Orders.
- This review does not address all federal, state and local requirements. Acceptance of federal funding requires recipient to comply with all federal, state and local laws. Failure to obtain all appropriate federal, state and local environmental permits and clearances may jeopardize funding.
- If ground disturbing activities occur during construction, applicant will monitor ground disturbance and if any potential archaeological resources are discovered, will immediately cease construction in that area and notify the State and FEMA.
- The Applicant must provide documentation at close-out that proves completion of required Conservation Measures
- Puerto Rican Boa (Chilabothrus inornatus) 1. Inform all project personnel about the potential presence of the Puerto Rican (PR) boa and Virgin Islands (VI) boa in areas where the proposed work will be conducted and provide training on PR and VI boa identification. A pre-construction meeting will be conducted to inform all project personnel about the need to avoid harming these species. All personnel will be advised that there are civil and criminal penalties for harming, harassing, or killing species protected under the Endangered Species Act of 1973. An educational poster or sign with photo or illustration of these species will be displayed at the project site. 2. Prior to any construction activity, including removal of vegetation and earth movement, the boundaries of the project area and any area to be excluded and protected will be clearly marked in the project plan and in the field to avoid further habitat degradation outside of the footprint of the project. 3. Once areas are clearly marked, and right before the use of heavy machinery and any construction activity (including removal of vegetation and earth movement), biologist or designated project personnel with experience on these species will survey the areas to be cleared to verify the presence of any PR or VI boa within the Action Area. If a PR or VI boa is found during the search, it should be captured and managed as per #6 below. Once the removal of vegetation begins, the biologist or designated personnel must remain at the work site and be ready to capture any boa that might be in harm's way as the result of the habitat disturbance (see #6). 4. For VI boas, once the Action Area has been searched, vegetation will be cut about one meter above ground prior to the use of heavy machinery for land clearing. Cutting vegetation by hand will allow VI boas present on site to move away on their own to adjacent available habitat. If there is no suitable habitat adjacent to the project site, any VI boa found will be relocated accordingly (see #6). 5.For all boa sightings (dead or alive), record the time and date of the sighting and the specific location where it was found. Data will also include a photo of the animal (dead or alive),relocation site GPS coordinates, time and date of the relocation, and comments on how the animal was detected and its behavior. 6.If any PR or VI boa (dead or alive) is found within the Action Area and on harm's way, the action will stop, and information will be recorded (see #5). All attempts will be made to immediately safely capture and relocate the animal within suitable habitat (forested)at least1kmfrom the Action Area and away from construction areas. PR boa relocation sites will be pre-determined before the project start sand sites shared with the Service for revision and concurrence. Relocation of PR boas will be conducted by trained, designated personnel ensuring the animal is not harmed or injured during the capture and relocation process.

- 7.Measures will be taken to avoid and minimize PR boa and VI boa casualties by heavy machinery or motor vehicles being left in the Action Area. *.Any heavy machinery left on site (staging areas) or near potential PR or VI boa habitat will be thoroughly inspected each morning before work starts to ensure that no boa shave sheltered within engine compartments or other areas of the heavy machinery. Ifa PR boa or VI boa is found within vehicles or heavy machinery, boas will be safely captured accordingly. If not possible, the animal will be left alone until it leaves the vehicle or machine by itself. *.The PR boa and VI boa may seek shelter within debris piles. Measures should be taken to avoid and minimize boa casualties associated with sheltering in new debris piles as a result of project activities. New debris piles should be placed in areas as far as possible from forested areas. Prior to moving, disposing, or shredding, debris piles should be carefully inspected for the presence of PR boas and VI boas. If debris piles will be left on site, we recommend they be placed in an undisturbed area. *.In the event a PR boa and VI boa is found dead within the project area, the Federal Agency and the Recipient must contact the Service to appropriately dispose the animal. *.If a PR boa or a VI boa is accidentally injured or killed during capture and relocation activities during the Action, the Federal Agency and the Recipient shall terminate the authorized activities and contact the Service within 24 hours to reinitiate consultation. The Federal Agency will consult with the Service to determine whether authorized activities should continue as proposed and whether modifications are warranted. *.Should the forms of take reach the amount of exempted take during the Action, the Federal Agency and the Recipient shall terminate the authorized activities and contact the Service within 24 hours to reinitiate consultation. The Federal Agency will consult with the Service to determine whether authorized activities should continue as proposed and whether modifications are warranted. For questions and to submit reports, the Service's Point of Contact (POC) is José Cruz-Burgos, Endangered Species Coordinator, and can be contacted at:¿Mobile: 305-304-1386 ¿Office phone: 786-244-0081 ¿Office Direct Line: 939-320-3120 ¿Email: Caribbean_es@fws.gov or jose_cruz-burgos@fws.gov
- The Applicant shall handle, manage, and dispose of all types of hazardous waste in accordance with requirements of local, state, and federal laws, regulations, and ordinances. In addition, the Applicant shall ensure that all debris is separated and disposed of in a manner consistent with the PR DNER guidelines at a permitted site or landfill. The contractor/applicant will be responsible for the proper disposition of construction debris in authorized landfills providing the name, location, coordinates and permits of the facility to the corresponding authorities.
- Unusable equipment, debris, white goods, scrap metal any other material shall be disposed in approved manner and location. In the event significant items are discovered during the implementation or development of the project the Applicant shall handle, manage, and dispose petroleum products, hazardous materials, and toxic waste in accordance with the requirements of the local and federal agencies. Noncompliance with these requirements may jeopardize receipt of federal funds.
- Applicant must obtain any required permits from the Puerto Rico Permits Management Office (OGPe) prior to initiating work and comply with any conditions of the permit established by the Planning Board (JP) for constructions in floodplains. All coordination (emails, letters, documented phone calls) pertaining to these activities and compliance must be provided and maintained in the Applicant's permanent files
- 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 PCBsinto the environment. If damaged equipment or materialstorage 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.
- The Subrecipient and/or Subrecipients contractor must follow the Low Impact Debris Removal Stipulations (LIDRS) outlined in Appendix E of the Project-Specific Programmatic Agreement Among FEMA, the SHPO, ACHP, COR3, and PREPA (PSPA), executed on August 2, 2022.
- Pursuant to Stipulation III.B of the PSPA, if, in the course of implementing this Individual Undertaking(s), previously unidentified structures, sites, buildings, objects, districts, or archaeological deposits, that may be eligible for listing in the National Register, or human remains are uncovered, or if it appears that an Individual Undertaking has affected or will affect a previously identified historic property in an unanticipated manner, the contractor must notify Subrecipient who will immediately notify the Recipient. Work must stop in the vicinity of the discovery and measures must be taken to protect the discovery and avoid additional harm.
- Additional staging areas and/or work pads within work site area havent been identified yet. The Subrecipient and/or private operator must provide the information of any additional staging areas or work pads for EHP evaluation as soon as available specially if any construction activity will be necessary to prepare the site(s). Information for staging areas and/or work pads confined to previously disturbed or hardened surfaces can be provided at close-out.
- All borrow or fill material must come from pre-existing stockpiles, material reclaimed from maintained roadside ditches (provided the designed width or depth of the ditch is not increased), or commercially procured material from a source existing prior to the event. For any FEMA-funded project requiring the use of a non-commercial source or a commercial source that was not permitted to operate prior to the event (e.g., a new pit, agricultural fields, road ROWs, etc.) in whole or in part, regardless of cost, the Applicant must notify FEMA and the Recipient prior to extracting material. FEMA must review the source for compliance with all applicable federal environmental planning and historic preservation laws and executive orders prior to a Sub-recipient or their contractor beginning borrow extraction. Consultation and regulatory permitting may be required. Non-compliance with this requirement may jeopardize receipt of federal funding. Documentation of borrow sources utilized is required at close-out and must include fill type (private, commercial, etc.), name, fill site GPS coordinates (not of the company/governmental office), address, and type of material.
- ***DISREGARD PREVIOUS CONDITIONS*** The following conditions apply only to DI #1392753: Puerto Rican boa (PR boa; Chilabothrus inornatus) a. Inform all project personnel about the potential presence of the PR boa in areas where the proposed work will be conducted. A pre-construction meeting should be conducted to inform all project personnel about the need to avoid harming the species as well as penalties for harassing or harming PR boas. An educational poster or sign with photo or illustration of the species should be displayed at the project site. b. Prior to any construction activity, including removal of vegetation and earth movements, the boundaries of the project and areas to be excluded and protected should be clearly marked in the project plan and in the field in order to avoid further habitat degradation into forested and conservation areas.
- c. Once areas are clearly marked, and prior to the use of heavy machinery and any construction activity (including removal of vegetation and earth movement), a biologist or project personnel with experience on this species should survey the areas to be cleared to verify the presence of any PR boa within the work area. d. If a PR boa is found within any of the working or construction areas, activities should stop at that area and information recorded (see #e). Do not capture the boa. If boas need to be moved out of harm's way, designated personnel shall immediately contact the Puerto Rico Department of Natural and Environmental Resources (PRDNER) Rangers for safe capture and relocation of the animal: (787) 999-2200 ext. 2911. If immediate relocation is not an option, project-related activities at that area must stop until the boa moves out of harm's way on its own. Activities at other work sites, where no boas have been found after surveying the area, may continue. e. For all boa

sightings (dead or alive), record the time and date of the sighting and the specific location where it was found. PR boa data should also include a photo of the animal (dead or alive), site GPS coordinates, the time and date, and comments on how the animal was detected and its behavior.

- f. If a PR boa is captured by PRDNER personnel, record the name of that person and information on where the PR boa will be taken. This information should be reported to the Service. g. Measures should be taken to avoid and minimize PR boa casualties by heavy machinery or motor vehicles being used on site. Any heavy machinery left on site (staging) or near potential PR boa habitat (within 50 meters of potential boa habitat), needs to be thoroughly inspected each morning before work starts to ensure that no boas have sheltered within engine compartments or other areas of the equipment. If PR boas are found within vehicles or equipment, do not capture the animal, and let it move on its own or call PRDNER Rangers for safe capture and relocation of the animal (see #d). If not possible, the animal should be left alone until it leaves the vehicle on its own.
- h. PR boas may seek shelter in debris piles. Measures should be taken to avoid and minimize boa casualties associated with sheltering in debris piles as a result of project activities. Debris piles should be placed far away from forested areas. Prior to moving, disposing or shredding, debris piles should be carefully inspected for the presence of boas. If debris piles will be left on site, we recommend they be placed in areas that will not be disturbed in the future. i. If a dead PR boa is found, immediately cease all work in that area and record the information accordingly (see #e). If the PR boa was accidentally killed as part of the project actions, please include information on what conservation measures had been implemented and what actions will be taken to avoid further killings. A dead boa report should be sent by email to the Service at Caribbean_es@fws.gov, within 48 hours of the event. j. Projects must comply with all state laws and regulations. Please contact the PRDNER for further guidance.
- The Sub-recipient must provide documentation at close-out that proves completion of required Conservation Measures.
- Additional staging areas and/or work pads within work site area haven't been identified yet. The Recipient/Subrecipient and/or private operator must provide the information of any additional staging areas or work pads for EHP evaluation as soon as available specially if any construction activity will be necessary to prepare the site(s). Information for staging areas and/or work pads confined to previously disturbed or hardened surfaces can be provided at close-out.

EHP Additional Info

There is no additional environmental historical preservation on **FAASt [Automation Program Group 15] (Distribution) (Cost Only)**.

Final Reviews

Final Review

Reviewed By LEFRANC-GARCIA, CARLOS L. **Reviewed On** 07/15/2026 12:21 PM PDT

Review Comments

Project has been reviewed, found eligible and reasonable. Subrecipient and its agents are responsible for complying with all grants and subgrant conditions.

Recipient Review

Reviewed By Mulero, Noel **Reviewed On** 07/29/2026 8:40 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 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

General Info

Project #	755211 **P/W #** 108022	**Project Type**	Specialized
Project Category	F - Utilities	**Applicant**	PR Electric Power Authority (000-UA2QU-00)
Project Title	FAASt [Automation Program Group 15] (Distribution) (Cost Only)	**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 #1392753; FAASt [Automation Program Group 15: San Juan, Feeder: 1646-02] (Distribution)

General Facility Information:

- **Facility Type:** Power generation, transmission, and distribution facilities
- **Facility:** Automation Program Group 15: San Juan, Feeder: 1646-02
- **Facility Description:** Transmission and Distribution Automation Feeder 1646-02
- **Approx. Year Built:** 1980
- **Start GPS Latitude/Longitude:** [redacted]
- **End GPS Latitude/Longitude:** [redacted]

Final Scope

1392753 **FAASt [Automation Program Group 15: San Juan, Feeder: 1646-02] (Distribution)**

********** VERSION 6 **********

Version 6 was created to capture the LUMA change in project cost and to request an amendment to the Scope of Work (SOW). In Version 5, leadership requested that the negative pending federal share obligation be addressed. A positive amount of $367,283.08 was re-obligated to the CRC gross cost, effectively canceling out the CRC gross cost from the prior version. As a result, only the Section 406 Hazard Mitigation Program (HMP) amount of $250,899.06 was net obligated for Section 406 hazard mitigation costs.

In this version, Section 428 funding is reconciled to modify the project cost estimate and reflect the accurate allocation of Architecture and Engineering (A&E) costs to FAASt #335168, as well as the appropriate allocation of Equipment and Materials (E&M) costs to FAASt #673691.Version 0 will be fully de-obligated to reclassify Section 428 Public Assistance costs, which had been added to Section 406 Mitigation costs in the previous version.

The SOW from the previous version has been removed from the 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 t proposed construction work to be performed. The SOW defines the activities that will be performed using Public Assistance ("PA") funding and it may include § 406 hazard mitigation proposals ("HMPs").

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

This document contains the detailed SOW for FEMA PA project 755211 Automation Program Group 15 (Distribution) under DR-4339-PR Public Assistance. The document provides a detailed description of the project, the scope of PA construction activities to be completed, common EHP review information, and project cost estimates. LUMA is seeking approval from COR3 and FEMA for PA funding for the scope described in this document.

LUMA submits this Detailed SOW pursuant to the Transmission and Distribution Operations and Maintenance Agreement between the Puerto Rico Electric Power Authority ("PREPA"), the Puerto Rico Public-Private Partnerships Authority ("P3A"), and LUMA, and in accordance with the Consent to Federal Funding Letter issued by PREPA and P3A, which collective provide 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

As part of the electrical grid rebuild, LUMA developed a Transmission & Distribution Automation Program ("Program") through which it will install advanced technology equipment (*i.e.*, reclosers and communicating fault current indicators (cFCIs)) to reduce both physical damage and service interruptions to the electrical grid caused by disasters. Although the intent is to deploy automation equipment throughout PREPA's transmission and distribution ("T&D") system, the Program will be implemented through multiple projects across the islandon both T&D systems. Themultiple projects within this Program are designed to fortify the electrical system's resilience, safeguard its infrastructure, and enhance service reliability during a disaster. The individual projects are interconnected and enhance each other, but each confers benefits independently. Automation is necessary to add modern resiliency capabilities to the T&D system. The 3.2 million Residents throughout Puerto Rico are dependent upon the successful completion of the Program and its ability to sustain the power grid in future disasters.

Project 755211 is one of the Program's distribution-level projects. It installs hardened poles and advanced technology equipment (specifically reclosers and cFCIs) to reduce physical damage and service interruptions to the distribution grid that could be caused by a disaster. Implementing reclosers, their communication kits, and cFCIs is critical for the Energy Management System ("EMS") and related components to function at their full capabilities and mitigate loss of service and physical damage in the event of future hurricanes. This project is necessary for the EMS to maintain the continuity of the distribution power grid on Feeders 1646-02.

Key components of this project are: (1) pole replacement, (2) the three-phase reclosers and single-phase reclosers, and (3) the installation of cFCIs. Each of these components and their benefit to the grid are described further below:

(1) Pole Replacement to Accommodate the Installation of Reclosers

The addition of three-phase reclosers imposes additional load on poles due to the weight of the devices and their components. It also increases the area exposed to extreme weather conditions, such as hurricanes, thereby increasing the structural load requirements these poles must meet. Where an existing pole cannot accommodate a recloser, it will be substituted with a higher-class pole constructed from steel or concrete to ensure compatibility with the recloser and adherence to design criteria. This includes adjacent poles (*i.e.*, poles that are on either side of the recloser pole supporting the overhead line conductors). Any new structure and foundation will be designed to LUMA design criteria and industry standards to support the pole, recloser, and its attachments.

In addition, LUMA is using a per-location approach to pole replacement becauseof the intricate dynamics of deploying three-phase reclosers. Furthermore, the integration of more connections, switches, and related infrastructure often necessitates taller poles to meet phase spacing and circuit-to-circuit spacing requirements. The locations of three-phase reclosers are determined by an electrical analysis performed by the design engineers. In those instances where the recloser would be located on an existing wood pole, that pole will be replaced with a pole that meets the compounded structural demands presented by that recloser.

(2) Feeder Reclosers

Reclosers are sophisticated devices that remotely detect faults within distribution lines, enable the isolation of circuit breakers linked to those faults—whether due to independent failures or breakdowns—and facilitate the swift restoration of power, often within milliseconds. This project will install three-phase and single-phase reclosers.

Three-Phase Recloser: A three-phase recloser is a protection device that is used on three-phase distribution feeders with high fault currents at the location. It is a single device with three switches that can open to interrupt fault currents and automatically reclose to restore power. Three-phase reclosers are communication-ready to enable remote control and visualization. The recloser's wireless communication capability will provide connectivity to LUMA's EMS so the system operator knows their status andcan remotely control them. Deployment of the wireless communication devices includes configuration, testing, and commissioning of the wireless communication device, all networking devices, data acquisition, and control systems that form the connectivity path of the recloser to the EMS.

The implementation of three-phase reclosers will preserve the continuity of electric services and avoid physical damage by pre-empting or minimizing disruptions. The three-phase reclosers can be triggered remotely and provide data back to the operations center, enabling LUMA to prioritize restoration activities, reduce customer outage time, and minimize the potential for cascading infrastructure damage. Installation of the three-phase reclosers and associated hardware is criticalfor the EMS andassociated components to function with full capabilities, and to prevent loss of service and potential damage from future disasters. In this project we are installing two three-phase reclosers.

Single-Phase Reclosers: A single-phase recloser is a single protection device with one switch that can open to interrupt fault currents and automatically reclose to restore power. A single-phase recloser performs the same functions as a three-phase recloser, but it does not have the ability to communicate with the EMS. This project will install single-phase reclosers on single-phase or two-phase distribution feeder and distribution lines branching from the feeder. Single-phase reclosers will also be used on feeders with three phases if fault currents are low at the location. In this project we are installing a total of six single-phase reclosers.

(3) Communicating Fault Current Indicators

Installation of communicating fault current indicators ("cFCI") at strategic locations improves the outage management, restoration, and recovery process, specifically by decreasing the time required to detect and locate faults. The cFCIs operate independently of the feeder reclosers and help identify permanent and incipient faults in the distribution system, as well as collect voltage and current data, which can be used to detect system imbalance, prevent future issues due to harmonics and help in building a predictive failure model.

Data sent to the EMS aides the grid operator in making decisions that avoid outages and speed restoration.The cFCI can be programmed to send automatic notification/alarms based on user-set parameters. This allows for quick dispatch of field crews to specific sections of the feeders and to reduce the total restoration time during an outage event and to prevent physical damages. Installation of the three-phase reclosers and the communicating fault current indicators (communications ready) is critical for the EMS to efficiently mitigate the loss of service and potential damage in future disasters.

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This project's scope does not contain fiber optics or communication capability that is included in other projects. This project is distinguishable from projects that include fiber optics as these feeders are using cellular technology for communications with the operations center. LUMA has developed this scope for cFCIs, reclosers, and their associated hardware only. The lack of fiber optics as a method of transmitting information in this scope of work does not prevent or limit the monitoring capabilities of the reclosers and cFCI or the automation capabilities of the reclosers on this feeder, nor does it prohibit the incorporation of fiber optics at a later date.

Facilities

FACILITIES LIST – BUILDINGS AND SUBSTATIONS

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

- None

FACILITIES LIST – OTHER FACILITIES

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

A. Facilities for Automation Group 15 Feeder Lines

Name	Feeder Number	GPS Start	GPS End
San Juan	1646-02	[redacted]	

Note: Please refer to *APPENDIX B - Project Considerations* for a list of all GPS locations that this project will impact.

B. Staging Area

All materials will be stored and dispatched from the existing LUMA Regional Warehouses.The warehouse assigned is the Sabana Llana Regional Warehouse, whose address is # 654 De Diego Final Street,Rio Piedras, San Juan, PR. The warehouse coordinates are [redacted] The staging area will be located at Carolina where coordinates are [redacted]

Project Area Map with Boundaries of Construction

A map of the project area is not available at this time.

Section 428 Scope of Work

The proposed type of work for this project:

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

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

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

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

___ Alternate Project: Does not restore the predisaster 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** ___.

In the obligated submission (Version 0), LUMA proposed:

- Removal and replacement of two (2) damaged concrete poles.
- Install two (2) new poles.
- Install two (2) Three-Phase Reclosers.
- Install six (6) Single Phase Reclosers, remove fuses, and close jumpers.
- Install four (4) 1 kVA transformers.
- Install two (2) communicating fault indicators (cFCIs).

LUMA requests the alignment of the scope of work of Project 755211 with the approved 406 mitigation proposal from Project 746309 FAASt [Automation Program Group 30], including:

• Pole replacement to accommodate recloser installation: 406 mitigation will fund the additional cost for pole strengthening (i.e., 428: remove the existing pole and replace with a round galvanized, 406 install a 12-sided galvanized).

• Feeder reclosers: 406 mitigation will fund 100% cost for the three-phase reclosers on the feeder backbone and the additional cost (delta) for the replacement of fuse cutouts for a single-phase reclosers on laterals circuit lines.

• Communicating Fault Current Indicators: 406 mitigation will fund the additional cost for the replacement of Fault Current Indicators (FCIs) with Fault Current Indicators (cFCIs).

• Distribution Transformers: 406 mitigation will fund the installation of 1kVA stainless steel transformers to serve either the load or source side of the three-phase recloser.

As detailed in the appendix of the amendment request letter, LUMA requests the following component additions to the project scope of work and cost estimate that were not included in the obligated project:

- Radio Communications Kit:
  - o LUMA originally planned to transmit data to and from Three-Phase Reclosers using fiber optic cable, which also required the installation of additional poles. LUMA now proposes installing radio communication kits to enable communication with the Three-Phase Reclosers and the PREPA SCADA system (EMS).
- Air Break Bypass Switches

  Air Break Bypass Switches are essential equipment of LUMA design standards for the Three-Phase Recloser. The cost of these switches was involuntarily omitted in the previous estimate. They are included in this proposed version. The purpose of this equipment is to isolate the recloser in case of failure or maintenance and keep the three-phase circuit energized while the situation is resolved.

FEMA Distribution Automation (DA) 406 HM Determination Amendment V2.1:

During the development and discussion of the "FAASt PREPA HM Resolution – Automation System V2.0", it was agreed that 406 HM would fund the installation of new reclosers a critical facilities to create redundancy (loop) and would cover the delta for replacing the manual disconnect switch with an automatic recloser at a strategic location to sectionalize the fault and prevent physical damage to the system.

However, in the Distribution Automation projects Group 15 (PN755211) and Group 18 (PN745859) submitted to FEMA for review on 10/1/2025, the subrecipient clarified that the manua disconnects switches ("Air Break Bypass Switches") are essential equipment for energizing and disconnecting the three-phase automatic recloser. The subrecipient explains that the cost of these switches was involuntarily omitted from the Group 30 Automation project, so from now on it will be included in the Automation Program projects. The purpose of this equipment is to isolate the recloser in the event of a fault or maintenance, keeping the three-phase circuit energized while the situation is resolved.

In this case, the 406 HM team agreed that the Air Break Bypass Switches would be covered by 428 PA funds (in accordance with the FCE) and the automatic reclosers by 406 HM (100%); and if the installation of an automatic recloser creates new redundancy in critical facilities (loop feeder), 406 HM could cover 100% of the costs (Air Break Bypass Switches and automatic recloser).

Pole FID	Coordinates Lat, Long	Existing	428 Replacement	SCOPE OF WORK
22795938	[redacted]	(65'-H6 CONCRETE POLE)	(65' GALVANIZED TAPERED ROUND STEEL POLE)	• Remove and dispose 65ft. H6 Concrete pole. Replace with a 65ft. galvanized tapered round pole.
Pole FID	Coordinates Lat, Long	Existing	428 Replacement	SCOPE OF WORK

	[redacted]	(38KV SC VERTICAL TANGENT 10(QTY=1)) (CP1C8(QTY=1)) (S-1(QTY=1))	(38KV SC TANGENT DELTA SUSPENSION(QTY=1) VER1(QTY=1)) (S-1(QTY=1)) (ABS-3-XARM QTY=3)	• Remove, dispose and replace primary framing. • Remove, dispose and replace 38KV tangent. • Install and connect three (3) sets of Air Break Bypass (ABS-3-XARM) and the framing hardware to support them.
NEW POLE		NONE	50' GALVANIZED ROUND TAPERED POLE (ABS-3-XARM QTY=3)	• Install a new 50ft. galvanized steel round tapered pole. • Install and connect three (3) sets of Air Break Bypass (ABS-3-XARM) and the framing hardware to support them.
NEW POLE		NONE	70'GALVANIZED ROUND TAPERED POLE 38kv STANDARD	• Install a new 70ft. galvanized round tapered pole as a Mdspan. • Install 38kV standard, distribution primary and secondary framing.
15158761		(55'-C2 WOOD POLE) (CP-C1) (K-6 (QTY=1)	(55' GALVANIZED TAPERED ROUND POLE) (CP-C6-VERT) (K-6 (QTY=1))	• Remove and dispose 55ft. C2 wood pole. Replace with a 55ft. galvanized tapered round pole. • Remove, dispose and replace primary and secondary framing.
15158776		(ASSY-1509(QTY=3))	(LABOR & REPAIR)	• Remove, dispose and replace (3) fuse Cutouts. • Labor to Close Jumpers.
15152286		(ASSY-1509(QTY=3))	(LABOR & REPAIR)	• Remove and dispose (3) Fuse Cutouts. • Labor to Close Jumpers.
28482726		(ASSY-1509(QTY=3))	(LABOR & REPAIR)	• Remove, dispose and replace (3) fuse cutouts. • Labor to close Jumpers.
15158633		(ASSY-1509(QTY=3))	(LABOR & REPAIR)	• Remove and dispose (3) Fuse Cutouts. • Labor to Close Jumpers.
Segment FID 23399078		NONE	(LABOR, FCI) (QTY=3	• Install (3) Fault Current Indicators.
Segment FID 26522373		NONE	(LABOR, FCI) (QTY=3	• Install (3) Fault Current Indicators.

Notes Regarding Proposed Work

1. Remove and replace poles, including hardware in the same location. If unable to install the replacement in the same location, the pole will be installed within the easement for overhead distribution lines. Easements are established with the purpose of providing LUMA reasonable access to its facilities, in order to maintain, repair, improve, operate, and expand facilities.

2. The existing wood pole is to be replaced by galvanized tapered poles, at the locations identified in the table above. Refer to *APPENDIX B - Project Considerations,* column B (soil area and depth impact) for the depths of the galvanized tapered poles.

3. New guy wires and anchors are to be installed within the easement for guys. The maximum distance an anchor will be installed for a 50ft pole is 25ft from the base of the pole, within the easement for guys.

4. Existing overhead conductors, poles, assemblies, and attached components will be disconnected, removed, and replaced as outlined in the Scope of Work column in the table above. When existing overhead conductor, assemblies, and attached components are not being replaced, they will be re-attached to the pole to complete the scope of work.

CODES & STANDARDS

The following will be referenced when applying specific codes, specifications, and standards to the project design:

A. LUMA Overhead Electrical Distribution System Manual 4301.001 version 4, available in Grants Portal - Applicant Event Profiles.

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

C. 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.

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

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

For 406 Mitigation Opportunity SOW please refer to section 10.0 Section of Hazard Mitigation Proposal of document labeled *755211-DR4339PR-DSOW Group 15 Automation- Revision 006- V4.pdf*

COMMON EHP REVIEW INFORMATION

Please check any items applicable to the proposed scope of work in this Project. If an item is checked, describe the scope, extent, and location of the selected activity.
_X_ **Ground disturbance outside of existing footprint**. If checked, describe the ground disturbing activities, including the extent, location, and depth of the disturbance.

- Poles - Refer to *APPENDIX B - Project Considerations,* column B (soil area and depth impact), for the depths of the poles to be installed.

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

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

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

- Vegetation clearance will be performed solely to the extent that it allows crews to conduct work and will be limited to a 10 ft radius surrounding the surface of the pole, but not to exceed the width of the easement. This is for the exclusive purpose of gaining access to the pole to conduct repairs. The costs related to vegetation clearance procedures are covered in project 723883 FAASt [SanJuan] (Vegetation). The vegetation removal process will be managed in accordance with federal and state regulations.

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

- Debris will be separated and taken to an authorized waste disposal facility. Information on location of temporary debris storage sites, final debris disposal location, and final debris disposal method are not yet available.

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

- **Staging Area**: All materials will be stored and dispatched from the existing LUMA Regional Warehouses. The warehouse locations are described in Section 7.2 above. LUMA has not yet identified any other additional staging areas that it will require.
- **Access Roads**: New access roads are not needed for this project. All poles to be installed, or removed and replaced, are adjacent to a road and work will be performed within the easement.

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

- Fill, gravel, and sand materials will be obtained from an approved supplier as referenced in the following document: LUMA Vendor Directory List.

__ 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 ("A&E") design information. For a more detailed cost estimate refer to *Appendix A- LUMA Project Cost Estimate*.

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

PLANNING	**$25,796.06**	**$18,074.79**	**$43,870.85**
MANAGEMENT	**$18,201.05**	**$12,753.12**	**$30,954.17**
LPCE Distribution Automation Group 15	**$298,190.03**	**$209,142.71**	**$507,332.74**
GENERAL CONDITIONS	**$15,596.91**	**$10,928.44**	**$26,525.35**
COST TOTALS	**$357,784.05**	**$250,899.06**	**$608,683.11**
DEDUCTIONS	**TOTAL INSURANCE PROCEEDS RECEIVED**		**$-**
	DE-OBLIGATION TO FAASt IF APPLICABLE		**$-**
FAASt ALLOCATIONS	**FAAST PROJECT # 755211- 428**		$276,277.77
	FAAST PROJECT # 755211- 406 HM		$250,899.06
	FAAST PROJECT # 755211 TOTAL		**$527,176.83**
	FAASt A&E # 335168 - 428		$28,366.57
	FAASt A&E # 335168 - 406 HM		$19,875.89
	FAASt A&E # 335168 TOTAL		**$48,242.46**
	FAASt E&M #673691 - 428		$53,139.71
	FAASt E&M #673691 - 406 HM		$103,164.29
	FAASt E&M #673691 TOTAL		**$156,304.00**

428 Project Summary, Version 6:

Work To Be Completed (WTBC): $357,784.05

E&M Deduction (#673691) 428: -$53,139.71

A&E Deduction (Global A&E FAASt 335168): -$28,366.57

Project Total Cost: $276,277.77

Total Project Cost V6: V5 - (De-obligation V5) + V6 (Cost Change) = $643,560.85 - $643,560.85 + $276,277.77= $276,277.77

VERSION SUMMARY OF KEY CHANGES:

V0: $643,560.85 (WTBC, A&E Deduction)

V1: fund code correction

V2: fund code correction

V3: fund code correction

V4: $276,277.77 (WTBC, A&E Deduction, E&M Deduction, Reconcile funding from De-obligation of V0)

V5: $367,283.08 Event Leadership Request (Sub-FAAST transaction guidance to offset CRC gross cost, and only HMP amount of $250,899.06 net obligated for 406 HM costs.)

V6: $276,277.77 (WTBC, A&E Deduction, E&M Deduction, Reconcile 428 funding from De-obligation V0)

Project Notes:

1. Refer to detailed SOW provided in document: *755211-DR4339PR-DSOW Group 15 Automation- Revision 006- V4.pdf.*

2. Refer to detailed cost estimate in document: *755211-DR4339PR-755211-DR4339PR-APPENDIX A- LUMA PROJECT COST ESTIMATE V4 Rev 06.xlsx.*

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

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. In this version, only the 428 section of funding are reconciled to ensure 428 costs are properly accounted for the pending award.

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

7. The following attachments and appendices are provided with this DSOW:

Item	Document Description or Filename
A	LUMA Project Cost Estimate
B	Project Considerations
C	LUMA's Active Projects
D	Pole Height Increase Justification

406 HMP Scope

Project number: 755211 FAASt [Automation Program Group 15] (Distribution)

Damage #1392753; FAASt [Automation Program Group 15: San Juan, Feeder: 1646-02] (Distribution).

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

Location: Carolina, Puerto Rico

GPS Latitude/Longitude: [redacted]

Hazard Mitigation Narrative

During the incident period from September 17, 2017, to November 15, 2017, the Commonwealth of Puerto Rico experienced hurricane-force winds, heavy rain, flooding, and power outage from Hurricane Maria. The incident caused damage to the electrical system, such as 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).

As part of the electrical grid rebuild, the subrecipient developed a Transmission & Distribution Automation Program ("Program") through which it will install advanced technology equipment (i.e., reclosers and communicating fault current indicators (cFCIs)) to reduce both physical damage and service interruptions to the electrical grid caused by disasters. Although the intent is to deploy automation equipment throughout PREPA's Transmission and Distribution ("T&D") system, the Program will be implemented through multiple projects across the island on both T&D systems.

The multiple projects within this Program are designed to fortify the electrical system's resilience, safeguard its infrastructure, and enhance service reliability during a disaster. The individual projects are interconnected and enhance each other, but each confers benefits independently. Distribution Automation (DA) projects will be submitted regionally as components of the real time monitoring and automation network being installed on island. DA projects are physically incorporated into the distribution line network.

Hazard Mitigation Proposal (HMP) Scope of Work:

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

Mitigation Measures *(Replacement)*

1. **Pole Replacement to Accommodate the Installation of Reclosers:**

   The addition of three-phase reclosers imposes additional load on poles due to the weight of the devices and their components. It also increases the area exposed to extreme weather conditions, such as hurricanes, thereby increasing the structural load requirements these poles must meet. Where an existing pole cannot accommodate a recloser, it will be substituted with a higher-class pole constructed from steel or concrete to ensure compatibility with the recloser and adherence to design criteria. This includes adjacent poles (i.e., poles that are on either side of the recloser pole supporting the overhead line conductors). Any new structure and foundation will be designed to LUMA design criteria and industry standards to support the pole, recloser, and its attachments. In addition, LUMA is using a per-location approach to pole replacement because of the intricate dynamics of deploying three-phase reclosers. Furthermore, the integration of more connections, switches, and related infrastructure often necessitates taller poles to meet phase spacing and circuit-to-circuit spacing requirements. The locations of three-phase reclosers are determined by an electrical analysis performed by the design engineers. In those instances where the recloser would be located on an existing wood pole, that pole will be replaced with a pole that meets the compounded structural demands presented by that recloser.

   As a mitigation strategy, 406 HM will fund the additional cost (delta) for pole strengthening (pole, concrete base, and additional guywire) for recovery work to the feeder or poles. In this project:

   a) One (1ea) new 50ft round galvanized pole will be installed as PA recovery solution, and 406 HM will replace round pole with 1ea 60ft (S10) 12-sided galvanized pole

   b) Existing 65ft concrete pole will be replaced with 1ea 65' round galvanized pole (PA recovery solution), and 406 HM will replace round pole with 1ea 70ft 12-sided galvanized pole.

   c) Existing 55ft wood pole will be replaced by 1ea 55' round galvanized pole (PA recovery solution), and 406 HM will replace round pole with 1ea 60ft (S8.5) 12-sided galvanized pole.

   d) One (1ea) new 70ft round galvanized pole will be installed as PA recovery solution, and 406 HM will replace round pole with 1ea 70ft (S8.5) 12-sided galvanized pole.

   As part of the installation of the 3PH recloser, the subrecipient increased the pole height to accommodate the 3PH recloser. Pole height increase justification for three each pole:

   a) Feeder 1646-02, WOP 3PH Recloser Installation – Segment FID 26522974:

The decision to use a 60-foot pole, instead of the standard 50-foot alternative, is based on the requirement to comply with vertical clearance regulations and structural design standards associated with the installation of two independent distribution circuits on a single-pole structure, in addition to the integration of a three-phase (3F) recloser on the upper circuit (Feeder 1646-02). Therefore, the increased pole height ensures adequate vertical and horizontal clearances between both distribution circuits and the reliability device, and guarantees compliance with applicable structural codes, including the capacity to withstand wind loads (pole loading analysis) up to 160 mph.

b) Feeder 1646-02, WOP 3PH Recloser Installation – Pole FID 22795938:

The selection to increase the existing 65-foot H6 concrete pole with a 70-foot 12-sided tapered galvanized steel pole was because the existing pole does not need to be replaced as it meets the 160 mph LUMA codes and standards (C&S). However, due to clearance purposes caused by the installation of the three-phase automatic recloser and the presence of the existing 38kV transmission circuit and the two-distribution feeder, it is now necessary to replace it.

c) Feeder 1646-02, WOP 1PH Recloser Installation – Pole FID 15158761:

The decision to use a 60-foot pole instead of a 50-foot standard pole is based on two primary engineering considerations:

1. Proximity to Adjacent Structures:

A building is located adjacent to the primary distribution line. To ensure compliance with safety regulations, the design must meet the minimum vertical and horizontal clearance requirements between energized conductors and nearby structures.

2. Existing Line Construction:

The existing line is built on 55-foot wooden poles. To maintain or improve existing clearances and ensure structural consistency, the new steel pole must exceed the current height.

2. **Feeder Reclosers:**

Reclosers are sophisticated devices that remotely detect faults within distribution lines, enable the isolation of circuit breakers linked to those faults—whether due to independent failures or breakdowns—and facilitate the swift restoration of power, often within milliseconds. This project will install three-phase and single-phase reclosers.

Three-Phase Recloser: A three-phase recloser is a protection device that is used on three-phase distribution feeders with high fault currents at the location. It is a single device with three switches that can open to interrupt fault currents and automatically reclose to restore power. Three-phase reclosers are communication-ready to enable remote control and visualization. The recloser's wireless communication capability will provide connectivity to LUMA's EMS so the system operator knows their status and can remotely control them.

The implementation of three-phase reclosers will preserve the continuity of electric services and avoid physical damage by pre-empting or minimizing disruptions. The three-phase reclosers can be triggered remotely and provide data back to the operations center, enabling LUMA to prioritize restoration activities, reduce customer outage time, and minimize the potential for cascading infrastructure damage. Installation of the three-phase reclosers and associated hardware is critical for the EMS and associated components to function with full capabilities, and to prevent loss of service and potential damage from future disasters. In this project we are installing three three-phase reclosers.

Single-Phase Reclosers: A single-phase recloser is a single protection device with one switch that can open to interrupt fault currents and automatically reclose to restore power. A single-phase recloser performs the same functions as a three-phase recloser, but it does not have the ability to communicate with the EMS. This project will install single-phase reclosers on single-phase or two-phase distribution feeder and distribution lines branching from the feeder. Single-phase reclosers will also be used on feeders with three phases if fault currents are low at the location. In this project we are installing a total of two single-phase reclosers.

As a mitigation strategy, 406 HM will fund the additional cost (delta) for the replacement of 2ea fuse cutouts by 2ea single-phase reclosers and install 2ea three-phase reclosers.

3. **Communicating Fault Current Indicators:**

Installation of communicating fault current indicators ("cFCI") at strategic locations improves the outage management, restoration, and recovery process, specifically by decreasing the time required to detect and locate faults. The cFCIs operate independently of the feeder reclosers and help identify permanent and incipient faults in the distribution system, as well as collect voltage and current data, which can be used to detect system imbalance, prevent future issues due to harmonics and help in building a predictive failure model.

cFCIs help reduce physical damage on the system by providing real-time monitoring and early detection of abnormal conditions. Essentially, cFCIs act as the eyes and ears of the system, reducing wear and tear by allowing quick, intelligent responses instead of waiting for catastrophic failure.

Benefits of cFCIs include:

- Early Fault Detection: cFCIs can detect issues like overcurrent, overvoltage, temperature rise, or partial discharge before they escalate into major faults. This allows for proactive repair or shutdowns, preventing physical damage to transformers, lines, and other components.

- Fault Location: cFCIs help quickly locate faults on the line (like short circuits or open conductors). This minimizes the time the system operates under stress, reducing the risk of cascading failures and associated mechanical damage.

- Load Monitoring: By constantly measuring the current and voltage, sensors help ensure that equipment is not overloaded. Overloads can cause overheating and physical wear on cables, breakers, and other components.

- Lightning and Surge Detection: cFCIs detect transient surges caused by lightning or switching. By identifying these events, protective measures can be optimized to prevent insulation breakdown or physical burnout.

SCADA systems collect data from cFCIs and provide real-time visualization, control, and historical analysis. Integration helps in several ways:

- Real-Time Monitoring: Operators can see live data like voltage, current, temperature, and power flow. Any abnormal readings trigger alarms.

- Automated Alerts: If a cFCIs detects anomalies (e.g., a line sag or high current), SCADA immediately alerts operators for quick action —preventing physical stress or failure.

- Remote Control: In response to cFCI data, SCADA can remotely open/close breakers or switches, isolating the problem before it spreads.

- Predictive Maintenance: Historical data trends help predict insulation degradation, hotspot development, or corrosion—allowing scheduled repairs before damage occurs.

Protection systems (relays, breakers, reclosers, fuses) work closely with cFCIs to respond automatically to faults:

- Fast Trip Commands: cFCIs detect faults faster and more precisely. They send data to protection relays, which then trip the appropriate breakers/reclosers.

- Adaptive Protection: With real-time data from cFCIs, settings can be dynamically adjusted to match system conditions (e.g., load variations), preventing unnecessary trips or stress on components. Fault Location and Isolation: cFCIs help pinpoint the fault location, enabling automatic or operator-assisted sectionalizing—reducing the impact area and protecting healthy parts of the system.

- Communication-Based Protection: In modern smart grids, cFCIs can communicate DNP3 protocols with reclosers, creating a fast, coordinated protection scheme.

As a mitigation strategy, 406 HM will fund the additional cost (delta) for the replacement of 2 (two) fault current indicators (FCIs) by 2 (two) communicating fault current indicators (cFCIs). For a total of 6ea cFCI.

Mitigation Measures *(Supplementary)*

1. **Stainless Steel Transformer (1kVA):**

   To enable the operation of three-phase reclosers, it is essential to connect a 120/240V AC voltage source. In areas where this voltage is accessible, the recloser will be linked to the existing secondary line, ensuring that these facilities possess the capability to handle the load produced by the recloser. In instances where the necessary infrastructure to supply voltage to the recloser 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, which includes protection, automation, and communication functionalities. This ensures that the intelligent features of the recloser operate reliably, even in the event of a medium-voltage power interruption.

   As a mitigation strategy, 406 HM will fund the installation of 3ea 1kVA stainless steel transformers.

2. **Radio communication kit for three phase reclosers:**

   The recloser's wireless communication capability will provide connectivity to LUMA's EMS in order to the system operator knows their status and can remotely control the 3-phase reclosers. Deployment of the wireless communication devices includes configuration, testing, and commissioning of the wireless communication device, all networking devices, data acquisition, and control systems that form the connectivity path of the recloser to the EMS. Therefore, as part of the installation of the 2ea 3-phase reclosers it will be necessary to install communication radios and commissioning for the operation of the reclosers (wireless connection).

   As a mitigation strategy, 406 HM will fund the installation of 2ea Radio communication kit.

(III) Hazard Mitigation Proposal (HMP) Cost

Total Net Hazard Mitigation Cost (Base Cost) =	$ 199,267.98
+ HM (Subrecipient A&E, Management & General Conditions) =	$ 51,631.08
Hazard Mitigation Total Cost =	**$250,899.06**

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

Equipment and Materials (E&M) =	$ 103,164.29
Architecture and Engineering (A&E) =	$ 19,875.89
Construction Cost =	$ 127,858.87
Hazard Mitigation Total Cost =	**$250,899.06**

(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 cos 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 o 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 $250,899.06 (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 eligib 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	$725,419.42	Uncompleted
3510	1	Lump Sum	($81,858.57)	Uncompleted
9201	1	Lump Sum	$0.00	Completed
9001	1	Lump Sum	($643,560.85)	Uncompleted
9001	1	Lump Sum	$643,560.85	Uncompleted
9001	1	Lump Sum	$357,784.05	Uncompleted
3510	1	Lump Sum	($28,366.57)	Uncompleted
9001	1	Lump Sum	($53,139.71)	Uncompleted
9001	1	Lump Sum	($643,560.85)	Uncompleted
9001	1	Lump Sum	$367,283.08	Uncompleted
9001	1	Lump Sum	($643,560.85)	Uncompleted
9001	1	Lump Sum	$357,784.05	Uncompleted
3510	1	Lump Sum	($28,366.57)	Uncompleted
9001	1	Lump Sum	($53,139.71)	Uncompleted

CRC Gross Cost	$276,277.77
Total 406 HMP Cost	$250,899.06
Total Insurance Reductions	$0.00
CRC Net Cost	$527,176.83
Federal Share (90.00%)	$474,459.15
Non-Federal Share (10.00%)	$52,717.68

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

9/3/2026

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

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

5/14/2025

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 Program Group 15] (Distribution) (Cost Only)**.

406 Mitigation

There is no additional mitigation information on **FAASt [Automation Program Group 15] (Distribution) (Cost Only)**.

Environmental Historical Preservation

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

EHP Conditions

- Any change to the approved scope of work will require re-evaluation for compliance with NEPA and other Laws and Executive Orders.
- This review does not address all federal, state and local requirements. Acceptance of federal funding requires recipient to comply with all federal, state and local laws. Failure to obtain all appropriate federal, state and local environmental permits and clearances may jeopardize funding.
- If ground disturbing activities occur during construction, applicant will monitor ground disturbance and if any potential archaeological resources are discovered, will immediately cease construction in that area and notify the State and FEMA.
- The Applicant must provide documentation at close-out that proves completion of required Conservation Measures
- Puerto Rican Boa (Chilabothrus inornatus) 1. Inform all project personnel about the potential presence of the Puerto Rican (PR) boa and Virgin Islands (VI) boa in areas where the proposed work will be conducted and provide training on PR and VI boa identification. A pre-construction meeting will be conducted to inform all project personnel about the need to avoid harming these species. All personnel will be advised that there are civil and criminal penalties for harming, harassing, or killing species protected under the Endangered Species Act of 1973. An educational poster or sign with photo or illustration of these species will be displayed at the project site. 2. Prior to any construction activity, including removal of vegetation and earth movement, the boundaries of the project area and any area to be excluded and protected will be clearly marked in the project plan and in the field to avoid further habitat degradation outside of the footprint of the project. 3. Once areas are clearly marked, and right before the use of heavy machinery and any construction activity (including removal of vegetation and earth movement), biologist or designated project personnel with experience on these species will survey the areas to be cleared to verify the presence of any PR or VI boa within the Action Area. If a PR or VI boa is found during the search, it should be captured and managed as per #6 below. Once the removal of vegetation begins, the biologist or designated personnel must remain at the work site and be ready to capture any boa that might be in harm's way as the result of the habitat disturbance (see #6). 4. For VI boas, once the Action Area has been searched, vegetation will be cut about one meter above ground prior to the use of heavy machinery for land clearing. Cutting vegetation by hand will allow VI boas present on site to move away on their own to adjacent available habitat. If there is no suitable habitat adjacent to the project site, any VI boa found will be relocated accordingly (see #6). 5.For all boa sightings (dead or alive), record the time and date of the sighting and the specific location where it was found. Data will also include a photo of the animal (dead or alive),relocation site GPS coordinates, time and date of the relocation, and comments on how the animal was detected and its behavior. 6.If any PR or VI boa (dead or alive) is found within the Action Area and on harm's way, the action will stop, and information will be recorded (see #5). All attempts will be made to immediately safely capture and relocate the animal within suitable habitat (forested)at least1kmfrom the Action Area and away from construction areas. PR boa relocation sites will be pre-determined before the project start sand sites shared with the Service for revision and concurrence. Relocation of PR boas will be conducted by trained, designated personnel ensuring the animal is not harmed or injured during the capture and relocation process.

- 7.Measures will be taken to avoid and minimize PR boa and VI boa casualties by heavy machinery or motor vehicles being left in the Action Area. *.Any heavy machinery left on site (staging areas) or near potential PR or VI boa habitat will be thoroughly inspected each morning before work starts to ensure that no boa shave sheltered within engine compartments or other areas of the heavy machinery. Ifa PR boa or VI boa is found within vehicles or heavy machinery, boas will be safely captured accordingly. If not possible, the animal will be left alone until it leaves the vehicle or machine by itself. *.The PR boa and VI boa may seek shelter within debris piles. Measures should be taken to avoid and minimize boa casualties associated with sheltering in new debris piles as a result of project activities. New debris piles should be placed in areas as far as possible from forested areas. Prior to moving, disposing, or shredding, debris piles should be carefully inspected for the presence of PR boas and VI boas. If debris piles will be left on site, we recommend they be placed in an undisturbed area. *.In the event a PR boa and VI boa is found dead within the project area, the Federal Agency and the Recipient must contact the Service to appropriately dispose the animal. *.If a PR boa or a VI boa is accidentally injured or killed during capture and relocation activities during the Action, the Federal Agency and the Recipient shall terminate the authorized activities and contact the Service within 24 hours to reinitiate consultation. The Federal Agency will consult with the Service to determine whether authorized activities should continue as proposed and whether modifications are warranted. *.Should the forms of take reach the amount of exempted take during the Action, the Federal Agency and the Recipient shall terminate the authorized activities and contact the Service within 24 hours to reinitiate consultation. The Federal Agency will consult with the Service to determine whether authorized activities should continue as proposed and whether modifications are warranted. For questions and to submit reports, the Service's Point of Contact (POC) is José Cruz-Burgos, Endangered Species Coordinator, and can be contacted at:¿Mobile: 305-304-1386 ¿Office phone: 786-244-0081 ¿Office Direct Line: 939-320-3120 ¿Email: Caribbean_es@fws.gov or jose_cruz-burgos@fws.gov
- The Applicant shall handle, manage, and dispose of all types of hazardous waste in accordance with requirements of local, state, and federal laws, regulations, and ordinances. In addition, the Applicant shall ensure that all debris is separated and disposed of in a manner consistent with the PR DNER guidelines at a permitted site or landfill. The contractor/applicant will be responsible for the proper disposition of construction debris in authorized landfills providing the name, location, coordinates and permits of the facility to the corresponding authorities.
- Unusable equipment, debris, white goods, scrap metal any other material shall be disposed in approved manner and location. In the event significant items are discovered during the implementation or development of the project the Applicant shall handle, manage, and dispose petroleum products, hazardous materials, and toxic waste in accordance with the requirements of the local and federal agencies. Noncompliance with these requirements may jeopardize receipt of federal funds.
- Applicant must obtain any required permits from the Puerto Rico Permits Management Office (OGPe) prior to initiating work and comply with any conditions of the permit established by the Planning Board (JP) for constructions in floodplains. All coordination (emails, letters, documented phone calls) pertaining to these activities and compliance must be provided and maintained in the Applicant's permanent files
- 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 PCBsinto the environment. If damaged equipment or materialstorage 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.
- The Subrecipient and/or Subrecipients contractor must follow the Low Impact Debris Removal Stipulations (LIDRS) outlined in Appendix E of the Project-Specific Programmatic Agreement Among FEMA, the SHPO, ACHP, COR3, and PREPA (PSPA), executed on August 2, 2022.
- Pursuant to Stipulation III.B of the PSPA, if, in the course of implementing this Individual Undertaking(s), previously unidentified structures, sites, buildings, objects, districts, or archaeological deposits, that may be eligible for listing in the National Register, or human remains are uncovered, or if it appears that an Individual Undertaking has affected or will affect a previously identified historic property in an unanticipated manner, the contractor must notify Subrecipient who will immediately notify the Recipient. Work must stop in the vicinity of the discovery and measures must be taken to protect the discovery and avoid additional harm.
- Additional staging areas and/or work pads within work site area havent been identified yet. The Subrecipient and/or private operator must provide the information of any additional staging areas or work pads for EHP evaluation as soon as available specially if any construction activity will be necessary to prepare the site(s). Information for staging areas and/or work pads confined to previously disturbed or hardened surfaces can be provided at close-out.
- All borrow or fill material must come from pre-existing stockpiles, material reclaimed from maintained roadside ditches (provided the designed width or depth of the ditch is not increased), or commercially procured material from a source existing prior to the event. For any FEMA-funded project requiring the use of a non-commercial source or a commercial source that was not permitted to operate prior to the event (e.g., a new pit, agricultural fields, road ROWs, etc.) in whole or in part, regardless of cost, the Applicant must notify FEMA and the Recipient prior to extracting material. FEMA must review the source for compliance with all applicable federal environmental planning and historic preservation laws and executive orders prior to a Sub-recipient or their contractor beginning borrow extraction. Consultation and regulatory permitting may be required. Non-compliance with this requirement may jeopardize receipt of federal funding. Documentation of borrow sources utilized is required at close-out and must include fill type (private, commercial, etc.), name, fill site GPS coordinates (not of the company/governmental office), address, and type of material.
- ***DISREGARD PREVIOUS CONDITIONS*** The following conditions apply only to DI #1392753: Puerto Rican boa (PR boa; Chilabothrus inornatus) a. Inform all project personnel about the potential presence of the PR boa in areas where the proposed work will be conducted. A pre-construction meeting should be conducted to inform all project personnel about the need to avoid harming the species as well as penalties for harassing or harming PR boas. An educational poster or sign with photo or illustration of the species should be displayed at the project site. b. Prior to any construction activity, including removal of vegetation and earth movements, the boundaries of the project and areas to be excluded and protected should be clearly marked in the project plan and in the field in order to avoid further habitat degradation into forested and conservation areas.
- c. Once areas are clearly marked, and prior to the use of heavy machinery and any construction activity (including removal of vegetation and earth movement), a biologist or project personnel with experience on this species should survey the areas to be cleared to verify the presence of any PR boa within the work area. d. If a PR boa is found within any of the working or construction areas, activities should stop at that area and information recorded (see #e). Do not capture the boa. If boas need to be moved out of harm's way, designated personnel shall immediately contact the Puerto Rico Department of Natural and Environmental Resources (PRDNER) Rangers for safe capture and relocation of the animal: (787) 999-2200 ext. 2911. If immediate relocation is not an option, project-related activities at that area must stop until the boa moves out of harm's way on its own. Activities at other work sites, where no boas have been found after surveying the area, may continue. e. For all boa

sightings (dead or alive), record the time and date of the sighting and the specific location where it was found. PR boa data should also include a photo of the animal (dead or alive), site GPS coordinates, the time and date, and comments on how the animal was detected and its behavior.

- f. If a PR boa is captured by PRDNER personnel, record the name of that person and information on where the PR boa will be taken. This information should be reported to the Service. g. Measures should be taken to avoid and minimize PR boa casualties by heavy machinery or motor vehicles being used on site. Any heavy machinery left on site (staging) or near potential PR boa habitat (within 50 meters of potential boa habitat), needs to be thoroughly inspected each morning before work starts to ensure that no boas have sheltered within engine compartments or other areas of the equipment. If PR boas are found within vehicles or equipment, do not capture the animal, and let it move on its own or call PRDNER Rangers for safe capture and relocation of the animal (see #d). If not possible, the animal should be left alone until it leaves the vehicle on its own.
- h. PR boas may seek shelter in debris piles. Measures should be taken to avoid and minimize boa casualties associated with sheltering in debris piles as a result of project activities. Debris piles should be placed far away from forested areas. Prior to moving, disposing or shredding, debris piles should be carefully inspected for the presence of boas. If debris piles will be left on site, we recommend they be placed in areas that will not be disturbed in the future. i. If a dead PR boa is found, immediately cease all work in that area and record the information accordingly (see #e). If the PR boa was accidentally killed as part of the project actions, please include information on what conservation measures had been implemented and what actions will be taken to avoid further killings. A dead boa report should be sent by email to the Service at Caribbean_es@fws.gov, within 48 hours of the event. j. Projects must comply with all state laws and regulations. Please contact the PRDNER for further guidance.
- The Sub-recipient must provide documentation at close-out that proves completion of required Conservation Measures.
- ***Disregard previous conditions***
- ***Disregard previous conditions***
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- ***Disregard previous conditions***
- ***Disregard previous conditions***
- 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.
- Additional staging areas and/or work pads within work site area haven't been identified yet. The Recipient/Subrecipient and/or private operator must provide the information of any additional staging areas or work pads for EHP evaluation as soon as available specially if any construction activity will be necessary to prepare the site(s). Information for staging areas and/or work pads confined to previously disturbed or hardened surfaces can be provided at close-out.

EHP Additional Info

There is no additional environmental historical preservation on **FAASt [Automation Program Group 15] (Distribution) (Cost Only)**.

Final Reviews

Final Review

Reviewed By LEFRANC-GARCIA, CARLOS L. **Reviewed On** 09/11/2026 8:55 PM PDT

Review Comments

Version 6 reflects the negative cost for PA reconciliation process. Change request - $367,283.08 for a total Federal share for this project of $474,459.15.

Recipient Review

Reviewed By Mulero, Noel **Reviewed On** 09/16/2026 10:00 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

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 $527,176.83 for subaward number 108022 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
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	2/6/2025	$579,204.77	90%	Accepted	4339DRPRP01080221
1	5/12/2025	($579,204.77)	90%	Accepted	4339DRPRP01080221
3	8/30/2025	$579,204.77	90%	Accepted	4339DRPRP01080221
5	8/27/2026	$225,809.15	90%	Accepted	4339DRPRP01080221
6	9/25/2026	($330,554.77)	90%	Accepted	4339DRPRP01080221

Department of Homeland Security
Federal Emergency Management Agency

v0

General Info

Project #	757696 **P/W #** 108037	**Project Type**	Specialized
Project Category	F - Utilities	**Applicant**	PR Electric Power Authority (000-UA2QU-00)
Project Title	FAASt [Automation Program Group 31] (Distribution) (Cost Only)	**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 #1399052; FAASt [Automation Program Group 31: Bayamon Feeders: 1803-03, 1806-03] (Distribution)

General Facility Information:

- **Facility Type:** Power generation, transmission, and distribution facilities
- **Facility:** Automation Program Group 31
- **Facility Description:** Bayamon Feeders: 1803-03, 1806-01, 1806-02, 1806-03
- **Approx. Year Built:** 1980
- **Start GPS Latitude/Longitude:** [redacted]
- **End GPS Latitude/Longitude:** [redacted]

Final Scope

1399052 **FAASt [Automation Program Group 31: Bayamon Feeders: 1803-03, 1806-03] (Distribution)**

Introduction

This document is to submit for approval a Detailed Scope of Work ("DSOW") to COR3 and FEMA for the Transmission and Distribution Automatio Program under DR-4339-PR Public Assistance. The document provides a description of the project, including scope, schedule, and cost estimates. 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 according 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 following the Consent to Federal Funding Letter issued by PREPA and P3A, 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.

Background

In order to rebuild the entire electrical grid, the Transmission & Distribution Automation Program ("Program") installs advanced technology equipment (*i.e.*, reclosers and communicating fault current indicators) to reduce service interruptions to the electrical grid caused by disaster-related damage. Although the intent is to deploy automation equipment throughout PREPA's transmission and distribution ("T&D") system, the Program is broken into multiple projects being implemented across the island on both transmission and distribution systems. The multiple projects within this Program are designed to fortify the electrical system's resilience, safeguard its infrastructure, and enhance service reliability. The individual projects are interconnected and enhance each other, but each can also be implemented independent of each other, and each confers benefits independently. Automation is necessary to restore the T&D systems. The 3.5 million residents throughout Puerto Rico are dependent upon the successful completion of the Program and its ability to sustain the power grid in future disasters.

Project 757696 is one of the Program's distribution-level projects. It installs hardened poles, advanced technology equipment (specifically three-phase reclosers and communicating fault current indicators), and online protection devices to reduce service interruptions to the distribution grid that could be caused by disaster-related damage. Implementing the three-phase reclosers, their communication links, and the communicating fault current indicators is critical for the Energy Management System ("EMS") and related components to function at their full capabilities and mitigate loss of service and potential damages for upcoming occurrences. This project is necessary for the EMS to maintain the continuity of the distribution power grid on Feeders 1803-03 and 1806-03.

Key components of this project are (1) pole replacement, (2) the three-phase reclosers, single-phase reclosers, and (3) the communicating fault current indicators. Each of these components and their benefit to the grid are described further below:

(1) Pole Replacement to Accommodate the Installation of Reclosers

The addition of three-phase reclosers imposes additional load on poles due to the weight and operational components of the devices and also increases the wind area exposed to extreme weather conditions, such as hurricanes, thereby augmenting the structural load these poles must withstand. Pole loading analysis will be used to determine whether a recloser pole and/or pole adjacent to the recloser will maintain structural integrity. If not, higher-class (strength) structures/poles made of steel or concrete will be installed to comply with codes and standards. This includes **adjacent poles** (*i.e.*, poles that are on either side of the recloser pole supporting the overhead line conductors). Any new structure and foundation will be designed to LUMA design and industry standards to support the pole, recloser and its attachments.

In addition, LUMA is using a per-location approach to pole replacement because of the intricate dynamics of deploying three-phase reclosers. Furthermore, the integration of more connections, switches, and related infrastructure often necessitates taller poles to meet phase spacing and circuit-to-circuit spacing requirements. Therefore, Luma is to replace all wood poles where three-phase reclosers are being installed, irrespective of their current condition, to address the compounded structural demands and spacing prerequisites, ensuring the resilience and reliability of the electrical grid infrastructure.

(2) Feeder Reclosers

Reclosers are sophisticated devices that remotely detect faults within distribution lines, enable the isolation of circuit breakers linked to those faults—whether due to independent failures or breakdowns—and facilitate the swift restoration of power, often within milliseconds. This project will install three-phase and single-phase reclosers.

Three-Phase Reclosers: A three-phase recloser is a protection device that is used on three-phase distribution feeders with high fault currents at the location. It is a single device with three switches that can open to interrupt fault currents and automatically reclose to restore power. Three-phase reclosers are communication-ready to enable remote control and visualization. The recloser's wireless communication capability will provide connectivity to LUMA's EMS so the system operator knows their status and can remotely control them. It enables remote control and status visualization of the reclosers. Deployment of the wireless communication devices includes configuration, testing and commissioning of the wireless communication device, all networking devices, data acquisition and control systems that form the connectivity path of the recloser to the EMS.

Implementation of three-phase reclosers will preserve the continuity of electric services by pre-empting or minimizing disruptions. The three-phase reclosers can be triggered remotely and provide data back to the operations center, enabling LUMA to prioritize restoration activities, reduce customer outage time, and minimize the potential for cascading infrastructure damage. Installation of the three-phase reclosers and associated hardware is critical for the EMS and associated components to function with full capabilities and to prevent loss of service and potential damages in future disasters. In this project we are installing six three-phase reclosers.

Single-Phase Reclosers: A single-phase recloser performs the same functions as a three-phase recloser, but it does not have the ability to communicate with the EMS. This project will install single-phase reclosers on the distribution feeder and distribution lines branching from the feeder. It is a protection device that is used on a single-phase or a two-phase distribution feeder. Single-phase reclosers are used on feeders with three-phases if fault currents are low at the location. A single-phase recloser is a single device with one switch that can open to interrupt fault currents and automatically reclose to restore power. In this project we are installing five single-phase reclosers.

(3) Communicating Fault Current Indicators

Communicating fault current indicators (cFCI) installed at strategic locations improve the outage management, restoration, and recovery process, specifically by decreasing the time required to detect and locate faults. The cFCI operates independently of the feeder reclosers. cFCI helps identify permanent and incipient faults in the distribution system and collects voltage and current data which can be used to detect system imbalance, prevent future issues due to harmonics, and help in building predictive failure models.

Data sent to the EMS aides the grid operator in making decisions on operations, management and restoration. The cFCI can be programmed to send automatic notifications/alarms based on user-set parameters. This allows for quick dispatch of field crews to specific sections of the feeders and reduces the total restoration time during an outage event which saves. Installation of the three-phase reclosers and the communicating fault current indicators (communications ready) is critical for the Energy Management System ("EMS") to effectively mitigate the loss of service and potential damages in future disasters.

This project's scope does not contain fiber optics or communication capability that is included in other projects. This project is distinguishable from projects that include fiber optics as these feeders are using cellular technology for communications with the operations center. LUMA has developed this scope for reclosers and their associated hardware only. The lack of fiber optics as a method of transmitting information in this scope of work does not prevent or limit the monitoring capabilities of the reclosers and cFCIs or the automation capabilities of the reclosers on this feeder, nor does it prohibit the incorporation of fiber optics at a later date.

FACILITIES

Facilities Description

The facilities listed below are part of PREPA's electric distribution system. All feeders originate from a substation (GPS Start) and serve customers along the route to various locations (GPS End). The coordinates shown below represent the mainline backbone of each feeder. To avoid duplication of work across projects, LUMA reviewed the FIDs identified for work across distribution programs. The analysis did not identify any poles on this feeder, where LUMA is installing Distribution Automation (" DA ") devices, that require disaster-related replacement. Accordingly, LUMA has not initiated any rebuild projects for this feeder under the Distribution Rebuild Program (also referred to as the" D-Line Program"). LUMA also confirmed that none of the poles on this feeder, which will be replaced under the Pole and Conductor Repair Program (also referred to as the" D-Pole Program"), will be replaced again under the DA Program. Because the poles in the DA program are not identified for replacement in either the D-Line or D-Pole Programs and the only cause for their replacement is the proper execution of mitigation measures, the pole replacement is included in the 406 Hazard Mitigation scope of work of this project. This allocation is consistent with the illustrated scenarios provided in the DA Program position paper and LUMA's Resilience Plan. To further address any concerns regarding the duplication of work across other proposed or planned Hurricane Maria distribution projects, LUMA provides Appendix D which contains a list of all FIDs on the feeder upon which FEMA-eligible work will be performed and the associated proposed scope of work under each distribution program. Please refer to ***APPENDIX D – LUMA Active Projects*** which shows no duplication of scope elements.

Facilities List

Name	Feeder Number	GPS Start	GPS End
Bayamon	1803-03	[redacted]	
Bayamon	1806-03		

Note: Please refer to **APPENDIX *C*— *Project Considerations* for a list of all GPS locations that this project will impact**.

PROJECT SCOPE OF WORK

Below is a list of the "Proposed 428 Public Assistance Scope of Work" proposed for feeders of this group.

Proposed 428 Public Assistance Scope of Work

Feeder 1803-03

POLE FID	Coordinates Lat, Long	Existing (Remove)	428 Replacement	Scope of work

POLE FID	Coordinates Lat, Long	Existing (Remove)	428 Replacement	Scope of work
7153771	[redacted]	(40'-S3 GALVANIZED STEEL POLE) (AC-C6) (K-1) (ASSY 1509 (QTY=3)) (STL-10)	(50'-S8 GALVANIZED STEEL POLE) (CP-C6-XARM) (K-6) (REC-2-1 VERS 6) (STL-10)	• Remove and dispose 40' Galvanized steel pole. • Replace with 50' S8 12-Sided galvanized steel pole. • Install (1) three-phase recloser 1803- 03A. • Install and commission the radio communication kit for the Three-Phase Recloser. • Install (1) 1 kva transformer (2.40/4.16 kva -120/240v) source side. • Remove, dispose, and replace primary framings. • Remove and dispose 336 Al. spacer conductors 700 ft. Replace with 1/0 al conductors 700 ft. • Remove, dispose, and replace streetlight. • Remove and dispose (3) fuses.
NEW POLE		N/A	(50'-S8 GALVANIZED STEEL POLE) (S-6) (K-6) (REC-2-2 VER 3)	• Install new 50' S8 12-Sided Galvanized Steel pole in new location mid span*. • Install (1) three-phase Recloser 1803-03B. • Install and commission the radio communication kit for the Three-Phase Recloser. • Install secondary conductor 1/0 al tpx - 130 ft. for load side and source side.
7153770		(40' CLASS 5 WOOD POLE) (CP-C5-XARM) (CP-C6-XARM) (K-1) (E-1-2-3(QTY=1)) (F-1-3(QTY=1))	(50' S8 GALVANIZED STEEL POLE) (CP-C5 XARM) (CP-C6-XARM) (K-6) (E-1-2-3(QTY=1)) (F-1-3(QTY=1))	• Remove and dispose 40' class 5 wood pole. • Replace pole with 50' S8 12-Sided galvanized steel pole due to recloser 1803-03A installation. • Remove, dispose, and replace the primary framings. • Replace, dispose, and replace (1) down guy and Replace (1) anchor
7153775		(40' CLASS 5 WOOD POLE) (AC-C6 XARM) (T-2) (25kVA, 2.40/4.16 kV120/240V) (K-7 A) (STL-10)	(50'-S8 GALVANIZED STEEL POLE) (CP-C6-XARM) (T-2) (25kVA, 2.40/4.16 kV120/240V) (K-7-A) (STL-10)	• Remove and dispose 40' Class 5 Wood pole. • Replace pole with 50' S8 12-Sided galvanized steel. • Replace transformer for Stainlees Steel 25kva (2.40/4.16 kv120/240v) • Remove, dispose and Replace streetlight. • Remove, dispose, and replace primary framings. • Remove, dispose, and Replace 25kva (2.40/4.16 kv120/240v)

POLE FID	Coordinates Lat, Long	Existing (Remove)	428 Replacement	Scope of work	
7153768	[redacted]	(35' CLASS 4 WOOD POLE) (AC-C6 XARM) (K-6) (URD-3) (STL-10)	(45' S5.7 GALVANIZED STEEL POLE) (CP-C6 XARM) (K-6) (K-5) (STL-10)	• Remove and dispose 35' Class 4 wood pole. • Replace pole with 45' S5.7 12-Sided galvanized steel pole. • Remove, dispose, and replace primary framings. • Remove, dispose, and replace streetlights.	
7153498		(40' CLASS 5 WOOD POLE) (S-5) (S-1) (T-2) (K-7-B) (E-1-2-3) (F-1-3) (STL-10)	(50'-S8 GALVANIZED STEEL POLE) (S-5) (S-6) (T-2) (K-7 B) (K-5) (STL-10)	• Remove, dispose, and replace 40' Class 5 wood pole. • Replace with 50' S8 12-sided galvanized Steel pole. • Remove, dispose, and replace streetlight. • Transfer 37.5kva (2.40/4.16 kv-120/240v) to new pole. • Re-Use downguy. • Remove and dispose (1) down guy and (1) Anchor.	**Feeder 1806-03**
7153496		(40' CLASS 2 WOOD POLE) (S-1) (K-7 A) (STL-10) (T-1) (37.5KVA, (2.40/4.16KV-120/240 V)	(45' S5.7 GALVANIZED STEEL POLE) (S-1) (K-7-B) (STL-10)	• Remove and dispose 40' Class 2 wood pole. • Replace pole with 45' S5.7 12-sided galvanized steel pole. • Remove, dispose, and replace primary framings. • Remove, dispose, and replace streetlight. • Labor:37.5kva (2.40/4.16kv-120/240 v) transformer and install in FID 7153498.	
7153580		(35' CLASS 4 WOOD POLE) (K-7 B) (E-1-2-3) (F-1-3) (STL-10)	(40' S5.7 GALVANIZED STEEL POLE) (K-7-B) (E-1-2-3) (F-1-3) (STL-10)	• Remove and dispose 35' Class 4 wood pole. • Replace pole with 40' S5.7 12-Sided galvanized steel pole • Remove dispose and replace primary framings. • Replace, dispose, and replace streetlight. • Replace, remove, dispose, and replace (1) down guy and (1) anchor.	
14053394		(FUSES REMOVAL (QTY=3))	(LABOR & REPAIR)	• Remove and dispose (3) Fuses.	

POLE FID	Coordinates Lat, Long	Existing (Remove)	428 Replacement	Scope of work
7153762	[redacted]	(FUSES REMOVAL (QTY=3))	(LABOR & REPAIR)	• Remove and dispose (3) Fuses.
N/A		NONE	(LABOR, cFCI) (QTY=3)	• Install (3) Communicating Fault Current Indicator.

POLE FID	Coordinates Lat, Long	Existing (Remove)	428 Replacement	Scope of work
11543149	[redacted]	(55FT C2 WOOD POLE) (38KV SINGLE CIRCUIT DELTA SUSPENSION ASSY. ANGLE 0-2) (CP-C1) (K-6) (STL-10)	(70FT S8 STEEL POLE) (CONCRETE POLE BASE) (38KV SINGLE CIRCUIT DELTA SUSPENSION ASSY. ANGLE 0-2) (REC-2-1) (K-6) (STL-10) (E-1-2-3, QTY=3) (F-1-3) (F-4-2) (XFRM, 7.62/13.2KV, 120/240V, SS, 1KVA CONTROL TRANSFORMER	• Remove and dispose 55' C2 wood pole • Replace pole with 70' S8 12-Sided galvanized steel pole • Install (1) Three-phase recloser (1806-03B). • Install and commission the radio communication kit for th three-phase recloser. • Install (3) down guys and expansion anchors. • Install concrete base. • Install (1) Transformer 7.62/13.2kv, 120/240v, stainless steel, 1KV control transformer in to feed the recloser loa side • Remove, dispose, and replace feeders' insulators. • Remove, dispose, and replace primary framing. • Remove, dispose, and replace secondary conductor insulator. • Remove, dispose, and replace existing streetlight.

7149675	[redacted]	(40FT C2 WOOD POLE) (CP-C6-XARM)	(50FT S8 STEEL POLE) (40FT S5.7 STEEL POLE) (REC-2-1) (E-2-1) (E-1-2-3) (F-1-3) (420FT TRIPLEX #2 SECONDARY CONDUCTOR) (XFRM, 13.2/7.62KV, 120/240, SS, 1KVA CONTROL TRANSFORMER) (K-5) (K-6)	• Remove and dispose 40' C2 Wood pole. • Replace pole with 50' S8 12-Sided galvanized steel pole • Remove, dispose, and replace primary framing. • Install (1) Three-phase recloser (1806-03C). • Install and commission the Radio communication kit for t Three-phase recloser. • Install stub pole (40ft s5.7 steel pole, for span guy. • Install secondary conductor insulators. • Install anchor for stub pole. • Install secondary span from pole with fid 7149696 [redacted] for 420 feet in conductor #2 trip secondary conductor identified in the adjacent pole to fe the recloser load side. • Install (1) Xfrm, 7.62/13.2kv, 120/240, ss, 1kva control transformer on 3phase recloser to feed the recloser sou side.

Not digitalized **Segment FID 17399026**	[redacted]	(65FT H6 CONCRETE POLE) (38KV SINGLE CIRCUIT DELTA SUSPENSION ASSY. ANGLE 0-2) (CP-C2) (E-2-1	(70FT S8 STEEL POLE) (38KV SINGLE CIRCUIT DELTA SUSPENSION ASSY. ANGLE 0-2) (REC-2-1) (K-5) (E-1-2-3, QTY=2) (F1-3, QTY=2) (XFRM, 7.62/13.2KV, 120/240V, SS 1KVA CONTROL TRANSFORMER, QTY=2) (E-1-2-3, FOR FID 7149394) (F-1-3, FOR FID 7149394	• Remove and dispose 65' H6 Concrete pole. • Replace pole with a 70' S8 12-Sided Galvanized Steel P • Replace feeders' insulators. • Install (1) Three-phase recloser (1806-03D). • Install and commission radio communication kit for Three Phase Recloser. • Install anchors. • Install (2) transformer, 7.62/13.2kv, 120/240, Stainlees S 1 KVA control transformer to feed the source and load s • Remove, dispose, and replace primary framing • Remove, dispose, and replace the secondary conducto insulator. • Remove, dispose, and replace downguys.
7149464	[redacted]	(40FT S3 STEEL POLE) (K-6) (STL-10) (T-12)	(50FT S8 STEEL POLE) (REC-2) (K-6) (STL-10) (LABOR) (375FT SECONDARY CONDUCTOR)	• Remove and dispose 40' S3 Steel Pole. • Replace pole with a 50' S8 12-Sided galvanized steel po • Replace feeder crossarms and insulators. • Install (1) three-phase recloser (1806-03E). • Install and commission the communication radio kit for th three-phase recloser. • Install secondary span of triplex #2 from pole with fid 7149453 for 375 feet identified to feed the recloser sourc side • Remove, dispose, and replace feeder crossarms and insulators. • Remove, dispose, and replace • secondary conductor insulator. • Remove, dispose and replace existing streetlight. • Labor to close jumper wires and normalize feeder. • Remove and dispose out of service capacitor bank.

11543153	[redacted]	(60FT C2 WOOD POLE) (38KV SINGLE CIRCUIT VERTICAL DEADEN ASSY. ANGLE 0-10) (CP-C6-XARM) (CP-C5XARM) (K-6) (STL-10)	(70FT S8 STEEL POLE) (CONCRETE POLE BASE) (38KV SINGLE CIRCUIT VERTICAL DEADEN ASSY. ANGLE 0-10) (CP-C6-XARM) (CP-C7) (K-6) (STL-10) (E-1-2-3) (F-1-3)	• Remove and dispose 60' C2 wood pole. • Replace pole with a 70' S8 12-Sided galvanized steel p • Install fuse cutouts for feeder tap. • Install down guy and expansion anchor. • Install concrete base. • Remove, dispose, and replace feeders crossarms and insulators. • Remove, dispose, and replace framings. • Remove, dispose, and replace secondary conductor insulator. • Remove, dispose, and replace existing streetlight.
11544249		(40FT C3 WOOD POLE) (K-6) (STL-10, QTY=2) (E-1-2-3) (F-1-3)	(70FT S8 STEEL POLE) (38KV SINGLE CIRCUIT DELTA SUSPENSION ASSY. ANGLE 0-2) (CP-C1) (CP-B5-XARM) (REC-3-B) (K-6) (STL-10) (E-1-2-3) (F-1-3)	• Remove and dispose 40' C3 wood pole. • Replace pole with 70' S8 12-sided galvanize steel pole, intercept feeder. • Install (2) Single-Phase Recloser. Remove and dispose fuse cut outs. • Remove, dispose, and replace secondary conductor Insulator. • Remove, dispose, and Replace Streetlight. • Remove, dispose, and replace down guy and anchor.
7149631		(45FT C2 WOOD POLE) (CP-C6-XARM) (CP-C7) (CP-A5) (E-1-2-3,QTY=2) (F-1-3, QTY=2)	(50FT S8 STEEL POLE) (CP-C6-XARM) (CPA5) (REC-3-C) (K-6) (E-1-2-3) (F-1-3)	• Remove and dispose 45' C2 wood pole. • Replace pole with 50' S8 12-sided galvanized steel pole • Remove and dispose fuse • Cutouts. • Install (3) Single-Phase Reclosers. • Remove and dispose fuse Cutouts. • Remove, dispose, and replace secondary Conductor. • Secondary span Will be installed in this pole Where recl 1806-03D will Be installed to feed the new Recloser.
7150681		(CP-A14)	LABOR FOR CLOSE JUMPERS	• Remove and dispose fuses. • Labor to Close jumper wires.
11280103		NONE	(LABOR, cFCI) (QTY=3)	• Install (3) Communicating Fault Current Indicator
11543540		NONE	(LABOR, cFCI) (QTY=3)	• Install (3) Communicating Fault Current Indicators.

Scope Notes:

1) The work will be performed in accordance with the notes below, the Distribution Construction Standards (Concrete Base Standard) and LUMA Overhead Electrical Distribution System Manual V4, and APPENDIX C – Project Considerations.

Pole Replacement

a. Remove and replace poles, including hardware in the same location. If unable to install the replacement in the same location, the pole will be installed within 3 feet.

b. Most pole installations are to replace existing pole locations. Refer to APPENDIX C – Project Considerations, column C (soil area and depth impact) for the depths of the poles to be installed.

c. New guy wire/ anchors are to be installed in compliance with the LUMA Overhead Electrical Distribution System Manual within 3ft from the existing anchor. The maximum distance an anchor will be installed for a 50ft pole is 25ft from the base of the pole, within the right-of-way.

d. Vegetation clearance will be performed solely to the extent that it allows crews to conduct work and will be limited to a 10 ft radius surrounding the surface of the pole, but not to exceed the width of the right-of-way. This is for the exclusive purpose of gaining access to the pole to conduct repairs. The vegetation removal process will be managed in accordance with federal and state regulations. The costs related to vegetation clearance procedures are covered in the following projects:

Feeder	Project Title
1803-03	727691 FAASt [Region 1 -San Juan Group C] (Vegetation)
1806-03	727558 FAASt [Region 3 -Bayamon Group C] (Vegetation)

e. All existing overhead conductors, poles, assemblies, and attached components will be disconnected, removed, and replaced as outlined in the scope of work. When poles, assemblies, and attached components are not being replaced per the scope of work, all assemblies and components will be re-installed to the pole, with the overhead conductor re-attached to complete the installation and reconstruction of the feeder.

f. All work for this program will be performed within the current electrical right-of-way.

2) Debris will be separated and taken to an approved waste disposal facility.

3) The construction of **access roads** is not required for this scope of work. Poles are close to the roads and are site accessible.

4) **Staging area** requirements were considered for the new equipment to be installed and the equipment to be retired. All materials will be stored and dispatched from the assigned LUMA's Regional Warehouse. The warehouse assigned is the Toa Baja District Warehouse, whose address is 165 street, 30.5 KM, Palo Seco Ward, Toa Baja, PR. Coordinates are [redacted]. Refer to document *Warehouse Locations*

5) Fill, Gravel, and Sand **materials** will be obtained from an approved supplier as referenced in the document *LUMA Vendor Directory List.*

6) The **equipment** to be used includes *a Skid Steer, Excavator, Dump truck, Manlift, 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*.

7) Specific List of Permits Required:

a. Department of Transportation and Public Works - ("DTOP") Endorsements & Municipality Notifications

b. Excavation and Demolition Notification in the Department of Transportation and Public Works Agency - ("DTOP")

c. LUMA will provide proof of all permits.

Proposed 406 Hazard Mitigation Scope of Work

406 Hazard Mitigation Proposal
This version of the project will be fully funded using PA 428 funds. A future version of this project may contain PA 406 HM measures.

PROJECT COST ESTIMATE (PCE

The estimated costs (Class 3 Accuracy +/-30%) to complete the project are captured in the table(s) below. The cost estimate was developed utilizing preliminary Architectural and Engineering design information and is subject to being updated. LUMA has allocated 10% of the project cost to mitigate potential known risks. For more details refer to **APPENDIX B- LUMA Project Cost Estimate.**

COST ESTIMATE			
Cost Element	**428**	**406**	**PROJECT TOTAL**
PLANNING	**$121,483.46**	**$-**	**$121,483.46**
MANAGEMENT	**$73,692.20**	**$-**	**$73,692.20**
Distribution Automation Group 31	**$1,440,436.49**	**$-**	**$1,440,436.49**
GENERAL CONDITIONS	**$74,565.12**	**$-**	**$74,565.12**
COST TOTALS	**$1,710,177.27**	**$-**	**$1,710,177.27**
DEDUCTIONS	**TOTAL INSURANCE PROCEEDS RECEIVED**		**$-**
	DE-OBLIGATION TO FAASt IF APPLICABLE		**$-**
FAASt ALLOCATIONS	FAAST 757696- 428		**$1,145,457.61**
	FAAST 757696- 406 HM		**$-**
	FAAST PROJECT 757697 TOTALS		**$1,145,457.61**
	FAASt A&E # 335168 - 428		**$195,175.66**
	FAASt A&E # 335168 - 406 HM		**$-**
	FAASt A&E # 335168 TOTAL		**$195,175.66**
	FAASt E&M #673691 - 428		**$369,544.00**
	FAASt E&M #673691 - 406 HM		**$-**
	FAASt E&M #673691 TOTAL		**$369,544.00**

Work To Be completed: $1,710,177.27

A&E Deduction (Global A&E FAASt# 335168): $195,175.66

E&M Deduction (FAASt# 673691): $369,544.00

Project Total Cost (FAASt Project# 757696): $1,145,457.61

Project Notes:

1. Refer to detailed SOW provided in document labeled: "*757696-DR4339PR- DSOW Group 31 Revision 003-.pdf*."
2. Refer to detailed Cost Estimate provided in document labeled: "757696-DR4339PR-APPENDIX B - LUMA Project Cost Estimate- Revision 003.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 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. 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 Automation Group 31 FAASt 757696.
5. This project is part of Donor FAASt 136271 – MEPA078 Puerto Rico Electrical Power Authority (PREPA) Island Wide FAASt Project 136271.

For reference documents Appendix A thru D, see files labeled:

ATTACHMENTS

757696-DR4339PR-APPENDIX A - Initial Scope of Work.pdf

757696-DR4339PR-APPENDIX B - LUMA Project Cost Estimate- Revision 003.xlsx

757696-DR4339PR-APPENDIX C - Project Considerations.xlsx

757696-DR4339PR-APPENDIX D - LUMA's Active Project.xlsx

406 HMP Scope

Mitigation opportunities will be applied in a future version of the Permanent Work Project. In accordance with the Distribution Automation resolution document share with the applicant. The project is ready for Insurance completion.

Cost

Code	Quantity	Unit	Total Cost	Section
9001	1	Lump Sum	$1,710,177.27	Uncompleted
3510	1	Lump Sum	($195,175.66)	Uncompleted
9001	1	Lump Sum	($369,544.00)	Uncompleted
9201	1	Lump Sum	$0.00	Completed

CRC Gross Cost	$1,145,457.61
Total 406 HMP Cost	$0.00
Total Insurance Reductions	$0.00
CRC Net Cost	$1,145,457.61
Federal Share (90.00%)	$1,030,911.85
Non-Federal Share (10.00%)	$114,545.76

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

9/4/2026

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

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

5/27/2025

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 Program Group 31] (Distribution) (Cost Only)** .

406 Mitigation

There is no additional mitigation information on **FAASt [Automation Program Group 31] (Distribution) (Cost Only)** .

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.

EHP Additional Info

There is no additional environmental historical preservation on **FAASt [Automation Program Group 31] (Distribution) (Cost Only)** .

Final Reviews

Final Review

Reviewed By Diaz Rodriguez, Sheila M. **Reviewed On** 07/01/2025 5:04 PM PDT

Review Comments

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

Recipient Review

Reviewed By Mulero, Noel **Reviewed On** 07/15/2025 7:50 PM PDT

Review Comments

This project is full 428, after being obligated, the allocation for the corresponding 406 mitigation funds must be developed. Recipient review completed. Applicant must ensure to compliance with all regulatory requirements, Record of Environmental Consideration (REC) Special Conditions and PA policy. Project is ready for applicant review.

Project Signatures

Reviewed By Unsigned **Reviewed On** Unsigned

General Info

Project #	757696 **P/W #** 108037	**Project Type**	Specialized
Project Category	F - Utilities	**Applicant**	PR Electric Power Authority (000-UA2QU-00)
Project Title	FAASt [Automation Program Group 31] (Distribution) (Cost Only)	**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 #1399052; FAASt [Automation Program Group 31: Bayamon Feeders: 1803-03, 1806-03] (Distribution)

General Facility Information:

- **Facility Type:** Power generation, transmission, and distribution facilities
- **Facility:** Automation Program Group 31
- **Facility Description:** Bayamon Feeders: 1803-03, 1806-01, 1806-02, 1806-03
- **Approx. Year Built:** 1980
- **Start GPS Latitude/Longitude:** [redacted]
- **End GPS Latitude/Longitude:** [redacted]

Final Scope

1399052 **FAASt [Automation Program Group 31: Bayamon Feeders: 1803-03, 1806-03] (Distribution)**

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

Version 1 has been created to capture change in scope and cost as per Applicant provided documentation. Refer to documents labeled: " 757696-DR4339PR- DSOW Group 31 Revision 8- V1.pdf", "757696-DR4339PR- Project Amendment Request DA Group 31 V1.pdf", "757696-DR4339PR-APPENDIX A - LUMA Project Cost Estimate- Revision 07 - V1.xlsx".

The change requested in this version include both 406 HMP and 428 PA costs, one with positive amount and the other negative, in order to be able to process project within the grants management systems, the positive funds will be included in this version and in a later version the negative costs will be included.

SOW from previous version 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 defines the activities that will be performed using Public Assistance ("PA") funding and it may include § 406 hazard mitigation proposals ("HMPs").

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

This document contains the detailed SOW for FEMA PA project 757696 Automation Program Group 31 (Distribution) under DR-4339-PR Public Assistance. The document provides a detailed description of the project, the scope of PA construction activities to be completed, common EHP review information, and project cost estimates. LUMA is seeking approval from COR3 and FEMA for PA funding for the scope described in this document.

LUMA submits this Detailed SOW pursuant to the Transmission and Distribution Operations and Maintenance Agreement between the Puerto Rico Electric Power Authority ("PREPA"), the Puerto Rico Public-Private Partnerships Authority ("P3A"), and LUMA, and in accordance with the Consent to Federal Funding Letter issued by PREPA and P3A, which collectively provide 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

As part of the electrical grid rebuild, LUMA developed a Transmission & Distribution Automation Program (“Program”) through which it will install advanced technology equipment (i.e., reclosers and communicating fault current indicators (cFCIs)) to reduce both physical damage and service interruptions to the electrical grid caused by disasters. Although the intent is to deploy automation equipment throughout PREPA’s transmission and distribution (“T&D”) system, the Program will be implemented through multiple projects across the island on both T&D systems. The multiple projects within this Program are designed to fortify the electrical system's resilience, safeguard its infrastructure, and enhance service reliability during a disaster. The individual projects are interconnected and enhance each other, but each confers benefits independently. Automation is necessary to add modern resiliency capabilities to the T&D system. The 3.2 million Residents throughout Puerto Rico are dependent upon the successful completion of the Program and its ability to sustain the power grid in future disasters.

Project 757696 is one of the Program’s distribution-level projects. It installs hardened poles and advanced technology equipment (specifically reclosers and cFCIs) to reduce physical damage and service interruptions to the distribution grid that could be caused by a disaster. Implementing reclosers, their communication kits, and cFCIs is critical for the Energy Management System (“EMS”) and related components to function at their full capabilities and mitigate loss of service and physical damage in the event of future hurricanes. This project is necessary for the EMS to maintain the continuity of the distribution power grid on Feeders 1803-03 and 1806-03.

Key components of this project are: (1) pole replacement, (2) the three-phase reclosers and single-phase reclosers, and (3) the installation of cFCIs. Each of these components and their benefit to the grid are described further below:

(1) Pole Replacement to Accommodate the Installation of Reclosers

The addition of three-phase reclosers imposes additional load on poles due to the weight of the devices and their components. It also increases the area exposed to extreme weather conditions, such as hurricanes, thereby increasing the structural load requirements these poles must meet. Where an existing pole cannot accommodate a recloser, it will be substituted with a higher-class pole constructed from steel or concrete to ensure compatibility with the recloser and adherence to design criteria. This includes adjacent poles (i.e., poles that are on either side of the recloser pole supporting the overhead line conductors). Any new structure and foundation will be designed to LUMA design criteria and industry standards to support the pole, recloser, and its attachments.

In addition, LUMA is using a per-location approach to pole replacement because of the intricate dynamics of deploying three-phase reclosers. Furthermore, the integration of more connections, switches, and related infrastructure often necessitates taller poles to meet phase spacing and circuit-to-circuit spacing requirements. The locations of three-phase reclosers are determined by an electrical analysis performed by the design engineers. In those instances where the recloser would be located on an existing wood pole, that pole will be replaced with a pole that meets the compounded structural demands presented by that recloser.

(2) Feeder Reclosers

Reclosers are sophisticated devices that remotely detect faults within distribution lines, enable the isolation of circuit breakers linked to those faults—whether due to independent failures or breakdowns—and facilitate the swift restoration of power, often within milliseconds. This project will install three-phase and single-phase reclosers.

Three-Phase Recloser: A three-phase recloser is a protection device that is used on three-phase distribution feeders with high fault currents at the location. It is a single device with three switches that can open to interrupt fault currents and automatically reclose to restore power. Three-phase reclosers are communication-ready to enable remote control and visualization. The recloser’s wireless communication capability will provide connectivity to LUMA’s EMS so the system operator knows their status and can remotely control them. Deployment of the wireless communication devices includes configuration, testing, and commissioning of the wireless communication device, all networking devices, data acquisition, and control systems that form the connectivity path of the recloser to the EMS.

The implementation of three-phase reclosers will preserve the continuity of electric services and avoid physical damage by pre-empting or minimizing disruptions. The three-phase reclosers can be triggered remotely and provide data back to the operations center, enabling LUMA to prioritize restoration activities, reduce customer outage time, and minimize the potential for cascading infrastructure damage. Installation of the three-phase reclosers and associated hardware is critical for the EMS and associated components to function with full capabilities, and to prevent loss of service and potential damage from future disasters. In this project we are installing six three-phase reclosers.

Single-Phase Reclosers: A single-phase recloser is a single protection device with one switch that can open to interrupt fault currents and automatically reclose to restore power. A single-phase recloser performs the same functions as a three-phase recloser, but it does not have the ability to communicate with

the EMS. This project will install single-phase reclosers on single-phase or two-phase distribution feeder and distribution lines branching from the feeder. Single-phase reclosers will also be used on feeders with three phases if fault currents are low at the location. In this project we are installing a total of five single-phase reclosers.

(3) Communicating Fault Current Indicators

Installation of communicating fault current indicators ("cFCI") at strategic locations improves the outage management, restoration, and recovery process, specifically by decreasing the time required to detect and locate faults. The cFCIs operate independently of the feeder reclosers and help identify permanent and incipient faults in the distribution system, as well as collect voltage and current data, which can be used to detect system imbalance, prevent future issues due to harmonics and help in building a predictive failure model.

Data sent to the EMS aides the grid operator in making decisions that avoid outages and speed restoration. The cFCI can be programmed to send automatic notification/alarms based on user-set parameters. This allows for quick dispatch of field crews to specific sections of the feeders and to reduce the total restoration time during an outage event and to prevent physical damages. Installation of the three-phase reclosers and the communicating fault current indicators (communications ready) is critical for the EMS to efficiently mitigate the loss of service and potential damage in future disasters.

This project's scope does not contain fiber optics or communication capability that is included in other projects. This project is distinguishable from projects that include fiber optics as these feeders are using cellular technology for communications with the operations center. LUMA has developed this scope for cFCIs, reclosers, and their associated hardware only. The lack of fiber optics as a method of transmitting information in this scope of work does not prevent or limit the monitoring capabilities of the reclosers and cFCI or the automation capabilities of the reclosers on this feeder, nor does it prohibit the incorporation of fiber optics at a later date.

FACILITIES

FACILITIES LIST – BUILDINGS AND SUBSTATIONS
The following list includes the name, year of construction, and GPS coordinates of each building or substation included in this project:
• None

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

Name	Feeder Number	GPS Start	GPS End
Bayamon	1803-03	[redacted]	
Bayamon	1806-03		

Note: Please refer to APPENDIX B - Project Considerations for a list of all GPS locations that this project will impact.

All materials will be stored and dispatched from the existing LUMA Regional Warehouses. The warehouse assigned is the Minillas Bayamón Regional Warehouse, whose address is Laurel Avenue, Minillas Industrial Center, Bayamon, PR. The warehouse coordinates are [redacted]. The staging area will be located at warehouse in the following coordinates [redacted]

PROJECT AREA MAP WITH BOUNDARIES OF CONSTRUCTION
A map of the project area is not available at this time.

SECTION 428 SCOPE OF WORK
The proposed type of work for this project:
[X] Standard Project: Restores the facility/facilities to pre-disaster design and function to locally-adopted codes/standards and/or FEMA-approved industry standards.

[] Improved Project: Restores the pre-disaster function of the facilities and incorporates improvements or changes to its pre-disaster design not required by codes or standards.
[] Subrecipient's request letter included, see Appendix .
[] Recipient's approval letter included, see Appendix .

[] Alternate Project: Does not restore the pre-disaster function of the damage facility. The Subrecipient, through the Recipients, must obtain approval from FEMA.
[] Subrecipient's request letter included, see Appendix .

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

In the obligated submission (Version 0), LUMA proposed:
• Removal and replacement of fourteen (14) damaged poles.
• Install one (1) new pole.
• Install six (6) Three-Phase Reclosers.
• Install five (5) Single-Phase Reclosers, remove fuses and close jumpers.
• Install nine (9) communicating Fault Indicators (cFCIs).
• Install seven (7) transformers.

LUMA requests to align the scope and cost of Project 757696 with the approved 406 mitigation proposal from Project 746309 FAASt [Automation Program Group 30], including
• Pole replacement to accommodate recloser installation: 406 Mitigation will fund the additional cost for pole strengthening (i.e., 428: remove the existing pole and replace with a round galvanized, 406 install a 12-sided galvanized).
• Feeder reclosers: 406 Mitigation will fund 100% of the cost of three-phase reclosers on feeder backbone and the additional cost (delta) for the replacement of the fuse cutouts for single-phase reclosers on lateral circuit lines.
• Communicating Fault Current Indicators: 406 Mitigation will fund the additional cost for the replacement of Fault Current Indicators (FCIs) with communicating Fault Current Indicators (cFCIs).
• Distribution Transformers: 406 Mitigation will fund the installation of 1kVA stainless steel transformers to serve either the load or source side of the three-phase recloser.
The obligated DSOW included a new mid-span pole installation. The revised DSOW aligns the scope of this pole with a 406 Mitigation proposal approved by FEMA.

As detailed in the appendix of the amendment request letter, LUMA requests the following component additions to the project scope of work and cost estimate that were not included in the obligated project:
• Air Break Bypass Switches
Air Break Bypass Switches are essential equipment of LUMA design standards for the Three-Phase Recloser. The cost of these switches was involuntarily omitted in the previous estimate. They are included in this proposed version. The purpose of this equipment is to isolate the recloser in case of failure or maintenance and keep the three-phase circuit energized while the situation is resolved.
• Due to engineering changes to the project feeders, the updated DSOW now includes # poles that were not included in Version 0 of the project.
o One (1) new pole installation at a new location.
o These changes align the scope with the 406 Mitigation proposal approved by FEMA, where applicable.

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

DESCRIPTION OF PROPOSED WORK TO BE PERFORMED

Below is a list of the "Proposed 428 Public Assistance Scope of Work" proposed for feeders of this group.

Feeder 1803-03

POLE FID	Coordinates Lat, Long	Existing (Remove)	428 Replacement	Scope of work
7153771	[redacted]	(40'-S3 GALVANIZED STEEL POLE) (AC-C6) (K-1) (ASSY 1509 (QTY=3)) (STL-10)	(50'-ROUND TAPERED POLE) (CP-C6-XARM) (K-6) (STL-10)	· Remove and dispose 40ft galva pole and replace with 50ft round steel pole. · Remove, dispose, and replace framings. · Remove and dispose 336 conductors 700 ft. Replace conductors 700 ft. · Remove, dispose, and streetlight (LED Type).

POLE FID	Coordinates Lat, Long	Existing (Remove)	428 Replacement	Scope of work
				· Install and connect one (1) se Bypass Switch (ABS-3-XARM) ar hardware to support them. · Remove and dispose (3) fuse cu

NEW POLE	[redacted]	N/A	(50' ROUND TAPERED POLE) (S-6) (K-6)	· Install new 50ft galvanized rou pole in new location mid span*. · Install framings. · Install and connect one (1) set Bypass Switch (ABS-3-XARM) an hardware to support them.
7153770		(40' CLASS 5 WOOD POLE) (CP-C5-XARM) (CP-C6-XARM) (K-1) (E-1-2-3(QTY=1)) (F-1-3(QTY=1))	(50' ROUND TAPERED POLE) (CP-C5 XARM) (CP-C6-XARM) (K-6) (E-1-2-3(QTY=1)) (F-1-3(QTY=1))	· Remove and dispose 40ft clas pole and replace with 50ft round steel pole. · Remove, dispose, and replace pr framings. · Remove, dispose, and replace (1 guy and (1) anchor.
7153775		(40' CLASS 5 WOOD POLE) (AC-C6 XARM) (T-2) (25kVA, 2.40/4.16 kV120/240V) (K-7 A) (STL-10)	(50' ROUND TAPERED POLE) (CP-C6-XARM) (T-2) (25kVA, 2.40/4.16 kV120/240V) (K-7-A) (STL-10)	· Remove and dispose 40ft Cla pole and replace with 50ft round steel pole. · Remove, dispose and replace transformer 25kVA (2.40/4.16kV120/240V). · Remove, dispose and Replace st (LED Type). · Remove, dispose, and replace pr framings.
7153768		(35' CLASS 4 WOOD POLE) (AC-C6 XARM) (K-6) (URD-3) (STL-10)	(45' ROUND TAPEREDPOLE) (CP-C6 XARM) (K-6) (K-5) (STL-10)	· Remove and dispose 35ft Cla pole and replace with 45ft round steel pole. · Remove, dispose, and replace pr framings. · Remove, dispose, and replace st (LED Type).
7153498		(40' CLASS 5 WOOD POLE) (S-5)	(50'-ROUND TAPERED POLE) (S-5) (S-6)	· Remove, dispose, and replace 4 wood pole and replace with 50ft round galvanized steel pole.

POLE FID	Coordinates Lat, Long	Existing (Remove)	428 Replacement	Scope of work
		(S-1) (T-2) (K-7-B) (E-1-2-3) (F-1-3) (STL-10)	(T-2) (K-7 B) (K-5) (STL-10)	· Remove, dispose, and replac streetlight (LED Type). · Install 37.5kVA transformer (2.40/4.16 kV-120/240V) from FID 7153496 to new pole · Re-use downguy. · Remove and dispose (1) dov (1) anchor.

7153496	[redacted]	(40' CLASS 2 WOOD POLE) (S-1) (K-7 A) (STL-10) (T-1) (37.5KVA, (2.40/4.16KV-120/240 V)	(45' ROUND TAPERED POLE) (S-1) (K-7-B) (STL-10)	· Remove and dispose 40ft Cl pole and replace with 4 galvanized steel pole. · Remove, dispose, and replac framings. · Remove, dispose, and replac streetlight (LED Type). · Remove 37.5kVA (2.40/4.16 transformer and install on FID
7153580		(35' CLASS 4 WOOD POLE) (K-7 B) (E-1-2-3) (F-1-3) (STL-10)	(40' S5.7 GALVANIZED STEEL POLE) (K-7-B) (E-1-2-3) (F-1-3) (STL-10)	· Remove and dispose 35ft Cl pole and replace with 4 galvanized steel pole. · Remove, dispose and replac framings. · Remove, dispose, and replac streetlight (LED Type). · Remove, dispose, and replac downguy and (1) anchor.
14053394		(FUSES REMOVAL (QTY=3))	(LABOR & REPAIR)	· Remove and dispose (3) Fus
7153762		(FUSES REMOVAL (QTY=3))	(LABOR & REPAIR)	· Remove and dispose (3) Fus Cutouts.
Segment FID 17371056		NONE	(LABOR, FCI) (QTY=3)	· Install (3) Fault Current Indic

Feeder 1806-03

POLE FID	Coordinates Lat, Long	Existing (Remove)	428 Replacement	Scope of work
11543149	[redacted]	(55FT C2 WOOD POLE) (38KV SINGLE CIRCUIT DELTA SUSPENSION ASSY. ANGLE 0-2) (CP-C1) (K-6) (STL-10)	(70FT ROUND TAPERED POLE) (38KV SINGLE CIRCUIT DELTA SUSPENSION ASSY. ANGLE 0-2) (K-6) (STL-10) (E-1-2-3, QTY=3) (F-1-3) (F-4-2)	· Remove and dispose 55ft C2 wood p replace with 70ft round galvanized stee · Install (3) downguys and expansion a · Remove, dispose, and replace feede · Remove, dispose, and replace prima · Remove, dispose, and replace secon conductor insulator. · Remove, dispose, and replace existi (LED Type). · Install and connect one (1) set of Air Switch (ABS-3-XARM) and the framin support them.

7149675	[redacted]	(40FT C2 WOOD POLE) (CP-C6-XARM)	(50FT ROUND TAPERED POLE) (40FT ROUND TAPERED POLE) (E-2-1) (E-1-2-3) (F-1-3) (420FT TRIPLEX #2 SECONDARY CONDUCTOR) (K-5) (K-6)	· Remove and dispose 40ft C2 woo replace with 50ft round galvanized steel · Remove, dispose, and replace primary · Install stub pole (40ft round tape coordinates 18.438757, -66.15503, for · Install secondary conductor insulators · Install anchor for stub pole. · Install and connect one (1) set of Air Switch (ABS-3-XARM) and the framin support them. .
New Pole		NONE	(70FT ROUND TAPERED POLE) (38KV SINGLE CIRCUIT DELTA SUSPENSION ASSY. ANGLE 0-2) (K-5) (E-1-2-3, QTY=2) (F1-3, QTY=2)	· Install a new 70ft round galvanized ste · Install anchors and downguys · Install 38kV delta suspension. · Install framings. · Install and connect one (1) set of Air Switch (ABS-3-XARM) and the framin support them.

POLE FID	Coordinates Lat, Long	Existing (Remove)	428 Replacement	Scope of work
7149464	[redacted]	(40FT S3 STEEL POLE) (K-6) (STL-10) (T-12)	(50FT ROUND TAPERED POLE) (K-6) (STL-10) (LABOR) (375FT SECONDARY CONDUCTOR)	· Remove and dispose 40ft S3 steel po replace with 50ft round galvanized stee · Remove, dispose and replace feeder and insulators. · Remove, dispose, and replace feeder and insulators. · Remove, dispose, and replace secon conductor insulator. · Remove, dispose and replace streetli Type). · Labor to close jumper wires and norm feeder. · Remove and dispose out of service ca bank. · Install and connect one (1) set of Air Switch (ABS-3-XARM) and the framin support them.
11543153		(60FT C2 WOOD POLE) (38KV SINGLE CIRCUIT VERTICAL DEADEN ASSY. ANGLE 0-10) (CP-C6-XARM) (CP-C5XARM) (K-6) (STL-10)	(70FT ROUND TAPERED POLE) (38KV SINGLE CIRCUIT VERTICAL DEADEN ASSY. ANGLE 0-10) (CP-C6-XARM) (CP-C7) (K-6) (STL-10) (E-1-2-3) (F-1-3)	· Remove and dispose 60ft C2 wood po replace with 70ft galvanized round tape · Install fuse cutouts for feeder tap. · Install down guy and expansion ancho · Remove, dispose, and replace feeder and insulators. · Remove, dispose, and replace framin · Remove, dispose, and replace secon conductor insulator. · Remove, dispose, and replace streetl Type).

11544249	[redacted]	(40FT C3 WOOD POLE) (K-6) (STL-10, QTY=2) (E-1-2-3) (F-1-3) (ASSY1509)	(70FT ROUND TAPERED POLE) (38KV SINGLE CIRCUIT DELTA SUSPENSION ASSY. ANGLE 0-2) (CP-C1) (CP-B5-XARM) (K-6) (STL-10) (E-1-2-3) (F-1-3)	· Remove and dispose 40ft C3 wood po replace with 70ft round galvanized stee intercept feeder. · Remove, dispose and replace (2) Fus · Remove, dispose, and replace secon conductor insulator. · Remove, dispose, and replace streetl Type). · Remove, dispose, and replace down anchor.
7149631		(45FT C2 WOOD POLE) (CP-C6-XARM) (CP-C7)	(50FT ROUND TAPERED POLE) (CP-C6-XARM) (CPA5)	· Remove and dispose 45ft C2 wood po replace with 50ft round galvanized stee · Remove, dispose and replace (3) Fus

POLE FID	Coordinates Lat, Long	Existing (Remove)	428 Replacement	Scope of work
	[redacted]	(CP-A5) (E-1-2-,QTY=2) (F-1-3,QTY=2)	(K-6) (E-1-2-3) (F-1-3)	· Remove, dispose, and replace seconda conductor. · Install Secondary Framing.
7150681		(CP-A14)	LABOR FOR CLOSE JUMPERS	· Remove and dispose (3) fuse cutouts. · Labor to close jumper wires.
11280103		NONE	(LABOR, FCI) (QTY=3)	· Install (3) Fault Current Indicators.
11543540		NONE	(LABOR, FCI) (QTY=3)	· Install (3) Fault Current Indicators.

1. Remove and replace poles, including hardware in the same location. If unable to install the replacement in the same location, the pole will be installed within the easement for overhead distribution lines. Easements are established with the purpose of providing LUMA reasonable access to its facilities, in order to maintain, repair, improve, operate, and expand facilities.

2. Existing wood poles are to be replaced by galvanized tapered poles, at the locations identified in the table above. Refer to APPENDIX B - Project Considerations, column C (soil area and depth impact) for the depths of the galvanized tapered poles.

3. New guy wires and anchors are to be installed within the easement for guys. The maximum distance an anchor will be installed for a 50ft pole is 25ft from the base of the pole, within the easement for guys.

4. Existing overhead conductors, poles, assemblies, and attached components will be disconnected, removed, and replaced as outlined in the Scope of Work column in the table above. When existing overhead conductor, assemblies, and attached components are not being replaced, they will be re-attached to the pole to complete the scope of work.

CODES & STANDARDS

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

A. LUMA Overhead Electrical Distribution System Manual 4301.001 version 4, available in Grants Portal - Applicant Event Profiles.

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

2020).

C. 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.

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

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

COMMON EHP REVIEW INFORMATION

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

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

• Poles - Refer to APPENDIX B - Project Considerations, column C (soil area and depth impact), for the depths of the poles to be installed.

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

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

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

• Vegetation clearance will be performed solely to the extent that it allows crews to conduct work and will be limited to a 10 ft radius surrounding the surface of the pole, but not to exceed the width of the easement. This is for the exclusive purpose of gaining access to the pole to conduct repairs. The costs related to vegetation clearance procedures are covered in project 727558 FAASt [Bayamon] Group C(Vegetation). The vegetation removal process will be managed in accordance with federal and state regulations.

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

• Debris will be separated and taken to an authorized waste disposal facility. Information on location of temporary debris storage sites, final debris disposal location, and final debris disposal method are not yet available.

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

• **Staging Area:** All materials will be stored and dispatched from the existing LUMA Regional Warehouses. The warehouse locations are described in Section 7.2 above. LUMA has not yet identified any other additional staging areas that it will require.

• **Access Roads:** New access roads are not needed for this project. All poles to be installed, or removed and replaced, are adjacent to a road and work will be performed within the road easement.

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

• Fill, gravel, and sand materials will be obtained from an approved supplier as referenced in the following document: LUMA Vendor Directory List.

[] 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 ("A&E") design information. For a more detailed cost estimate refer to t Appendix A- LUMA Project Cost Estimate.

COST ESTIMATE		
Cost Element	**Costs**	
PLANNING	**$79,550.02**	
MANAGEMENT	**$54,281.64**	
LPCE Distribution Automation Group 31	**$967,270.57**	
GENERAL CONDITIONS	**$49,108.12**	
COST TOTALS	**$1,150,210.34**	
DEDUCTIONS	**TOTAL INSURANCE PROCEEDS RECEIVED**	**$-**
	DE-OBLIGATION TO FAASt IF APPLICABLE	**$-**
FAASt ALLOCATIONS	**FAAST PROJECT # 757696- 428**	**$940,960.74**
	FAASt A&E # 335168 - 428	**$87,081.37**
	FAASt E&M #673691 - 428	**$122,168.23**

428 Project Summary, Version 1 (see project notes):

Work to Be Completed (WTBC): $1,150,210.34 - $1,150,210.34 = $0.00 (See project note # 7)

E&M Deduction (#673691) 428: -$122,168.23 + $122,168.23 = $0.00 (See project note # 7)

A&E Deduction (Global A&E FAASt 335168):-$87,081.37 + $87,081.37 = $0.00 (See project note # 7)

Project Total Cost: $940,960.74 - $940,960.74 = $0.00 (See project note # 7)

VERSION SUMMARY OF KEY CHANGES:

V0: $1,710,177.27 - $195,175.66 - $369,544.00 (WTBC, A&E Deduction, E&M Deduction)

V1: $0.00 (see project notes)

Project Notes:

1. Refer to detailed SOW provided in document: 757696-DR4339PR- DSOW Group 31 Revision 8- V1.pdf
2. Refer to detailed cost estimate in document: 757696-DR4339PR-APPENDIX A - LUMA Project Cost Estimate- Revision 07 - V1.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 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 costs of equipment and/or material will be reduced from this project (not labor). All costs associated with Planning, Management, General Conditions, and Contingencies will remain in this project.
5. This project is part of 136271-MEPA078 Puerto Rico Electrical Power Authority Island Wide FAASt Project.
6. The following attachments and appendices are provided with this DSOW: Appendix A LUMA Project Cost Estimate; Appendix B Project Considerations; Appendix C LUMA's Active Projects.
7. This version includes both 406 HMP and 428 PA costs, one with positive amount and the other negative. Due to grants manager system requirements, the positive cost change along with negative cost change cannot be processed in the same version, thus two separate versions are required to capture costs related to changes in this version. Version 1 will obligate the positive funds (whether 406 HMP or 428), and Version 2 (amendment) will include the negative cost change. This guidance applies only to Sub-FAASt transactions; non-FAASt transactions remain unchanged. See document file: 'SP757696- DR4339PR - Email Confirmation Sub-FAASt Transaction Guidance.pdf.'"

406 HMP Scope

Project number: 757696; FAASt [Automation Program Group 31] (TL/Distribution)

Damage #1399052; FAASt [Automation Program Group 31: Bayamon Feeders: 1803-03, 1806-03] (Distribution)

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

Location: Bayamon, Puerto Rico

GPS Latitude/Longitude: [redacted]

Hazard Mitigation Narrative

During the incident period from September 17, 2017, to November 15, 2017, the Commonwealth of Puerto Rico experienced hurricane-force winds, heavy rain, flooding, and power outage from Hurricane Maria. The incident caused damage to the electrical system, such as 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).

As part of the electrical grid rebuild, the subrecipient developed a Transmission & Distribution Automation Program ("Program") through which it will install advanced technology equipment (i.e., reclosers and communicating fault current indicators (cFCIs)) to reduce both physical damage and service interruptions to the electrical grid caused by disasters. Although the intent is to deploy automation equipment throughout PREPA's Transmission and Distribution ("T&D") system, the Program will be implemented through multiple projects across the island on both T&D systems.

The multiple projects within this Program are designed to fortify the electrical system's resilience, safeguard its infrastructure, and enhance service reliability during a disaster. The individual projects are interconnected and enhance each other, but each confers benefits independently. Distribution Automation (DA) projects will be submitted regionally as components of the real time monitoring and automation network being installed on island. DA projects are physically incorporated into the distribution line network.

Project Overview:

DA Group 24 is one of the Program's distribution-level projects. It installs hardened poles and advanced technology equipment (specifically reclosers and cFCIs) to reduce physical damage and service interruptions to the distribution grid that could be caused by a natural disaster. Implementing reclosers, their communication kits, and cFCIs is critical for the Energy Management System ("EMS") and related components to function at their full capabilities and mitigate loss of service and physical damage in the event of future hurricanes. This project is necessary for the EMS to maintain the continuity of the distribution power grid on Feeders 3405-02, 3501-01 and 3501-03.

The purpose of this project is to install real time monitoring to mitigate cascading effects and physical damage to critical components, protects federal investments, and reduces outage times to facilities. Key components of this project are: (1) pole replacement, (2) three-phase and single-phase reclosers, and (3) the installation of cFCIs.

Mitigation Approach:

The mitigation strategy to reduce or eliminate cascading effects and physical damage to critical components, and outage times at Feeders 3405-02, 3501-01 and 3501-03 is accomplished by replacing round galvanized steel poles with a 12-sided galvanized steel poles as it is stronger than the round poles;, replacing the fault current indicator (FCI) with a communication fault current indicator (cFCI) for real-time monitoring to prevent and communicate the location of the fault; and replacing fuse cutouts and manual disconnect switches with a single-phase and three-phase recloser on the feeder backbone. Additionally, install 1kVA transformers to power the reclosers; and install communication radios for the operation of the three-phase reclosers (wireless connection).

In order to minimize the damage and increase resilience, the subrecipient is proposing the installation of complementary equipment, technologies, and software systems that will provide visibility to the system, grid intelligence and automation. DA is a mitigation measure designed to protect the Puerto Rico Electric Power Authority's (PREPA) critical electric grid infrastructure and reduce risk to public health and safety from power outages caused by a natural disaster.

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)*

1. **Pole Replacement to Accommodate the Installation of Reclosers:**

   The addition of three-phase reclosers imposes additional load on poles due to the weight of the devices and their components. It also increases the area exposed to extreme weather conditions, such as hurricanes, thereby increasing the structural load requirements these poles must meet. Where an existing pole cannot accommodate a recloser, it will be substituted with a higher-class pole constructed from steel or concrete to ensure compatibility with the recloser and adherence to design criteria. Any new structure and foundation will be designed to LUMA design criteria and industry standards to support the pole, recloser, and its attachments. In addition, LUMA is using a per-location approach to pole replacement because of the intricate dynamics of deploying three-phase reclosers. Furthermore, the integration of more connections, switches, and related infrastructure often necessitates taller poles to meet phase spacing and circuit-to-circuit spacing requirements. The locations of three-phase reclosers are determined by an electrical analysis performed by the design engineers.

   As a mitigation strategy, 406 HM will fund the additional cost (delta) for **16ea** poles strengthening (pole class, concrete base, and additional guywire).

Pole Description:

a) 40ft S5.7 12-sided galvanized steel poles = 2ea
b) 45ft S5.7 12-sided galvanized steel poles = 2ea
c) 50ft S8.5 12-sided galvanized steel poles = 8ea
d) 70ft 12-sided galvanized steel poles = 4ea

1. **Feeder Reclosers:**

Reclosers are sophisticated devices that remotely detect faults within distribution lines, enable the isolation of circuit breakers linked to those faults—whether due to independent failures or breakdowns—and facilitate the swift restoration of power, often within milliseconds.

Three-Phase Recloser: A three-phase recloser is a protection device that is used on three-phase distribution feeders with high fault currents at the location. It is a single device with three switches that can open to interrupt fault currents and automatically reclose to restore power. Three-phase reclosers are communication-ready to enable remote control and visualization. The recloser's wireless communication capability will provide connectivity to LUMA's EMS so the system operator knows their status and can remotely control them.

The implementation of three-phase reclosers will preserve the continuity of electric services and avoid physical damage by pre-empting or minimizing disruptions. The three-phase reclosers can be triggered remotely and provide data back to the operations center, enabling LUMA to prioritize restoration activities, reduce customer outage time, and minimize the potential for cascading infrastructure damage. Installation of the three-phase reclosers and associated hardware is critical for the EMS and associated components to function with full capabilities, and to prevent loss of service and potential damage from future disasters. In this project we are installing three three-phase reclosers.

Single-Phase Reclosers: A single-phase recloser is a single protection device with one switch that can open to interrupt fault currents and automatically reclose to restore power. A single-phase recloser performs the same functions as a three-phase recloser, but it does not have the ability to communicate with the EMS. This project will install single-phase reclosers on single-phase or two-phase distribution feeder and distribution lines branching from the feeder. Single-phase reclosers will also be used on feeders with three phases if fault currents are low at the location. In this project we are installing a total of two single-phase reclosers.

As a mitigation strategy, 406 HM will fund the additional cost (delta) for the replacement of **11ea** fuse cutouts with **5ea** single-phase reclosers and the installation of **6ea** three-phase reclosers.

1. **Communicating Fault Current Indicators:**

Installation of communicating fault current indicators ("cFCI") at strategic locations improves the outage management, restoration, and recovery process, specifically by decreasing the time required to detect and locate faults. The cFCIs operate independently of the feeder reclosers and help identify permanent and incipient faults in the distribution system, as well as collect voltage and current data, which can be used to detect system imbalance, prevent future issues due to harmonics and help in building a predictive failure model.

cFCIs help reduce physical damage on the system by providing real-time monitoring and early detection of abnormal conditions. Essentially, cFCIs act as the eyes and ears of the system, reducing wear and tear by allowing quick, intelligent responses instead of waiting for catastrophic failure.

As a mitigation strategy, 406 HM will fund the additional cost (delta) for the replacement of 9ea fault current indicators (FCIs) by **9ea** communicating fault current indicators (cFCIs).

Mitigation Measures *(Supplementary)*

1. **Stainless Steel Transformer (1kVA):**

To enable the operation of three-phase reclosers, it is essential to connect a 120/240V AC voltage source. In areas where this voltage is accessible, the recloser will be linked to the existing secondary line, ensuring that these facilities possess the capability to handle the load produced by the recloser. In instances where the necessary infrastructure to supply voltage to the recloser 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, which includes protection, automation, and communication functionalities. This ensures that the intelligent features of the recloser operate reliably, even in the event of a medium-voltage power interruption.

As a mitigation strategy, 406 HM will fund the installation of **5ea** 1kVA stainless steel transformers.

1. **Radio Communication Kit for Three-Phase Reclosers:**

The recloser's wireless communication capability will provide connectivity to LUMA's EMS in order to the system operator knows their status and can remotely control the three-phase reclosers. Deployment of the wireless communication devices includes configuration, testing, and commissioning of the wireless communication device, all networking devices, data acquisition, and control systems that form the connectivity path of the recloser to the EMS. Therefore, as part of the installation of the 2ea three-phase reclosers it will be necessary to install communication radios and commissioning for the operation of the reclosers (wireless connection).

As a mitigation strategy, 406 HM will fund the installation of **6ea** radio communication kit.

HMP Scope of Work:

a) Distribution Feeder 1803-03:

FID 7153771

1. Replace 50ft round pole with a 5ft S8.5 12-sided galvanized pole.
2. Install (1) Three-Phase Recloser 1803-03A
3. Install and commission the radio communication kit for the Three-Phase Recloser.
4. Install (1) 1 kVA stainless steel transformer (2.40/4.16 kVA -120/240V) source side.

FID NEW POLE

5. Replace 50ft round pole with 50ft S8.5 12-sided galvanized steel pole in new location mid span*
6. Install (1) Three-Phase Recloser 1803-03B.
7. Install 65ft. 1/0 secondary conductor to feed the recloser from the source side.
8. Install 65ft. 1/0 secondary conductor to feed the recloser from the load side.
9. Install and commission the radio communication kit for the Three-Phase Recloser.

FID 7153770

10. Replace 50ft round pole with 50ft S8.512-sided galvanized steel pole.

FID 7153775

11. Replace 50ft round pole with 50ft S8.512-sided galvanized steel pole.

FID 7153768

12. Replace 45ft round pole with 45ft S5.7 12-sided galvanized steel pole.

FID 7153498

13. Replace 50ft round pole with 50ft S8.5 12-sided galvanized steel pole.

FID 7153496

14. Replace 45ft round pole with 45ft S5.7 12-sided galvanized steel pole.

FID 7153580

15. Replace 40ft round pole with 40ft S5.7 12-sided galvanized steel pole.

Segment FID 17371056

16. Replace (3) Fault Current Indicators with the installation of (3) Communicating Fault Curren Indicators.

b) Distribution Feeder 1806-03:

FID 11543149

17. Replace 70ft round pole with 70ft 12- sided galvanized steel pole.
18. Install (1) Three-Phase Recloser (1806- 03B).
19. Install and commission the radio communication kit for the Three-Phase Recloser.
20. Install (1) 1kVA stainless steel transformer (7.62/13.2kV, 120/240V) to feed the recloser load side.

FID 7149675

21. Replace 50ft round pole with 50ft S8.5 12-sided galvanized steel pole.
22. Install (1) Three-Phase Recloser (1806-03C).
23. Install and commission the radio communication kit for the Three-Phase Recloser.
24. Replace 40ft round stub pole with a 40ft S5.7 galvanized steel pole at coordinates [redacted]
25. Install (1) 1kVA stainless steel (7.62/13.2kV, 120/240V) transformer to feed the recloser source side.

NEW POLE

26. Replace 70ft round pole with a 70ft 12-sided galvanized steel pole.
27. Install (1) Three-Phase Recloser (1806-03D).
28. Install and commission radio communication kit for Three-Phase Recloser.
29. Install (2) 1KVA (7.62/13.2kV, 120/240) stainless steel control transformer to feed the source and load side.

FID 7149464

30. Replace 50ft round pole with a 50ft S8.5 12-sided galvanized steel pole.
31. Install (1) Three-Phase Recloser (1806-03E).
32. Install secondary span of triplex #2 from pole with FID7149453 for 375 feet identified to feed the recloser source side.
33. Install and commission the communication radio kit for the Three-Phase Recloser.

FID 11543153

34. Replace 70ft round pole with a 70ft 12-sided galvanized steel pole.

FID 11544249

35. Replace 70ft round pole with 70ft 12-sided galvanized steel pole, intercept feeder.
36. Replace (2) Fuse Cutouts with the installation of (2) Single-Phase Recloser.

FID 7149631

37. Replace 50ft round pole with 50ft S8.5 12-sided galvanized steel pole.
38. Replace (3) Fuse Cutouts with the Installation of (3) Single-Phase Reclosers.

FID 11280103

39. Replace (3) Fault Current Indicators with the installation of (3) Communicating Fault Current Indicators.

FID 11543540

40. Replace (3) Fault Current Indicators with the installation of (3) Communicating Fault Current Indicators.

(III) Hazard Mitigation Proposal (HMP) Cost

Total Net Hazard Mitigation Cost (Base Cost) =	$ 473,005.75
+ HM (Subrecipient A&E, Management & General Conditions) =	$ 111,978.28
Hazard Mitigation Total Cost =	**$ 584,984.03**

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

Equipment and Materials (E&M) =	$ 240,541.77
Architecture and Engineering (A&E) =	$ 44,095.89
Construction Cost =	$ 300,346.37
Hazard Mitigation Total Cost =	**$ 584,984.03**

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(V) HMP Cost-Effectiveness Calculations

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

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

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

The cost of the Hazard Mitigation Proposal (HMP) described herein is $584,984.03 (Hazard Mitigation Total Cost). The cost of this HMP combined will all other proposals (both PA and HMGP) does not exceed the maximum potential benefit and is therefore deemed cost effective per FEMA Public Assistance Program and Policy Guide (PAPPG) V3.1 April 2018, Chapter 2, VII., Section C, BCA Rule. This Hazard Mitigation Proposal meets eligible repair and restoration cost-effective requirements.

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

Cost

Code	Quantity	Unit	Total Cost	Section
9001	1	Lump Sum	$1,710,177.27	Uncompleted
3510	1	Lump Sum	($195,175.66)	Uncompleted
9001	1	Lump Sum	($369,544.00)	Uncompleted
9201	1	Lump Sum	$0.00	Completed
3510	1	Lump Sum	$0.00	Uncompleted
9001	1	Lump Sum	$0.00	Uncompleted
9001	1	Lump Sum	$0.00	Uncompleted
9001	1	Lump Sum	$0.00	Uncompleted
3510	1	Lump Sum	$0.00	Uncompleted
9001	1	Lump Sum	$0.00	Uncompleted

CRC Gross Cost	$1,145,457.61
Total 406 HMP Cost	$584,984.03
Total Insurance Reductions	$0.00
CRC Net Cost	$1,730,441.64
Federal Share (90.00%)	$1,557,397.48
Non-Federal Share (10.00%)	$173,044.16

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

9/4/2026

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

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

5/27/2025

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 Program Group 31] (Distribution) (Cost Only)** .

406 Mitigation

There is no additional mitigation information on **FAASt [Automation Program Group 31] (Distribution) (Cost Only)** .

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.

EHP Additional Info

There is no additional environmental historical preservation on **FAASt [Automation Program Group 31] (Distribution) (Cost Only)** .

Final Reviews

Final Review

Reviewed By LEFRANC-GARCIA, CARLOS L. **Reviewed On** 07/15/2026 12:35 PM PDT

Review Comments

[757696] FAASt [Automation Program Group 31] (Distribution) consists of the following activities: Installation of smart reclosers with microprocessor-based controllers and the remote monitoring, communications ready and control capabilities in transmission and distribution lines. Installation of cutout type single phase reclosers, with microprocessor-based controllers. Installation of fault current indicators (communications ready) in strategic locations to improve the outage management and restoration process, specifically by decreasing the time required to detect and locate faults. Project has been reviewed, found eligible and reasonable. Subrecipient and its agents are responsible for complying with all grants and subgrant conditions. CLG 07/15/26

Recipient Review

Reviewed By Mulero, Noel **Reviewed On** 07/29/2026 3:22 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. 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

General Info

Project #	757696 **P/W #** 108037	**Project Type**	Specialized
Project Category	F - Utilities	**Applicant**	PR Electric Power Authority (000-UA2QU-00)
Project Title	FAASt [Automation Program Group 31] (Distribution) (Cost Only)	**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 #1399052; FAASt [Automation Program Group 31: Bayamon Feeders: 1803-03, 1806-03] (Distribution)

General Facility Information:

- **Facility Type:** Power generation, transmission, and distribution facilities
- **Facility:** Automation Program Group 31
- **Facility Description:** Bayamon Feeders: 1803-03, 1806-01, 1806-02, 1806-03
- **Approx. Year Built:** 1980
- **Start GPS Latitude/Longitude:** [redacted]
- **End GPS Latitude/Longitude:** [redacted]

Final Scope

1399052 **FAASt [Automation Program Group 31: Bayamon Feeders: 1803-03, 1806-03] (Distribution)**

********** Version 2 **********

Version 2 has been created as an administrative amendment due to limitations in IFMIS (The Finance system), which cannot currently accommodate two separate accounting streams within a single transaction. This administrative amendment includes the cost changes that were pending in the previous project version. Refer to document: Sub-FAAST Transactions - allocation process.pdf

INTRODUCTION

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

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

This document contains the detailed SOW for FEMA PA project 757696 Automation Program Group 31 (Distribution) under DR-4339-PR Public Assistance. The document provides a detailed description of the project, the scope of PA construction activities to be completed, common EHP review information, and project cost estimates. LUMA is seeking approval from COR3 and FEMA for PA funding for the scope described in this document.

LUMA submits this Detailed SOW pursuant to the Transmission and Distribution Operations and Maintenance Agreement between the Puerto Rico Electric Power Authority ("PREPA"), the Puerto Rico Public-Private Partnerships Authority ("P3A"), and LUMA, and in accordance with the Consent to Federal Funding Letter issued by PREPA and P3A, which collectively provide 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

As part of the electrical grid rebuild, LUMA developed a Transmission & Distribution Automation Program (“Program”) through which it will install advanced technology equipment (i.e., reclosers and communicating fault current indicators (cFCIs)) to reduce both physical damage and service interruptions to the electrical grid caused by disasters. Although the intent is to deploy automation equipment throughout PREPA’s transmission and distribution (“T&D”) system, the Program will be implemented through multiple projects across the island on both T&D systems. The multiple projects within this Program are designed to fortify the electrical system's resilience, safeguard its infrastructure, and enhance service reliability during a disaster. The individual projects are interconnected and enhance each other, but each confers benefits independently. Automation is necessary to add modern resiliency capabilities to the T&D system. The 3.2 million Residents throughout Puerto Rico are dependent upon the successful completion of the Program and its ability to sustain the power grid in future disasters.

Project 757696 is one of the Program’s distribution-level projects. It installs hardened poles and advanced technology equipment (specifically reclosers and cFCIs) to reduce physical damage and service interruptions to the distribution grid that could be caused by a disaster. Implementing reclosers, their communication kits, and cFCIs is critical for the Energy Management System (“EMS”) and related components to function at their full capabilities and mitigate loss of service and physical damage in the event of future hurricanes. This project is necessary for the EMS to maintain the continuity of the distribution power grid on Feeders 1803-03 and 1806-03.

Key components of this project are: (1) pole replacement, (2) the three-phase reclosers and single-phase reclosers, and (3) the installation of cFCIs. Each of these components and their benefit to the grid are described further below:

(1) Pole Replacement to Accommodate the Installation of Reclosers

The addition of three-phase reclosers imposes additional load on poles due to the weight of the devices and their components. It also increases the area exposed to extreme weather conditions, such as hurricanes, thereby increasing the structural load requirements these poles must meet. Where an existing pole cannot accommodate a recloser, it will be substituted with a higher-class pole constructed from steel or concrete to ensure compatibility with the recloser and adherence to design criteria. This includes adjacent poles (i.e., poles that are on either side of the recloser pole supporting the overhead line conductors). Any new structure and foundation will be designed to LUMA design criteria and industry standards to support the pole, recloser, and its attachments.

In addition, LUMA is using a per-location approach to pole replacement because of the intricate dynamics of deploying three-phase reclosers. Furthermore, the integration of more connections, switches, and related infrastructure often necessitates taller poles to meet phase spacing and circuit-to-circuit spacing requirements. The locations of three-phase reclosers are determined by an electrical analysis performed by the design engineers. In those instances where the recloser would be located on an existing wood pole, that pole will be replaced with a pole that meets the compounded structural demands presented by that recloser.

(2) Feeder Reclosers

Reclosers are sophisticated devices that remotely detect faults within distribution lines, enable the isolation of circuit breakers linked to those faults—whether due to independent failures or breakdowns—and facilitate the swift restoration of power, often within milliseconds. This project will install three-phase and single-phase reclosers.

Three-Phase Recloser: A three-phase recloser is a protection device that is used on three-phase distribution feeders with high fault currents at the location. It is a single device with three switches that can open to interrupt fault currents and automatically reclose to restore power. Three-phase reclosers are communication-ready to enable remote control and visualization. The recloser’s wireless communication capability will provide connectivity to LUMA’s EMS so the system operator knows their status and can remotely control them. Deployment of the wireless communication devices includes configuration, testing, and commissioning of the wireless communication device, all networking devices, data acquisition, and control systems that form the connectivity path of the recloser to the EMS.

The implementation of three-phase reclosers will preserve the continuity of electric services and avoid physical damage by pre-empting or minimizing disruptions. The three-phase reclosers can be triggered remotely and provide data back to the operations center, enabling LUMA to prioritize restoration activities, reduce customer outage time, and minimize the potential for cascading infrastructure damage. Installation of the three-phase reclosers and associated hardware is critical for the EMS and associated components to function with full capabilities, and to prevent loss of service and potential damage from future disasters. In this project we are installing six three-phase reclosers.

Single-Phase Reclosers: A single-phase recloser is a single protection device with one switch that can open to interrupt fault currents and automatically reclose to restore power. A single-phase recloser performs the same functions as a three-phase recloser, but it does not have the ability to communicate with the EMS. This project will install single-phase reclosers on single-phase or two-phase distribution feeder and distribution lines branching from the feeder. Single-phase reclosers will also be used on feeders with three phases if fault currents are low at the location. In this project we are installing a total of five single-phase reclosers.

(3) Communicating Fault Current Indicators

Installation of communicating fault current indicators (“cFCI”) at strategic locations improves the outage management, restoration, and recovery process, specifically by decreasing the time required to detect and locate faults. The cFCIs operate independently of the feeder reclosers and help identify permanent and incipient faults in the distribution system, as well as collect voltage and current data, which can be used to detect system imbalance, prevent future issues due to harmonics and help in building a predictive failure model.

Data sent to the EMS aides the grid operator in making decisions that avoid outages and speed restoration. The cFCI can be programmed to send automatic notification/alarms based on user-set parameters. This allows for quick dispatch of field crews to specific sections of the feeders and to reduce the total restoration time during an outage event and to prevent physical damages. Installation of the three-phase reclosers and the communicating fault current indicators (communications ready) is critical for the EMS to efficiently mitigate the loss of service and potential damage in future disasters.

This project’s scope does not contain fiber optics or communication capability that is included in other projects. This project is distinguishable from projects that include fiber optics as these feeders are using cellular technology for communications with the operations center. LUMA has developed this scope for cFCIs, reclosers, and their associated hardware only. The lack of fiber optics as a method of transmitting information in this scope of work does not prevent or limit the monitoring capabilities of the reclosers and cFCI or the automation capabilities of the reclosers on this feeder, nor does it prohibit the incorporation of fiber optics at a later date.

FACILITIES

FACILITIES LIST – BUILDINGS AND SUBSTATIONS
The following list includes the name, year of construction, and GPS coordinates of each building or substation included in this project:
• None

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

Name	Feeder Number	GPS Start	GPS End
Bayamon	1803-03	[redacted]	
Bayamon	1806-03		

Note: Please refer to APPENDIX B - Project Considerations for a list of all GPS locations that this project will impact.

All materials will be stored and dispatched from the existing LUMA Regional Warehouses. The warehouse assigned is the Minillas Bayamón Regional Warehouse, whose address is Laurel Avenue, Minillas Industrial Center, Bayamon, PR. The warehouse coordinates are [redacted]. The staging area will be located at warehouse in the following coordinates [redacted].

PROJECT AREA MAP WITH BOUNDARIES OF CONSTRUCTION
A map of the project area is not available at this time.

SECTION 428 SCOPE OF WORK
The proposed type of work for this project:
[X] Standard Project: Restores the facility/facilities to pre-disaster design and function to locally-adopted codes/standards and/or FEMA-approved industry standards.

[] Improved Project: Restores the pre-disaster function of the facilities and incorporates improvements or changes to its pre-disaster design not required by codes or standards.
[] Subrecipient’s request letter included, see Appendix .
[] Recipient’s approval letter included, see Appendix .

[] Alternate Project: Does not restore the pre-disaster function of the damage facility. The Subrecipient, through the Recipients, must obtain approval from FEMA.
[] Subrecipient’s request letter included, see Appendix .
[] Recipient’s approval letter included, see Appendix .

In the obligated submission (Version 0), LUMA proposed:
• Removal and replacement of fourteen (14) damaged poles.
• Install one (1) new pole.
• Install six (6) Three-Phase Reclosers.
• Install five (5) Single-Phase Reclosers, remove fuses and close jumpers.

• Install nine (9) communicating Fault Indicators (cFCIs).
• Install seven (7) transformers.

LUMA requests to align the scope and cost of Project 757696 with the approved 406 mitigation proposal from Project 746309 FAASt [Automation Program Group 30], including
• Pole replacement to accommodate recloser installation: 406 Mitigation will fund the additional cost for pole strengthening (i.e., 428: remove the existing pole and replace with a round galvanized, 406 install a 12-sided galvanized).
• Feeder reclosers: 406 Mitigation will fund 100% of the cost of three-phase reclosers on feeder backbone and the additional cost (delta) for the replacement of the fuse cutouts for single-phase reclosers on lateral circuit lines.
• Communicating Fault Current Indicators: 406 Mitigation will fund the additional cost for the replacement of Fault Current Indicators (FCIs) with communicating Fault Current Indicators (cFCIs).
• Distribution Transformers: 406 Mitigation will fund the installation of 1kVA stainless steel transformers to serve either the load or source side of the three-phase recloser.
The obligated DSOW included a new mid-span pole installation. The revised DSOW aligns the scope of this pole with a 406 Mitigation proposal approved by FEMA.

As detailed in the appendix of the amendment request letter, LUMA requests the following component additions to the project scope of work and cost estimate that were not included in the obligated project:
• Air Break Bypass Switches
Air Break Bypass Switches are essential equipment of LUMA design standards for the Three-Phase Recloser. The cost of these switches was involuntarily omitted in the previous estimate. They are included in this proposed version. The purpose of this equipment is to isolate the recloser in case of failure or maintenance and keep the three-phase circuit energized while the situation is resolved.
• Due to engineering changes to the project feeders, the updated DSOW now includes # poles that were not included in Version 0 of the project.
o One (1) new pole installation at a new location.
o These changes align the scope with the 406 Mitigation proposal approved by FEMA, where applicable.

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

DESCRIPTION OF PROPOSED WORK TO BE PERFORMED

Below is a list of the “Proposed 428 Public Assistance Scope of Work” proposed for feeders of this group.

Feeder 1803-03

POLE FID	Coordinates Lat, Long	Existing (Remove)	428 Replacement	Scope of work
7153771	[redacted]	(40'-S3 GALVANIZED STEEL POLE) (AC-C6) (K-1) (ASSY 1509 (QTY=3)) (STL-10)	(50'-ROUND TAPERED POLE) (CP-C6-XARM) (K-6) (STL-10)	· Remove and dispose 40ft galva pole and replace with 50ft round steel pole. · Remove, dispose, and replace framings. · Remove and dispose 336 conductors 700 ft. Replace conductors 700 ft. · Remove, dispose, and streetlight (LED Type).

POLE FID	Coordinates Lat, Long	Existing (Remove)	428 Replacement	Scope of work
				· Install and connect one (1) se Bypass Switch (ABS-3-XARM) ar hardware to support them. · Remove and dispose (3) fuse cu

NEW POLE	[redacted]	N/A	(50' ROUND TAPERED POLE) (S-6) (K-6)	· Install new 50ft galvanized rou pole in new location mid span*. · Install framings. · Install and connect one (1) set Bypass Switch (ABS-3-XARM) an hardware to support them.
7153770		(40' CLASS 5 WOOD POLE) (CP-C5-XARM) (CP-C6-XARM) (K-1) (E-1-2-3(QTY=1)) (F-1-3(QTY=1))	(50' ROUND TAPERED POLE) (CP-C5 XARM) (CP-C6-XARM) (K-6) (E-1-2-3(QTY=1)) (F-1-3(QTY=1))	· Remove and dispose 40ft clas pole and replace with 50ft round steel pole. · Remove, dispose, and replace pr framings. · Remove, dispose, and replace (1 guy and (1) anchor.
7153775		(40' CLASS 5 WOOD POLE) (AC-C6 XARM) (T-2) (25kVA, 2.40/4.16 kV120/240V) (K-7 A) (STL-10)	(50' ROUND TAPERED POLE) (CP-C6-XARM) (T-2) (25kVA, 2.40/4.16 kV120/240V) (K-7-A) (STL-10)	· Remove and dispose 40ft Cla pole and replace with 50ft round steel pole. · Remove, dispose and replace transformer 25kVA (2.40/4.16kV120/240V). · Remove, dispose and Replace st (LED Type). · Remove, dispose, and replace pr framings.
7153768		(35' CLASS 4 WOOD POLE) (AC-C6 XARM) (K-6) (URD-3) (STL-10)	(45' ROUND TAPEREDPOLE) (CP-C6 XARM) (K-6) (K-5) (STL-10)	· Remove and dispose 35ft Cla pole and replace with 45ft round steel pole. · Remove, dispose, and replace pr framings. · Remove, dispose, and replace st (LED Type).
7153498		(40' CLASS 5 WOOD POLE) (S-5)	(50'-ROUND TAPERED POLE) (S-5) (S-6)	· Remove, dispose, and replace 4 wood pole and replace with 50ft round galvanized steel pole.

			428 Replacement	**Scope of work**
	[redacted]	(S-1) (T-2) (K-7-B) (E-1-2-3) (F-1-3) (STL-10)	(T-2) (K-7 B) (K-5) (STL-10)	· Remove, dispose, and replac streetlight (LED Type). · Install 37.5kVA transformer (2.40/4.16 kV-120/240V) from FID 7153496 to new pole · Re-use downguy. · Remove and dispose (1) dov (1) anchor.

7153496	[redacted]	(40' CLASS 2 WOOD POLE) (S-1) (K-7 A) (STL-10) (T-1) (37.5KVA, (2.40/4.16KV-120/240 V)	(45' ROUND TAPERED POLE) (S-1) (K-7-B) (STL-10)	· Remove and dispose 40ft Cl pole and replace with 4 galvanized steel pole. · Remove, dispose, and replac framings. · Remove, dispose, and replac streetlight (LED Type). · Remove 37.5kVA (2.40/4.16 transformer and install on FID
7153580		(35' CLASS 4 WOOD POLE) (K-7 B) (E-1-2-3) (F-1-3) (STL-10)	(40' S5.7 GALVANIZED STEEL POLE) (K-7-B) (E-1-2-3) (F-1-3) (STL-10)	· Remove and dispose 35ft Cl pole and replace with 4 galvanized steel pole. · Remove, dispose and replac framings. · Remove, dispose, and replac streetlight (LED Type). · Remove, dispose, and replac downguy and (1) anchor.
14053394		(FUSES REMOVAL (QTY=3))	(LABOR & REPAIR)	· Remove and dispose (3) Fus
7153762		(FUSES REMOVAL (QTY=3))	(LABOR & REPAIR)	· Remove and dispose (3) Fus Cutouts.
Segment FID 17371056		NONE	(LABOR, FCI) (QTY=3)	· Install (3) Fault Current Indic

Feeder 1806-03

			428 Replacement	Scope of work
11543149	[redacted]	(55FT C2 WOOD POLE) (38KV SINGLE CIRCUIT DELTA SUSPENSION ASSY. ANGLE 0-2) (CP-C1) (K-6) (STL-10)	(70FT ROUND TAPERED POLE) (38KV SINGLE CIRCUIT DELTA SUSPENSION ASSY. ANGLE 0-2) (K-6) (STL-10) (E-1-2-3, QTY=3) (F-1-3) (F-4-2)	· Remove and dispose 55ft C2 wood p replace with 70ft round galvanized steel · Install (3) downguys and expansion a · Remove, dispose, and replace feede · Remove, dispose, and replace prima · Remove, dispose, and replace secon conductor insulator. · Remove, dispose, and replace existi (LED Type). · Install and connect one (1) set of Air Switch (ABS-3-XARM) and the framin support them.

7149675	[redacted]	(40FT C2 WOOD POLE) (CP-C6-XARM)	(50FT ROUND TAPERED POLE) (40FT ROUND TAPERED POLE) (E-2-1) (E-1-2-3) (F-1-3) (420FT TRIPLEX #2 SECONDARY CONDUCTOR) (K-5) (K-6)	· Remove and dispose 40ft C2 woo replace with 50ft round galvanized steel · Remove, dispose, and replace primary · Install stub pole (40ft round tape coordinates 18.438757, -66.15503, for · Install secondary conductor insulators · Install anchor for stub pole. · Install and connect one (1) set of Air Switch (ABS-3-XARM) and the framin support them. .
New Pole		NONE	(70FT ROUND TAPERED POLE) (38KV SINGLE CIRCUIT DELTA SUSPENSION ASSY. ANGLE 0-2) (K-5) (E-1-2-3, QTY=2) (F1-3, QTY=2)	· Install a new 70ft round galvanized ste · Install anchors and downguys · Install 38kV delta suspension. · Install framings. · Install and connect one (1) set of Air Switch (ABS-3-XARM) and the framin support them.

			428 Replacement	Scope of work
7149464	[redacted]	(40FT S3 STEEL POLE) (K-6) (STL-10) (T-12)	(50FT ROUND TAPERED POLE) (K-6) (STL-10) (LABOR) (375FT SECONDARY CONDUCTOR)	· Remove and dispose 40ft S3 steel po replace with 50ft round galvanized stee · Remove, dispose and replace feeder and insulators. · Remove, dispose, and replace feeder and insulators. · Remove, dispose, and replace secon conductor insulator. · Remove, dispose and replace streetli Type). · Labor to close jumper wires and norm feeder. · Remove and dispose out of service ca bank. · Install and connect one (1) set of Air Switch (ABS-3-XARM) and the framin support them.
11543153		(60FT C2 WOOD POLE) (38KV SINGLE CIRCUIT VERTICAL DEADEN ASSY. ANGLE 0-10) (CP-C6-XARM) (CP-C5XARM) (K-6) (STL-10)	(70FT ROUND TAPERED POLE) (38KV SINGLE CIRCUIT VERTICAL DEADEN ASSY. ANGLE 0-10) (CP-C6-XARM) (CP-C7) (K-6) (STL-10) (E-1-2-3) (F-1-3)	· Remove and dispose 60ft C2 wood po replace with 70ft galvanized round tape · Install fuse cutouts for feeder tap. · Install down guy and expansion ancho · Remove, dispose, and replace feeder and insulators. · Remove, dispose, and replace framin · Remove, dispose, and replace secon conductor insulator. · Remove, dispose, and replace streetl Type).

11544249	[redacted]	(40FT C3 WOOD POLE) (K-6) (STL-10, QTY=2) (E-1-2-3) (F-1-3) (ASSY1509)	(70FT ROUND TAPERED POLE) (38KV SINGLE CIRCUIT DELTA SUSPENSION ASSY. ANGLE 0-2) (CP-C1) (CP-B5-XARM) (K-6) (STL-10) (E-1-2-3) (F-1-3)	· Remove and dispose 40ft C3 wood po replace with 70ft round galvanized stee intercept feeder. · Remove, dispose and replace (2) Fus · Remove, dispose, and replace secon conductor insulator. · Remove, dispose, and replace streetl Type). · Remove, dispose, and replace down anchor.
7149631		(45FT C2 WOOD POLE) (CP-C6-XARM) (CP-C7)	(50FT ROUND TAPERED POLE) (CP-C6-XARM) (CPA5)	· Remove and dispose 45ft C2 wood po replace with 50ft round galvanized stee · Remove, dispose and replace (3) Fus

			428 Replacement	Scope of work
	[redacted]	(CP-A5) (E-1-2-,QTY=2) (F-1-3,QTY=2)	(K-6) (E-1-2-3) (F-1-3)	· Remove, dispose, and replace seconda conductor. · Install Secondary Framing.
7150681		(CP-A14)	LABOR FOR CLOSE JUMPERS	· Remove and dispose (3) fuse cutouts. · Labor to close jumper wires.
11280103		NONE	(LABOR, FCI) (QTY=3)	· Install (3) Fault Current Indicators.
11543540		NONE	(LABOR, FCI) (QTY=3)	· Install (3) Fault Current Indicators.

1. Remove and replace poles, including hardware in the same location. If unable to install the replacement in the same location, the pole will be installed within the easement for overhead distribution lines. Easements are established with the purpose of providing LUMA reasonable access to its facilities, in order to maintain, repair, improve, operate, and expand facilities.

2. Existing wood poles are to be replaced by galvanized tapered poles, at the locations identified in the table above. Refer to APPENDIX B - Project Considerations, column C (soil area and depth impact) for the depths of the galvanized tapered poles.

3. New guy wires and anchors are to be installed within the easement for guys. The maximum distance an anchor will be installed for a 50ft pole is 25ft from the base of the pole, within the easement for guys.

4. Existing overhead conductors, poles, assemblies, and attached components will be disconnected, removed, and replaced as outlined in the Scope of Work column in the table above. When existing overhead conductor, assemblies, and attached components are not being replaced, they will be re-attached to the pole to complete the scope of work.

CODES & STANDARDS

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

A. LUMA Overhead Electrical Distribution System Manual 4301.001 version 4, available in Grants Portal - Applicant Event Profiles.

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

2020).

C. 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.

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

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

COMMON EHP REVIEW INFORMATION

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

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

• Poles - Refer to APPENDIX B - Project Considerations, column C (soil area and depth impact), for the depths of the poles to be installed.

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

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

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

• Vegetation clearance will be performed solely to the extent that it allows crews to conduct work and will be limited to a 10 ft radius surrounding the surface of the pole, but not to exceed the width of the easement. This is for the exclusive purpose of gaining access to the pole to conduct repairs. The costs related to vegetation clearance procedures are covered in project 727558 FAASt [Bayamon] Group C(Vegetation). The vegetation removal process will be managed in accordance with federal and state regulations.

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

• Debris will be separated and taken to an authorized waste disposal facility. Information on location of temporary debris storage sites, final debris disposal location, and final debris disposal method are not yet available.

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

• **Staging Area:** All materials will be stored and dispatched from the existing LUMA Regional Warehouses. The warehouse locations are described in Section 7.2 above. LUMA has not yet identified any other additional staging areas that it will require.

• **Access Roads:** New access roads are not needed for this project. All poles to be installed, or removed and replaced, are adjacent to a road and work will be performed within the road easement.

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

• Fill, gravel, and sand materials will be obtained from an approved supplier as referenced in the following document: LUMA Vendor Directory List.

[] 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 ("A&E") design information. For a more detailed cost estimate refer to t Appendix A- LUMA Project Cost Estimate.

COST ESTIMATE		
Cost Element	**Costs**	
PLANNING	$79,550.02	
MANAGEMENT	$54,281.64	
LPCE Distribution Automation Group 31	$967,270.57	
GENERAL CONDITIONS	$49,108.12	
COST TOTALS	$1,150,210.34	
DEDUCTIONS	TOTAL INSURANCE PROCEEDS RECEIVED	$-
	DE-OBLIGATION TO FAASt IF APPLICABLE	$-
FAASt ALLOCATIONS	FAAST PROJECT # 757696- 428	$940,960.74
	FAASt A&E # 335168 - 428	$87,081.37
	FAASt E&M #673691 - 428	$122,168.23

428 Project Summary, Version 2 (see project notes):

Work to Be Completed (WTBC): $1,150,210.34 (See project note # 7)

E&M Deduction (#673691) 428: $122,168.23 (See project note # 7)

A&E Deduction (Global A&E FAASt 335168): $87,081.37 (See project note # 7)

Project Total Cost: $940,960.74 (See project note # 7)

VERSION SUMMARY OF KEY CHANGES:

V0: $1,710,177.27 - $195,175.66 - $369,544.00 (WTBC, A&E Deduction, E&M Deduction)

V1: $0.00 (See Project Note #7)

V2: $940,960.74 (Reconcile Cost)

Project Notes:

1. Refer to detailed SOW provided in document: 757696-DR4339PR- DSOW Group 31 Revision 8- V1.pdf
2. Refer to detailed cost estimate in document: 757696-DR4339PR-APPENDIX A - LUMA Project Cost Estimate- Revision 07 - V1.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 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 costs of equipment and/or material will be reduced from this project (not labor). All costs associated with Planning, Management, General Conditions, and Contingencies will remain in this project.
5. This project is part of 136271-MEPA078 Puerto Rico Electrical Power Authority Island Wide FAASt Project.
6. The following attachments and appendices are provided with this DSOW: Appendix A LUMA Project Cost Estimate; Appendix B Project Considerations; Appendix C LUMA's Active Projects.
7. This version includes both 406 HMP and 428 PA costs, one with positive amount and the other negative. Due to grants manager system requirements, the positive cost change along with negative cost change cannot be processed in the same version, thus two separate versions are required to capture costs related to changes in this version. Version 1 will obligate the positive funds (whether 406 HMP or 428), and Version 2 (amendment) will include the negative cost change. This guidance applies only to Sub-FAASt transactions; non-FAASt transactions remain unchanged. See document file: 'SP757696- DR4339PR - Email Confirmation Sub-FAASt Transaction Guidance.pdf.'"

406 HMP Scope

Project number: 757696; FAASt [Automation Program Group 31] (TL/Distribution)

Damage #1399052; FAASt [Automation Program Group 31: Bayamon Feeders: 1803-03, 1806-03] (Distribution)

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

Location: Bayamon, Puerto Rico

GPS Latitude/Longitude: [redacted]

Hazard Mitigation Narrative

During the incident period from September 17, 2017, to November 15, 2017, the Commonwealth of Puerto Rico experienced hurricane-force winds, heavy rain, flooding, and power outage from Hurricane Maria. The incident caused damage to the electrical system, such as 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).

As part of the electrical grid rebuild, the subrecipient developed a Transmission & Distribution Automation Program ("Program") through which it will install advanced technology equipment (i.e., reclosers and communicating fault current indicators (cFCIs)) to reduce both physical damage and service interruptions to the electrical grid caused by disasters. Although the intent is to deploy automation equipment throughout PREPA's Transmission and Distribution ("T&D") system, the Program will be implemented through multiple projects across the island on both T&D systems.

The multiple projects within this Program are designed to fortify the electrical system's resilience, safeguard its infrastructure, and enhance service reliability during a disaster. The individual projects are interconnected and enhance each other, but each confers benefits independently. Distribution Automation (DA) projects will be submitted regionally as components of the real time monitoring and automation network being installed on island. DA projects are physically incorporated into the distribution line network.

Project Overview:

DA Group 24 is one of the Program's distribution-level projects. It installs hardened poles and advanced technology equipment (specifically reclosers and cFCIs) to reduce physical damage and service interruptions to the distribution grid that could be caused by a natural disaster. Implementing reclosers, their communication kits, and cFCIs is critical for the Energy Management System ("EMS") and related components to function at their full capabilities and mitigate loss of service and physical damage in the event of future hurricanes. This project is necessary for the EMS to maintain the continuity of the distribution power grid on Feeders 3405-02, 3501-01 and 3501-03.

The purpose of this project is to install real time monitoring to mitigate cascading effects and physical damage to critical components, protects federal investments, and reduces outage times to facilities. Key components of this project are: (1) pole replacement, (2) three-phase and single-phase reclosers, and (3) the installation of cFCIs.

Mitigation Approach:

The mitigation strategy to reduce or eliminate cascading effects and physical damage to critical components, and outage times at Feeders 3405-02, 3501-01 and 3501-03 is accomplished by replacing round galvanized steel poles with a 12-sided galvanized steel poles as it is stronger than the round poles;, replacing the fault current indicator (FCI) with a communication fault current indicator (cFCI) for real-time monitoring to prevent and communicate the location of the fault; and replacing fuse cutouts and manual disconnect switches with a single-phase and three-phase recloser on the feeder backbone. Additionally, install 1kVA transformers to power the reclosers; and install communication radios for the operation of the three-phase reclosers (wireless connection).

In order to minimize the damage and increase resilience, the subrecipient is proposing the installation of complementary equipment, technologies, and software systems that will provide visibility to the system, grid intelligence and automation. DA is a mitigation measure designed to protect the Puerto Rico Electric Power Authority's (PREPA) critical electric grid infrastructure and reduce risk to public health and safety from power outages caused by a natural disaster.

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)*

1. **Pole Replacement to Accommodate the Installation of Reclosers:**

   The addition of three-phase reclosers imposes additional load on poles due to the weight of the devices and their components. It also increases the area exposed to extreme weather conditions, such as hurricanes, thereby increasing the structural load requirements these poles must meet. Where an existing pole cannot accommodate a recloser, it will be substituted with a higher-class pole constructed from steel or concrete to ensure compatibility with the recloser and adherence to design criteria. Any new structure and foundation will be designed to LUMA design criteria and industry standards to support the pole, recloser, and its attachments. In addition, LUMA is using a per-location approach to pole replacement because of the intricate dynamics of deploying three-phase reclosers. Furthermore, the integration of more connections, switches, and related infrastructure often necessitates taller poles to meet phase spacing and circuit-to-circuit spacing requirements. The locations of three-phase reclosers are determined by an electrical analysis performed by the design engineers.

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As a mitigation strategy, 406 HM will fund the additional cost (delta) for **16ea** poles strengthening (pole class, concrete base, and additional guywire).

Pole Description:

a) 40ft S5.7 12-sided galvanized steel poles = 2ea
b) 45ft S5.7 12-sided galvanized steel poles = 2ea
c) 50ft S8.5 12-sided galvanized steel poles = 8ea
d) 70ft 12-sided galvanized steel poles = 4ea

1. **Feeder Reclosers:**

Reclosers are sophisticated devices that remotely detect faults within distribution lines, enable the isolation of circuit breakers linked to those faults—whether due to independent failures or breakdowns—and facilitate the swift restoration of power, often within milliseconds.

Three-Phase Recloser: A three-phase recloser is a protection device that is used on three-phase distribution feeders with high fault currents at the location. It is a single device with three switches that can open to interrupt fault currents and automatically reclose to restore power. Three-phase reclosers are communication-ready to enable remote control and visualization. The recloser's wireless communication capability will provide connectivity to LUMA's EMS so the system operator knows their status and can remotely control them.

The implementation of three-phase reclosers will preserve the continuity of electric services and avoid physical damage by pre-empting or minimizing disruptions. The three-phase reclosers can be triggered remotely and provide data back to the operations center, enabling LUMA to prioritize restoration activities, reduce customer outage time, and minimize the potential for cascading infrastructure damage. Installation of the three-phase reclosers and associated hardware is critical for the EMS and associated components to function with full capabilities, and to prevent loss of service and potential damage from future disasters. In this project we are installing three three-phase reclosers.

Single-Phase Reclosers: A single-phase recloser is a single protection device with one switch that can open to interrupt fault currents and automatically reclose to restore power. A single-phase recloser performs the same functions as a three-phase recloser, but it does not have the ability to communicate with the EMS. This project will install single-phase reclosers on single-phase or two-phase distribution feeder and distribution lines branching from the feeder. Single-phase reclosers will also be used on feeders with three phases if fault currents are low at the location. In this project we are installing a total of two single-phase reclosers.

As a mitigation strategy, 406 HM will fund the additional cost (delta) for the replacement of **11ea** fuse cutouts with **5ea** single-phase reclosers and the installation of **6ea** three-phase reclosers.

1. **Communicating Fault Current Indicators:**

Installation of communicating fault current indicators ("cFCI") at strategic locations improves the outage management, restoration, and recovery process, specifically by decreasing the time required to detect and locate faults. The cFCIs operate independently of the feeder reclosers and help identify permanent and incipient faults in the distribution system, as well as collect voltage and current data, which can be used to detect system imbalance, prevent future issues due to harmonics and help in building a predictive failure model.

cFCIs help reduce physical damage on the system by providing real-time monitoring and early detection of abnormal conditions. Essentially, cFCIs act as the eyes and ears of the system, reducing wear and tear by allowing quick, intelligent responses instead of waiting for catastrophic failure.

As a mitigation strategy, 406 HM will fund the additional cost (delta) for the replacement of 9ea fault current indicators (FCIs) by **9ea** communicating fault current indicators (cFCIs).

Mitigation Measures *(Supplementary)*

1. **Stainless Steel Transformer (1kVA):**

To enable the operation of three-phase reclosers, it is essential to connect a 120/240V AC voltage source. In areas where this voltage is accessible, the recloser will be linked to the existing secondary line, ensuring that these facilities possess the capability to handle the load produced by the recloser. In instances where the necessary infrastructure to supply voltage to the recloser 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, which includes protection, automation, and communication functionalities. This ensures that the intelligent features of the recloser operate reliably, even in the event of a medium-voltage power interruption.

As a mitigation strategy, 406 HM will fund the installation of **5ea** 1kVA stainless steel transformers.

1. **Radio Communication Kit for Three-Phase Reclosers:**

The recloser's wireless communication capability will provide connectivity to LUMA's EMS in order to the system operator knows their status and can remotely control the three-phase reclosers. Deployment of the wireless communication devices includes configuration, testing, and commissioning of the wireless communication device, all networking devices, data acquisition, and control systems that form the connectivity path of the recloser to the EMS. Therefore, as part of the installation of the 2ea three-phase reclosers it will be necessary to install communication radios and commissioning for the operation of the reclosers (wireless connection).

As a mitigation strategy, 406 HM will fund the installation of **6ea** radio communication kit.

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HMP Scope of Work:

a) Distribution Feeder 1803-03:

FID 7153771

1. Replace 50ft round pole with a 5ft S8.5 12-sided galvanized pole.
2. Install (1) Three-Phase Recloser 1803-03A
3. Install and commission the radio communication kit for the Three-Phase Recloser.
4. Install (1) 1 kVA stainless steel transformer (2.40/4.16 kVA -120/240V) source side.

FID NEW POLE

5. Replace 50ft round pole with 50ft S8.5 12-sided galvanized steel pole in new location mid span*
6. Install (1) Three-Phase Recloser 1803-03B.
7. Install 65ft. 1/0 secondary conductor to feed the recloser from the source side.
8. Install 65ft. 1/0 secondary conductor to feed the recloser from the load side.
9. Install and commission the radio communication kit for the Three-Phase Recloser.

FID 7153770

10. Replace 50ft round pole with 50ft S8.512-sided galvanized steel pole.

FID 7153775

11. Replace 50ft round pole with 50ft S8.512-sided galvanized steel pole.

FID 7153768

12. Replace 45ft round pole with 45ft S5.7 12-sided galvanized steel pole.

FID 7153498

13. Replace 50ft round pole with 50ft S8.5 12-sided galvanized steel pole.

FID 7153496

14. Replace 45ft round pole with 45ft S5.7 12-sided galvanized steel pole.

FID 7153580

15. Replace 40ft round pole with 40ft S5.7 12-sided galvanized steel pole.

Segment FID 17371056

16. Replace (3) Fault Current Indicators with the installation of (3) Communicating Fault Curren Indicators.

b) Distribution Feeder 1806-03:

FID 11543149

17. Replace 70ft round pole with 70ft 12- sided galvanized steel pole.
18. Install (1) Three-Phase Recloser (1806- 03B).
19. Install and commission the radio communication kit for the Three-Phase Recloser.
20. Install (1) 1kVA stainless steel transformer (7.62/13.2kV, 120/240V) to feed the recloser load side.

FID 7149675

21. Replace 50ft round pole with 50ft S8.5 12-sided galvanized steel pole.
22. Install (1) Three-Phase Recloser (1806-03C).
23. Install and commission the radio communication kit for the Three-Phase Recloser.
24. Replace 40ft round stub pole with a 40ft S5.7 galvanized steel pole at coordinates [redacted]
25. Install (1) 1kVA stainless steel (7.62/13.2kV, 120/240V) transformer to feed the recloser source side.

NEW POLE

26. Replace 70ft round pole with a 70ft 12-sided galvanized steel pole.
27. Install (1) Three-Phase Recloser (1806-03D).
28. Install and commission radio communication kit for Three-Phase Recloser.
29. Install (2) 1KVA (7.62/13.2kV, 120/240) stainless steel control transformer to feed the source and load side.

FID 7149464

30. Replace 50ft round pole with a 50ft S8.5 12-sided galvanized steel pole.
31. Install (1) Three-Phase Recloser (1806-03E).
32. Install secondary span of triplex #2 from pole with FID7149453 for 375 feet identified to feed the recloser source side.
33. Install and commission the communication radio kit for the Three-Phase Recloser.

FID 11543153

34. Replace 70ft round pole with a 70ft 12-sided galvanized steel pole.

FID 11544249

35. Replace 70ft round pole with 70ft 12-sided galvanized steel pole, intercept feeder.
36. Replace (2) Fuse Cutouts with the installation of (2) Single-Phase Recloser.

FID 7149631

37. Replace 50ft round pole with 50ft S8.5 12-sided galvanized steel pole.
38. Replace (3) Fuse Cutouts with the Installation of (3) Single-Phase Reclosers.

FID 11280103

39. Replace (3) Fault Current Indicators with the installation of (3) Communicating Fault Current Indicators.

FID 11543540

40. Replace (3) Fault Current Indicators with the installation of (3) Communicating Fault Current Indicators.

(III) Hazard Mitigation Proposal (HMP) Cost

Total Net Hazard Mitigation Cost (Base Cost) =	$ 473,005.75
+ HM (Subrecipient A&E, Management & General Conditions) =	$ 111,978.28
Hazard Mitigation Total Cost =	**$ 584,984.03**

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

Equipment and Materials (E&M) =	$ 240,541.77
Architecture and Engineering (A&E) =	$ 44,095.89
Construction Cost =	$ 300,346.37
Hazard Mitigation Total Cost =	**$ 584,984.03**

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(V) HMP Cost-Effectiveness Calculations

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

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

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

The cost of the Hazard Mitigation Proposal (HMP) described herein is $584,984.03 (Hazard Mitigation Total Cost). The cost of this HMP combined will all other proposals (both PA and HMGP) does not exceed the maximum potential benefit and is therefore deemed cost effective per FEMA Public Assistance Program and Policy Guide (PAPPG) V3.1 April 2018, Chapter 2, VII., Section C, BCA Rule. This Hazard Mitigation Proposal meets eligible repair and restoration cost-effective requirements.

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

Cost

Code	Quantity	Unit	Total Cost	Section
9001	1	Lump Sum	$1,710,177.27	Uncompleted
3510	1	Lump Sum	($195,175.66)	Uncompleted
9001	1	Lump Sum	($369,544.00)	Uncompleted
9201	1	Lump Sum	$0.00	Completed
3510	1	Lump Sum	$0.00	Uncompleted
9001	1	Lump Sum	$0.00	Uncompleted
9001	1	Lump Sum	$0.00	Uncompleted
9001	1	Lump Sum	$0.00	Uncompleted
3510	1	Lump Sum	$0.00	Uncompleted
9001	1	Lump Sum	$0.00	Uncompleted
9001	1	Lump Sum	$369,544.00	Uncompleted
3510	1	Lump Sum	$195,175.66	Uncompleted
9001	1	Lump Sum	($1,710,177.27)	Uncompleted
9001	1	Lump Sum	$1,150,210.34	Uncompleted
9001	1	Lump Sum	($122,168.23)	Uncompleted
3510	1	Lump Sum	($87,081.37)	Uncompleted

CRC Gross Cost	$940,960.74
Total 406 HMP Cost	$584,984.03
Total Insurance Reductions	$0.00
CRC Net Cost	$1,525,944.77
Federal Share (90.00%)	$1,373,350.30
Non-Federal Share (10.00%)	$152,594.47

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

9/4/2026

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

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

5/27/2025

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 Program Group 31] (Distribution) (Cost Only)** .

406 Mitigation

There is no additional mitigation information on **FAASt [Automation Program Group 31] (Distribution) (Cost Only)** .

Environmental Historical Preservation

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

EHP Conditions

- Any change to the approved scope of work will require re-evaluation for compliance with NEPA and other Laws and Executive Orders.
- This review does not address all federal, state and local requirements. Acceptance of federal funding requires recipient to comply with all federal, state and local laws. Failure to obtain all appropriate federal, state and local environmental permits and clearances may jeopardize funding.
- If ground disturbing activities occur during construction, applicant will monitor ground disturbance and if any potential archaeological resources are discovered, will immediately cease construction in that area and notify the State and FEMA.
- The Subrecipient and/or Subrecipient's contractor must follow the Low Impact Debris Removal Stipulations (LIDRS) outlined in Appendix E of the Project-Specific Programmatic Agreement Among FEMA, the SHPO, ACHP, COR3, and PREPA (PSPA), executed on August 2, 2022.
- Pursuant to Stipulation III.B of the PSPA, if, in the course of implementing this Individual Undertaking(s), previously unidentified structures, sites, buildings, objects, districts, or archaeological deposits, that may be eligible for listing in the National Register, or human remains are uncovered, or if it appears that an Individual Undertaking has affected or will affect a previously identified historic property in an unanticipated manner, the contractor must notify Subrecipient who will immediately notify the Recipient. Work must stop in the vicinity of the discovery and measures must be taken to protect the discovery and avoid additional harm.
- Additional staging areas and/or work pads within work site area haven't been identified yet. The Subrecipient and/or private operator must provide the information of any additional staging areas or work pads for EHP evaluation as soon as available specially if any construction activity will be necessary to prepare the site(s). Information for staging areas and/or work pads confined to previously disturbed or hardened surfaces can be provided at close-out.
- All borrow or fill material must come from pre-existing stockpiles, material reclaimed from maintained roadside ditches (provided the

designed width or depth of the ditch is not increased), or commercially procured material from a source existing prior to the event. For any FEMA-funded project requiring the use of a non-commercial source or a commercial source that was not permitted to operate prior to the event (e.g. a new pit, agricultural fields, road ROWs, etc.) in Recipient prior to extracting material. FEMA must review the source for compliance with all applicable federal environmental planning and historic preservation laws and execute orders prior to a subrecipient or their contractor commencing borrow extraction. Consultation and regulatory permitting may be required. Non-compliance with this requirement may jeopardize receipt of federal funding. Documentation of borrow sources utilized is required at closeout.

- 5. For all boa sightings (dead or alive), record the time and date of the sighting and the specific location where it was found. Data will also include a photo of the animal (dead or alive), relocation site GPS coordinates, time and date of the relocation, and comments on how the animal was detected and its behavior. 6. If any PR or VI boa (dead or alive) is found within the Action Area and on harms way, the action will stop, and information will be recorded (see #5). All attempts will be made to immediately safely capture and relocate the animal within suitable habitat (forested) at least 1km from the Action Area and away from construction areas. PR boa relocation sites will be pre-determined before the project starts and sites shared with the Service for revision and concurrence. Relocation of PR boas will be conducted by trained, designated personnel ensuring the animal is not harmed or injured during the capture and relocation process. 7. Measures will be taken to avoid and minimize PR boa and VI boa casualties by heavy machinery or motor vehicles being left in the Action Area. - Any heavy machinery left on site (staging areas) or near potential PR or VI boa habitat will be thoroughly inspected each morning before work starts to ensure that no boas have sheltered within engine compartments or other areas of the heavy machinery. If a PR boa or VI boa is found within vehicles or heavy machinery, boas will be safely captured accordingly. If not possible, the animal will be left alone until it leaves the vehicle or machine by itself. - The PR boa and VI boa may seek shelter within debris piles. Measures should be taken to avoid and minimize boa casualties associated with sheltering in new debris piles as a result of project activities. New debris piles should be placed in areas as far as possible from forested areas. Prior to moving, disposing, or shredding, debris piles should be carefully inspected for the presence of PR boas and VI boas. If debris piles will be left on site, we recommend they be placed in an undisturbed area. - In the event a PR boa and VI boa is found dead within the project area, the Federal Agency and the Recipient must contact the Service to appropriately dispose the animal. - If a PR boa or a VI boa is accidentally injured or killed during capture and relocation activities during the Action, the Federal Agency and the Recipient shall terminate the authorized activities and contact the Service within 24 hours to reinitiate consultation. The Federal Agency will consult with the Service to determine whether authorized activities should continue as proposed and whether modifications are warranted. - Should the forms of take reach the amount of exempted take during the Action, the Federal Agency and the Recipient shall terminate the authorized activities and contact the Service within 24 hours to reinitiate consultation. The Federal Agency will consult with the Service to determine whether authorized activities should continue as proposed and whether modifications are warranted. For questions and to submit reports, the Services Point of Contact (POC) is José Cruz-Burgos, Endangered Species Coordinator, and can be contacted at: . Mobile: 305-304-1386 . Office phone: 786-244-0081 . Office Direct Line: 939-320-3120
- -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. -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 with the requirements of the local and federal agencies. Noncompliance with these requirements may jeopardize receipt of federal funds.
- Endangered Species Act (ESA) Conditions for the Puerto Rican Boa (Chilabothrus inornatus) for feeders (1803-03 and 1806-03). 1. Inform all project personnel about the potential presence of the Puerto Rican (PR) boa and Virgin Islands (VI) boa in areas where the proposed work will be conducted and provide training on PR and VI boa identification. A pre-construction meeting will be conducted to inform all project personnel about the need to avoid harming these species. All personnel will be advised that there are civil and criminal penalties for harming, harassing, or killing species protected under the Endangered Species Act of 1973. An educational poster or sign with photo or illustration of these species will be displayed at the project site. 2. Prior to any construction activity, including removal of vegetation and earth movement, the boundaries of the project area and any area to be excluded and protected will be clearly marked in the project plan and in the field to avoid further habitat degradation outside of the footprint of the project. 3. Once areas are clearly marked, and right before the use of heavy machinery and any construction activity (including removal of vegetation and earth movement), biologist or designated project personnel with experience on these species will survey the areas to be cleared to verify the presence of any PR or VI boa within the Action Area. If a PR or VI boa is found during the search, it should be captured and managed as per #6 below. Once the removal of vegetation begins, the biologist or designated personnel must remain at the work site and be ready to capture any boa that might be in harms way as the result of the habitat disturbance (see #6). 4. For VI boas, once the Action Area has been searched, vegetation will be cut about one meter above ground prior to the use of heavy machinery for land clearing. Cutting vegetation by hand will allow VI boas present on site to move away on their own to adjacent available habitat. If there is no suitable habitat adjacent to the project site, any VI boa found will be relocated accordingly (see #6).
- Executive Order 11990 - Wetlands Conditions for Feeder 1806-03: The Applicant shall ensure best management practices are implemented to prevent erosion and sedimentation to surrounding, nearby or adjacent wetlands. To ensure that wetlands are not adversely impacted, per the Clean Water Act and Executive Order 11990, equipment storage and staging of construction materials and machinery must be in a location that would prevent erosion and sedimentation.
- Executive Order 11988 Floodplain Conditions for Feeders 1803-03 and 1806-03: Applicant must obtain any required permits from the

Puerto Rico Permits Management Office (OGPe) prior to initiating work and comply with any conditions of the permit established by the Planning Board (JP) for constructions in floodplains. All coordination (emails, letters, documented phone calls) pertaining to these activities and compliance must be provided and maintained in the Applicants permanent files.

- ***Disregard previous conditions***
- ***Disregard previous conditions***
- ***Disregard previous conditions***
- ***Disregard previous conditions***
- ***Disregard previous conditions***
- 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.

EHP Additional Info

There is no additional environmental historical preservation on **FAASt [Automation Program Group 31] (Distribution) (Cost Only)** .

Final Reviews

Final Review

Reviewed By LEFRANC-GARCIA, CARLOS L. **Reviewed On** 09/11/2026 8:54 PM PDT

Review Comments

Version 2 reflects the negative cost for PA reconciliation process. Change request - $204,496.87 for a total Federal share for this project of $1,373,350.30.

Recipient Review

Reviewed By Mulero, Noel **Reviewed On** 09/16/2026 9:26 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

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 $1,525,944.77 for subaward number 108037 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
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	9/17/2025	$1,030,911.85	90%	Accepted	4339DRPRP01080371
1	8/27/2026	$526,485.63	90%	Accepted	4339DRPRP01080371
2	9/25/2026	($184,047.18)	90%	Accepted	4339DRPRP01080371

Department of Homeland Security
Federal Emergency Management Agency

v0

General Info

Project #	798275 **P/W #** 108075	**Project Type**	Specialized
Project Category	F - Utilities	**Applicant**	PR Electric Power Authority (000-UA2QU-00)
Project Title	*FAASt [Feeder Rebuild # 1620-02] (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 #1484187; FAASt [Distribution Feeder Rebuild # 1620-02]

General Facility Information:

- **Facility Type:** Power generation, transmission, and distribution facilities
- **Facility:** Distribution Feeder Rebuild # 1620-02
- **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:** 1980
- **GPS Latitude/Longitude:** [redacted]

Final Scope

1484187 **FAASt [Distribution Feeder Rebuild # 1620-02]**

1.0 OVERVIEW:

For teh Overview section see file: 798275-DR4339PR-Distribution Feeder Rebuild 1620-02 Detail Scope Of Work. Rev. 2.pdf"

2.0 INTRODUCTION:

This document contains the Detailed Scope of Work (SOW) for project 798275 Distribution Feeder Rebuild # 1620-02. The document provides a detailed description of the project, including scope, schedule, cost estimates, and project considerations. LUMA Energy is seeking approval from COR3 and FEMA for project funding to repair, restore, or replace the eligible facilities under DR-4339-PR Public Assistance.

LUMA submits this Detailed SOW pursuant to the Transmission and Distribution Operations & Maintenance Agreement

between the 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 included on the Applicant Event Profile in Grants Portal, 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 (T&D) system submitted to FEMA execute federally-funded projects and seek reimbursement from FEMA as it relates to the transmission and distribution (T&D) system.

3.0 FACILITIES:

3.1 Facilities Description

Feeder 1620-02 is located in San Juan, Puerto Rico.It has 1.76 circuit miles of 3-phase overhead distribution lines, which start at Parque Escorial substation ([redacted] The feeder is subdivided into the following categories: central line, three-phase laterals, and one- or two-phase laterals. GPS Coordinates for the start and end point of the electrical feeder backbone (BB) project are noted within the table in section 3.2, below. The proposed work to rebuild this feeder is a subset of the scope of work included in the San Juan Region Feeders Project in the PREPA 10-Year Infrastructure Plan. For more details, please refer to **Appendix A – Pole Schedule**.

3.2 Facilities List

The electrical feeder 1620-02 serves 3,718 customers along a route to various locations.

Feeder Number	Feeder Name	Customers Counts	GPS Start	GPS End	Phase	Voltage Level (kV)	Date of Construc
1620-02	Parque Escorial	3718	[redacted]		3Phase	13.2KV	More than 2 years

Note: Please refer to **Appendix B - Feeder Location Map**.

LUMA will install 95 new poles along the feeder backbone. All new poles will be located within the easement and are listed in **Appendix A – Pole Schedule**, which includes the pole FID, coordinates, type of pole to be installed, type of pole and hardware to be removed, and whether it has a concrete foundation.

Pole FIDs 13519708 and 13520903

Pole FIDs 13519708 and 13520903 were removed and replaced as part of D-Pole FAASt Project 673844. This DSOW does not include scope or costs associated with that previously funded repair and replacement work. For details on the additional work on these FIDs, please refer to section 4.1.

Pole FID	Program	FASSt	Latitude	Longitude	D-Pole Scope of Work in FAAS 673844
13519708	D-Pole and Conductor Repair	673844	[redacted]		Replace pole with 50 S8, Cross arms, insulators associated hardware.
13520903	D-Pole and Conductor Repair	673844	[redacted]		Replace pole with 50 S8, Cross arms, insulators and all associated hardware.

For detailed information, please refer to **Appendix A – Pole Schedule**.

4.0 PROJECT SCOPE OF WORK:

This section contains the proposed SOW for the project, including work to repair PREPA's disaster- damaged facilities for which LUMA will request funding under PREPA's § 428 fixed cost subaward (this work and funding is referred to herein as § 428 work or § 428 funding) and proposed hazard mitigation measures for which LUMA will request funding not yet included in the subaward, if any (this work and funding is referred to herein as § 406 hazard mitigation work). For specific details of the proposed reconstruction of the feeder please refer to **Appendix A – Pole Schedule** and **Appendix F - Proposed Design.**

As noted above, § 428 work includes efforts to repair PREPA's facilities damaged by Hurricanes Irma and Maria, including (pursuant to the Bipartisan Budget Act of 2018) the repair or restoration of non-damaged components required to fully effectuate a disaster-related repair. Work funded under § 428 must be completed consistent with required codes and standards. Further, the Bipartisan Budget Act of 2018 requires that work on non-damaged elements restore the function of the facility or system to industry standards.

4.1 Proposed § 428 Public Assistance Scope of Work

This project includes the removal and replacement of eighty-two (82) existing poles, the installation of thirteen (13) new poles and perform work in two (2) existing poles to comply with code and standards. The tables below summarize the structure count of the work in this project backbone for the distribution feeder, grouped into the following categories:

Poles to be removed and replaced

Description	Quantity (Ea.)
Electrical utility pole, steel galvanized, 12-sided, tapered shaft, 50' S-8.5	29
Electrical utility pole, steel galvanized, 12-sided, tapered shaft, 50' S-10	18
Electrical utility pole, steel galvanized, 12-sided, tapered shaft, 55' S-8.5	3
Electrical utility pole, steel galvanized, 12-sided, tapered shaft, 55' S-10	4
Electrical utility pole, steel galvanized, 12-sided, tapered shaft, 60' S-8.5	1
Electrical utility pole, steel galvanized, 12-sided, tapered shaft, 60' S-10	5
Electrical utility pole, steel galvanized, 12-sided, tapered shaft, 60' S-13	21
Electrical utility pole, steel galvanized, 12-sided, tapered shaft, 73' S-35	1
Total	82

New poles to be installed

Description	Quantity (Ea.)
Electrical utility pole, steel galvanized, 12-sided, tapered shaft, 50' S-8.5	5
Electrical utility pole, steel galvanized, 12-sided, tapered shaft, 50' S-10	3
Electrical utility pole, steel galvanized, 12-sided, tapered shaft, 55' S-8.5	1
Electrical utility pole, steel galvanized, 12-sided, tapered shaft, 55' S-10	1
Electrical utility pole, steel galvanized, 12-sided, tapered shaft, 60' S-8.5	1
Electrical utility pole, steel galvanized, 12-sided, tapered shaft, 60' S-13	2
Total	**13**

Pole FIDs 13519708 and 13520903

As mentioned above, Pole FIDs 13519708 and 13520903 were removed and replaced as part of D-Pole FAASProject 673844. This DSOW does not include scope or costs associated with that previously funded repair and replacement work. The scope of work included in this Project 798275 for these two poles is limited to the following which is not duplicated in FAASt Project 673844.

FID	Description
13519708	Remove conductor and replace with new 556 ACSR conductor
13520903	Install five (5) new guys wires and three (3) new anchors on the existing pole and remove conductor and replace with new 556 ACSR conductor

Concrete Bases

Concrete Base Description	Diameter (in.)	Length (ft.)	Amount of Precast Foundation	Volume (C
Precast Concrete Base for 50-S8.5, 55-S8.5, 60-S8.5, and 65-S8.5	40	14.5	7	23.45
Precast Concrete Base for 50-S10, 55-S10, 60'-S10, 60-S13, and 65-S10	48	16	21	128.31
Total			**28**	**151.76**

*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

**Precast Concrete Base Volume Formula / 50'-S10 and 60'-S13 = {[(p*2^2*16) - (p*1.1^2 *9.8)] / 27} = 6.11CY

Steel Galvanized Transformers

Steel Galvanized Transformers	Quantity (Ea.)
37.5 KVA	1
50 KVA	23
75 KVA	2
Total	**26**

Guys Wires / Anchoring

Description	Quantity (Ea.)
Guy Wires 1/2"	119
Expansion Anchor	65

Conductor

Description	Quantity (C.L.F)
New Construction > Conductor > 556 ACSR Conductor	409.65
New Construction > Conductor > 394.5 AAAC Spacer	7.67
New Construction > Conductor > 3/0 Conductor	46.04

Distribution Line Replacement:

- Install thirteen (13) additional poles to comply with structure loading cases along the feeder backbone. The pole quantities are summarized in section 4.1, above.
- Remove twenty-six (26) existing transformers and replace them with one (1) new 37.5KVA, twenty-three (23) 50KVA and two (2) 75KVA transformers. The transformer quantities are summarized in section 4.1, above. The transformers are sized to comply current codes and standards (C&S) - 4301.001 Overhead Electrical Distribution System Manual V04 for replacement and design.

- Remove 455.69 C.L.F of existing conductors and replace them with 409.65 C.L.F. of 556 ACSR,

  7.67 C.L.F. of 394.5 AAAC Spacer, and 46.04 C.L.F of 3/0 ACSR conductors per the LUMA specification. The conductor quantities to be installed are summarized in section 4.1, above.

- Remove twenty-three (23) halogen lighting on 3 phase primary poles and replace them with a new LED luminaire. Transfer existing LED lighting to new poles. For additional information, please refer to **Appendix A – Pole Schedule.** The luminaries included in this DSOW to be replaced have been verified with the following Streetlight Projects to avoid any duplication of benefits:
  - Carolina Municipality:
    - P678789- Part 1- Zone 05
  - San Juan Municipality:
    - P666894- Part 1- Zone 41 & 42
    - P737712-Part 3- Zone 59
- Remove and replace all distribution equipment including disconnect switches (16), fuse cutout (85), surge arrester (262), crossarms (162), pole insulators (566), suspension insulators (356). Transfer the service drop and the secondary lines. Replace the conductors in compliance with LUMA Overhead Electrical Distribution System Manual included on the Applicant Event Profile in Grants Portal.

- Ground disturbance will occur during the project lifecycle. For additional information, please refer to **Appendix C – Project Considerations.**
- Remove and dispose of the existing distribution line facilities with their related components.

- All the work to be completed will be in the current utility and public easement. Poles with easement encroachments are included as part of the engineering design.

Pole Replacement:

- Remove existing poles and hardware and replace with new poles and hardware within 10 feet of the same location.
- Depths of the poles to be erected are provided in **Appendix C – Project Considerations**.
- Install twenty-eight (28) new concrete foundation bases in compliance with LUMA Overhead Electrical Distribution System Manual included on the Applicant Event Profile in Grants Portal. The maximum auger width used is 48". The concrete foundation types and quantities are summarized in section 4.1, above.
- Install one hundred nineteen (119) new guys and sixty-five (65) expansion anchors in compliance with LUMA Overhead Electrical Distribution System Manual included on the Applicant Event Profile in Grants Portal. The guy and anchors quantities are summarized in section 4.1, above.
- All work will be performed within the electrical easement.

4.2 Detail Description for Planned Field Work Scope Notes

A. Material Disposal:

- Chemical wastes will be handled and disposed of these materials in authorized facilities in accordance with applicable local regulations.
- The types of debris that will be removed from the project are luminaires, pole arms, photocells, wiring, transformers, concrete, metal scrap, steel, wood, domestic and construction waste. The debris will be separated and taken to an authorized waste disposal facility in compliance with applicable local regulations.

B. Transformer:

- Transformers will be contained and returned to LUMA in compliance with applicable local regulations. The removal of the transformer will require testing of the existing oil for PCB levels, draining on the oil, and delivery to an authorized waste disposal site

C. Staging Area:

- The proposed **staging area** will be located at BO Sabana Llana 284 A Calle 6, San Juan PR 00926. Coordinates [redacted] Refer to **Appendix D – Staging Area**.

D. 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.

E. 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, Filtering Machine and Flatbed platform.

- Vegetation will be brushed using a machete, chainsaw, electric pruner, telescopic pole pruner, bucket truck, and/or chipper.
- All of the above equipment will adhere to Tier 4 EPA Emission Standards where applicable.

F. Vegetation:

- Vegetation clearance will be performed solely to the extent that it allows crews to conduct work and will be limited to a 10 ft radius surrounding the surface of the pole, but not to exceed the width of the right-of-way. This is for the exclusive purpose of gaining access to the pole to conduct repairs. The costs related to vegetation clearance procedures are covered in project San Juan Group A FAASt 723883 Region 1 High Density (Vegetation). The vegetation removal process will be managed in accordance with federal and state regulations.

G. Access Roads:

Poles are close to the roads and are site-accessible with existing access points at the established locations. The construction of access roads is not required for this scope of work. Refer to **APPENDIX C – Project Considerations** in column H, "Site Accessible."

H. Ground disturbance:

Location and depth of poles and concrete bases to be installed are provided in **Appendix C – Project Considerations**.

8.0 PROJECT COST ESTIMATE (PCE)

The estimated costs (compliant with Class 3 Accuracy +/-30%) to complete the project are captured in the table(s) 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 to mitigate potential known risks. For more details, refer to **Appendix E - LUMA Project Cost Estimate**.

COST ESTIMATE			
Cost Element	**428**	**406**	**PROJECT TOTAL**
PLANNING	**$ 590,946.16**	**$ -**	**$ 590,946.16**
(A&E) Permitting and Assessments	$ 58,699.54	$ -	$ 58,699.54
(A&E) Environmental Documentation & Management	$ 166,327.07	$ -	$ 166,327.07
(A&E) Engineering Services & Design	$ 365,919.55	$ -	$ 365,919.55

MANAGEMENT	**$ 363,474.52**	**$ -**	**$ 363,474.52**
(A&E) Project Management	$ 102,291.14	$ -	$ 102,291.14
(A&E) Construction Management	$ 136,388.19	$ -	$ 136,388.19
(A&E) Contracting, Procurement & Contract Administration	$ 56,601.10	$ -	$ 56,601.10
(A&E) Projects Controls (Scheduling, Estimating, Support, Cost Control, Risk, Document Control & Reporting)	$ 68,194.09	$ -	$ 68,194.09
San Juan Short Term Group 3,	**$ 7,120,503.11**	**$ -**	**$ 7,120,503.11**
San Juan Short Term Group 3, Feeder 1620-02, Project ID: 10143, FEMA Project Name: San Juan Short Term Group 3, Feeder 1620-02, FAAST#: 798275, material, labor and equipment.	$ 5,929,247.36	$ -	$ 5,929,247.36
Start Up/Commissioning	$ 88,938.71	$ -	$ 88,938.71
Construction Trespass	$ 29,646.23	$ -	$ 29,646.23
Transportation Expenses	$ 29,646.23	$ -	$ 29,646.23
Security (Field 24 hr)	$ 53,363.22	$ -	$ 53,363.22
Insurance	$ 119,770.79	$ -	$ 119,770.79
Construction Contingency	$ 665,308.28	$ -	$ 665,308.28
Escalation	$ 204,582.29	$ -	$ 204,582.29
GENERAL CONDITIONS	**$ 343,770.72**	**$ -**	**$ 343,770.72**

Sales Tax	$ 47,308.36	$ -	$ 47,308.36
Municipal Construction Tax	$ 296,462.36	$ -	$ 296,462.36
COST TOTALS	**$ 8,418,694.51**	**$ -**	**$ 8,418,694.51**
DEDUCTIONS	**TOTAL INSURANCE PROCEEDS RECEIVED**		**$ -**
	DE-OBLIGATION TO FAASt IF APPLICABLE		**$ -**
FAASt ALLOCATIONS	FAAST PROJECT # 798275 - 428		**$ 6,711,420.90**
	FAAST PROJECT # 798275 - 406 HM		**$ -**
	FAAST PROJECT # 798275 TOTAL:		**$ 6,711,420.90**
	FAASt A&E # 335168 - 428		**$ 954,420.68**
	FAASt A&E # 335168 - 406 HM		**$ -**
	FAASt A&E # 335168 TOTAL		**$ 954,420.68**
	FAASt E&M #673691 - 428		**$ 752,852.93**
	FAASt E&M #673691 - 406 HM		**$ -**
	FAASt E&M #673691 TOTAL		**$ 752,852.93**

DI# 1484187 Work to be Completed (WTBC): **$8,418,694.51**

A&E Deduction (428- FAASt A&E Project # 335168):	**-$954,420.68**
Equipment & Material Deduction (428- FAASt E&M Project # 673691):	**-$752,852.93**
Project Total Cost:	**$6,711,420.90**

Project Notes

1. Refer to detailed SOW provided in document “For this section see file: "798275-DR4339PR-Distribution Feeder Rebuild 1620-02 Detail Scope Of Work. Rev. 2.pdf”

2. Refer to detailed cost estimate provided in document “798275-DR4339PR-Distribution Feeder Rebuild 1620-02-Appendix E - LUMA Project Cost Estimate Rev. 2.xlsx”.

3. This project is part of a FAAST project, please reference project 136271.

4. A&E costs included in this project will be reduced and obligated under the FAASt Project #335168 [A&E PREPA]. The A&E project was obligated to track and account for cost associated with individual FAASt projects.

5. Equipment and material costs included in this project will be deducted from this FAASt Project and obligated under FAASt Project #673691, Equipment and Materials. Only the base cost of equipment and/or material will be deducted (not labor). All costs associated with Planning, Management, General Conditions, and Contingencies will remain in this project, FAASt #798275.

6. For attachments refer to:

   a. Appendix A – Pole Schedule

   b. Appendix B – Feeder Location Map

   c. Appendix C – Project Considerations

   d. Appendix D – Staging Area

   e. Appendix E – LUMA Project Cost Estimate

   f. Appendix F – Proposed Design

   g. Appendix G – Proposed Design KMZ

406 HMP Scope

406 Hazard Mitigation measures were not requested by the subrecipient for this project in Version 0. However, the mitigation opportunities will be applied in a future version (V1) of the Permanent Work Project. The project is ready for Insurance completion.

Cost

Code	Quantity	Unit	Total Cost	Section
9001	1	Lump Sum	$8,418,694.51	Uncompleted
3510	1	Lump Sum	($954,420.68)	Uncompleted
9001	1	Lump Sum	($752,852.93)	Uncompleted
9201	1	Lump Sum	$0.00	Completed

CRC Gross Cost	$6,711,420.90
Total 406 HMP Cost	$0.00
Total Insurance Reductions	$0.00
CRC Net Cost	$6,711,420.90
Federal Share (90.00%)	$6,040,278.81
Non-Federal Share (10.00%)	$671,142.09

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.

Insurance

Additional Information

7/22/2026

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 [Feeder Rebuild # 1620-02] (Distribution)**.

406 Mitigation

There is no additional mitigation information on ***FAASt [Feeder Rebuild # 1620-02] (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.
- NHPA (1): All borrow or fill material must come from pre-existing stockpiles, material reclaimed from maintained roadside ditches (provided the designed width or depth of the ditch is not increased) or commercially procured material from a source existing prior to the event. For any FEMA-funded project requiring the use of a non-commercial source or a commercial source that was not permitted to operate prior to the event (e.g. a new pit, agricultural fields, road ROWs, etc.) in whole or in part, regardless of cost, the Applicant must notify FEMA and the Recipient prior to extracting material. FEMA must review the source for compliance with all applicable federal environmental planning and historic preservation laws and executive orders prior to a subrecipient or their contractor commencing borrow extraction. Consultation and regulatory permitting may be required. Non-compliance with his requirement may jeopardize receipt of federal funding. Documentation of borrow sources utilized is required at closeout. See the attached Construction Management Plan (CMP).
- Pursuant to Stipulation III.B of the PSPA, if, in the course of implementing this Individual Undertaking(s), previously unidentified structures, sites, buildings, objects, districts, or archaeological deposits, that may be eligible for listing in the National Register, or human remains are uncovered, or if it appears that an Individual Undertaking has affected or will affect a previously identified historic property in an unanticipated manner, the contractor must notify Subrecipient who will immediately notify the Recipient.

Work must stop in the vicinity of the discovery and measures must be taken to protect the discovery and avoid additional harm.

- If there are any further changes to the SOW, including any increase in the extent of ground disturbance, the applicant must notify FEMA beforehand, prior to engaging in further activities not within the current SOW.
- - 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. - 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.
- The Subrecipient and/or Subrecipient s contractor must follow the Low Impact Debris Removal Stipulations (LIDRS) outlined in Appendix E of the Project-Specific Programmatic Agreement Among FEMA, the SHPO, ACHP, COR3, and PREPA (PSPA), executed on August 2, 2022.
- Additional staging areas and/or work pads within work site area haven't been identified yet. The Subrecipient and/or private operator must provide the information of any additional staging areas or work pads for EHP evaluation as soon as available specially if any construction activity will be necessary to prepare the site(s). Information for staging areas and/or work pads confined to previously disturbed or hardened surfaces can be provided at close-out.

EHP Additional Info

There is no additional environmental historical preservation on ***FAASt [Feeder Rebuild # 1620-02] (Distribution)**.

Final Reviews

Final Review

Reviewed By DIAZ-PABON, PEDRO J. **Reviewed On** 06/04/2025 11:15 AM PDT

Review Comments

To the best of my knowledge, this project is ready to continue the review process and comply with all policies & regulations. Project will move forward.

Recipient Review

Reviewed By Mulero, Noel **Reviewed On** 06/11/2025 10:27 PM PDT

Review Comments

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

Project Signatures

Reviewed By Unsigned

Reviewed On Unsigned

General Info

Project #	798275 **P/W #** 108075	**Project Type**	Specialized
Project Category	F - Utilities	**Applicant**	PR Electric Power Authority (000-UA2QU-00)
Project Title	*FAASt [Feeder Rebuild # 1620-02] (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 #1484187; FAASt [Distribution Feeder Rebuild # 1620-02]

General Facility Information:

- **Facility Type:** Power generation, transmission, and distribution facilities
- **Facility:** Distribution Feeder Rebuild # 1620-02
- **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:** 1980
- **GPS Latitude/Longitude:** [redacted]

Final Scope

1484187 **FAASt [Distribution Feeder Rebuild # 1620-02]**

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

Version 1 has been created to capture change in scope and cost as per Applicant provided documentation. The update reconciles design adjustments identified during the engineering and IFC development stage and the incorporation of the new Detailed Scope of Work (DSOW Rev. 0, dated December 1, 2025) and the revised Line-Item Project Cost Estimate (LPCE) for Feeder 1620-02.

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

5.0 Introduction

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

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

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

This document contains the detailed SOW for FEMA PA Project #798275 Distribution Feeder Rebuild #1620-02 under DR-4339-PR Public Assistance. The document provides a detailed description of the project, scope of PA construction activities to be completed, common EHP review information, proposed hazard mitigation measures, and project cost estimates. LUMA is seeking approval from COR3 and FEMA for PA funding for the scope described in this document.

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

6.0 Project Description

Feeder 1620-02 serves suburban and rural areas of the municipality of San Juan (SJ). Feeder 1620-02 is approximately 1.76 circuit miles of 3-phase overhead and underground distribution conductor, which starts at Parque Escorial Substation [redacted] The feeder is subdivided into the following categories: three-phase mainline or backbone, three-phase laterals, and one or two-phase laterals. GPS Coordinates for the start and end point of the electrical feeder backbone (BB) project are noted within the table in Section 7.0, below. The proposed work to rebuild this feeder is a subset of the scope of work included in the SJ Region Feeders Project in the PREPA 10-Year Infrastructure Plan. For more details, please refer to Appendix A – Structural Pole Analysis.

7.0 Facilities

7.1 FACILITIES LIST – BUILDINGS AND SUBSTATIONS

Electrical feeder 1620-02 serves 3,718 customers along a route to various locations.

Feeder Number	Feeder Name	Poles to be impacted	GPS Start	GPS End	Phase	Voltage Level (kV)	Construction Date
1620-02	Parque Escorial	95	[redacted]		3-Phase	13.2	More than 20 years

The table below lists three (3) poles that are along this feeder line and were replaced as part of the Distribution Pole and Conductor Repair (D-Pole) FAASt #673844 and therefore are not part of the scope of this project. This DSOW does not include scope or costs associated with the previously funded repair and replacement work. For details on work on FIDs 13511123 and 13520903 under this DSOW, please refer to Section 9.1.

Pole FID	Program	FAASt	Latitude	Longitude	Executed Scope of Work
13511123	D-Pole	673844	[redacted]		Replaced pole with 60ft 12-sided galvanized steel, Cross arms, insulators and all associated hardware.
13519708	D-Pole	673844			Replaced pole with 45ft 12-side galvanized steel, Cross arms, insulators and all associated hardware.

13520903	D-Pole	673844	[redacted]	Replaced pole with 50ft 12-side galvanized steel, Cross arms, insulators and all associated hardware.

8.0 PROJECT AREA MAP WITH BOUNDARIES OF CONSTRUCTION

The map below (also included as Appendix B – Feeder Location Map) identifies the project location.

For more detailed information please see document labeled "798275-DR4339PR-Feeders 1620-02-Detailed Scope of Work V.1 Rev. 3.pdf".

The photographs below are taken from Appendix G – Proposed Design KMZ. Poles are marked in each picture.

First Segment from P-001 to P-016, Second Segment from P-016 to P-028, Third Segment from P-28 to P-038, Fourth Segment from P-28 to P-048, Fifth Segment from P-48 to P-069 and Sixth Segment from P-069 to P-074.

Also refer to Appendix B – Feeder Location Map for aerial pictures of poles and Appendix F – Proposed Design.

9.0 Scope of Work

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

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

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

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

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

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

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

9.1 DESCRIPTION OF PROPOSED WORK TO BE PERFORMED

The tables below summarize the § 428 PA scope of work.

A. Poles

i. Remove and replace a total of eighty (80) poles to comply with structure loading cases along the feeder backbone. The pole types and quantities are described in the table below.

ii. Install thirteen (13) additional poles to comply with structure loading cases along the feeder backbone. The pole types, quantities, and references to LPCE lines are described in the tables below.

iii. Remove existing hardware and replace it with new hardware.

iv. Depths of the poles to be replaced are provided in Appendix C – Project Considerations, column D. Pole depths are 7 feet, 7.75 feet, 8.42 feet, and 9.80 feet. The maximum pole diameter is 30 inches.

v. Remove twenty-eight (28) halogen lighting on three (3)-phase primary poles and replace with a twenty-eight (28) new LED luminaire. Transfer existing LED lighting to new poles. See Appendix A – Structural Pole Analysis for information on pole FIDs and coordinates of luminaire transfers.

vi. Work to be completed will be within the public domain (10 feet wide from the center line, as per the existing PREPA easement).

Poles to Be Removed and the §428 Pole That Would Replace It Per the Fixed Cost Estimate (see columns I, N & O of "IFC ECN 1620-02" tab of **Appendix A Structural Pole Analysis** for pole FIDs and pole coordinates).

Poles to Be Removed	**§ 428 Pole of the Fixed Cost Estimate (FCE)** (refer to Section 10.1 for description of the poles that are proposed as §406)	**Qty (Ea.)**
30ft Wood C2	Poles to be replaced by electrical utility pole, 60 FT Steel Galvanized Rounded Pole	1
35ft Wood C2	Poles to be replaced by electrical utility pole, 55 FT Steel Galvanized Rounded Pole	1
35ft Wood C5	Poles to be replaced by electrical utility pole, 50 FT Steel Galvanized Rounded Pole	1
35ft Concrete H4	Poles to be replaced by electrical utility pole, 50 FT Steel Galvanized Rounded Pole	1

Poles to Be Removed	**§ 428 Pole of the Fixed Cost Estimate (FCE)** (refer to Section 10.1 for description of the poles that are proposed as §406)	**Qty (Ea.)**
40ft Wood C2	Poles to be replaced by electrical utility pole, 50 FT Steel Galvanized Rounded Pole	4
	Poles to be replaced by electrical utility pole, 55 FT Steel Galvanized Rounded Pole	8
	Poles to be replaced by electrical utility pole, 60 FT Steel Galvanized Rounded Pole	5
40ft Wood C3	Poles to be replaced by electrical utility pole, 60 FT Steel Galvanized Rounded Pole	2
40ft Wood C5	Poles to be replaced by electrical utility pole, 50 FT Steel Galvanized Rounded Pole	1
	Poles to be replaced by electrical utility pole, 60 FT Steel Galvanized Rounded Pole	1
40ft Concrete H3	Poles to be replaced by electrical utility pole, 55 FT Steel Galvanized Rounded Pole	1
40ft Concrete H4	Poles to be replaced by electrical utility pole, 50 FT Steel Galvanized Rounded Pole	2
	Poles to be replaced by electrical utility pole, 55 FT Steel Galvanized Rounded Pole	1
	Poles to be replaced by electrical utility pole, 60 FT Steel Galvanized Rounded Pole	1

40ft Steel S3	Poles to be replaced by electrical utility pole, 55 FT Steel Galvanized Rounded Pole	1
	Poles to be replaced by electrical utility pole, 60 FT Steel Galvanized Rounded Pole	1

Poles to Be Removed	**§ 428 Pole of the Fixed Cost Estimate (FCE)** (refer to Section 10.1 for description of the poles that are proposed as §406)	**Qty (Ea.)**
45ft Wood C2	Poles to be replaced by electrical utility pole, 60 FT Steel Galvanized Rounded Pole	1
45ft Concrete H4	Poles to be replaced by electrical utility pole, 50 FT Steel Galvanized Rounded Pole	9
	Poles to be replaced by electrical utility pole, 55 FT Steel Galvanized Rounded Pole	7
	Poles to be replaced by electrical utility pole, 60 FT Steel Galvanized Rounded Pole	21
	Poles to be replaced by electrical utility pole, 70 FT Steel Galvanized Rounded Pole	1
45ft Concrete H6	Poles to be replaced by electrical utility pole, 60 FT Steel Galvanized Rounded Pole	1
45ft Steel S3	Poles to be replaced by electrical utility pole, 50 FT Steel Galvanized Rounded Pole	1
	Poles to be replaced by electrical utility pole, 55 FT Steel Galvanized Rounded Pole	2
	Poles to be replaced by electrical utility pole, 60 FT Steel Galvanized Rounded Pole	1
50ft Concrete H6	Poles to be replaced by electrical utility pole, 60 FT Steel Galvanized Rounded Pole	1
50ft Steel S8	Poles to be replaced by electrical utility pole, 70 FT Steel Galvanized Rounded Pole	1
55ft Concrete H6	Poles to be replaced by electrical utility pole, 50 FT Steel Galvanized Rounded Pole	1
60ft Concrete H6	Poles to be replaced by electrical utility pole, 55 FT Steel Galvanized Rounded Pole	1

Poles to Be Removed	**§ 428 Pole of the Fixed Cost Estimate (FCE)** (refer to Section 10.1 for description of the poles that are proposed as §406)	**Qty (Ea.)**
	Total	**80** (refer to lines 74 to 80 of LPCE for total of 93 poles)

New §428 Poles That Would Be Installed Per the Fixed Cost Estimate (see columns I, N & O of "IFC ECN 1620-02" tab of Appendix A

Structural Pole Analysis for pole FIDs and pole coordinates).

Description (refer to Section 10.1 for description of the poles that are proposed as §406)	**Quantity (Ea.)**
Poles to be installed, electrical utility pole, 50 FT Steel Galvanized Rounded Pole	2
Poles to be installed, electrical utility pole, 55 FT Steel Galvanized Rounded Pole	7
Poles to be installed, electrical utility pole, 60 FT Steel Galvanized Rounded Pole	4
Total	**13 (**refer to lines 74-78 of LPCE for total of 93 poles)

Existing Poles to Remain

The following poles are existing poles that passed the PLA analysis and complied with codes and standards. The table below describes the work to be performed under such poles in this DSOW.

Pole Number	Pole FID	Description of Work Under This DSOW
051	13520903	Install one (1) E-1-2-3, one (1) F-1-3
074	13511123	Install four (4) E-1-2-3, two (2) F-1-3, one (1) F-4-2
	Total	**2**

Refer to Appendix A – Structural Pole Analysis

B. Steel Galvanized Transformers

i. Remove a total of twenty-four (24) 13.2kV Transformers (for additional information, refer to "Existing PS 1620-02" tab of Appendix) and replace them with twenty-two (22) 50 kVA and two (2) 75 kVA steel galvanized transformers, in compliance with LUMA's current codes and standards for replacement and design. Transformer quantities are described in the table below. Refer to columns BG and BI of the of "IFC ECN 1620-02" tab of **Appendix A Structural Pole Analysis** to identify the poles and coordinates that will support the transformers.

Steel Galvanized Transformers	Interconnection Voltage	Quantity (Ea.)
50 kVA	13.2 kV	22
75 kVA	13.2 kV	2
Total		**24**

C. Guy Wires / Anchoring

i. Install sixty-one (61) new guy wires, seventeen (17) expansion anchors and forty-seven (47) screw type anchors in compliance with the LUMA Overhead Electrical Distribution System Manual, available in Grants Portal - Applicant Event Profiles.

Description	Quantity (Ea.)
E-1-2-3: Guy Wires 1/2”	61(refer to line item 55 of LPCE)
F-1-3: Expansion Anchor	17 (refer to line item 56 of LPCE)
F-4-2: Screw Type Anchor	47 (refer to line item 57 of LPCE)

D. Conductors

i. Remove four hundred fifty-six (456) C.L.F. of existing conductor and replace with four hundred and two point fifty-four (402.54) C.L.F. of new 556.5 ACSR, seven point sixty-seven (7.67) C.L.F. of new 394 AAAC, and forty-six point zero four (46.04) C.L.F. of 3/0 ACSR conductor per LUMA codes and standards. The conductor quantity is described in the table below.

Description	Quantity
556.5 ACSR Conductor	402.54 C.L.F. (refer to line 83 of LPCE)
394 AAAC	7.67 C.L.F. (refer to line 85 of LPCE)
3/0 ACSR	46.04 C.L.F. (refer to line 84 of LPCE)

E. Underground Work

The underground scope of work includes the separation of two (2) existing risers in different utility poles, identified as Pole No. P-019-01 and Pole No. P-019-0.5, in order to comply with current LUMA Energy engineering and construction standards for the distribution electrical network to sustain winds up to 160 mph.

Related to underground activities, work will include trench excavations, conduit installation, and the placement of a new pull box (NPB-1) to intercept and integrate with the existing underground electrical infrastructure. The new pull box will provide accessible routing, cable management, and maintenance access consistent with modern underground distribution design practices.

All conduits and associated materials will be installed in accordance with applicable codes, utility standards, and manufacturer specifications. Excavated areas will be properly backfilled and compacted, and any disturbed surfaces will be restored to pre-disaster conditions.

This underground configuration enhances system resilience, reduces exposure to future hazard events, and supports long-term service reliability for the Escorial service area.

For additional design specifications and structural details, please refer to **Appendix F – Proposed Design** and **Appendix A – Structural Pole Analysis**, which provide supporting engineering documentation for the proposed scope of work.

9.2 CODES & STANDARDS

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

LUMA Overhead Electrical Distribution System Manual, version 4.0, available in Grants Portal - Applicant Event Profiles.

10.0 SECTION 406 HAZARD MITIGATION PROPOSAL

Refer to document: 798275-DR4339PR-Feeders 1620-02- Detailed Scope of Work-Version 1 Rev. 2-RFI June 2026.pdf.

10.1 PROPOSED § 406 HAZARD MITIGATION SCOPE OF WORK

Refer to document: 798275-DR4339PR-Feeders 1620-02-Detailed Scope of Work V.1 Rev. 3.pdf.

11.0 COMMON EHP REVIEW INFORMATION

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

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

A. Poles

Location and depth of poles to be installed are provided in APPENDIX A – **Structural Pole Analysis** (refer to columns N, O & J). Pole depths are 7 feet, 7.75 feet, 8.42 feet, and 9.8 feet. The maximum pole diameter is 30 inches. For further details of the volume impact for the installation of poles, please refer to column E in **APPENDIX C - PROJECT CONSIDERATIONS.**

Underground Works

The proposed underground electrical work will involve trenching and excavation activities at poles P-019-01 and P-019-0.5 to install new conduit systems and one (1) pull box as part of the separation of two existing risers into two different poles.

Extent of Disturbance

o Scope: Installation of two (2) 4-inch PVC conduits and one (1) pull box (NPB-1)

o Trench Length: Approx. 60 linear feet

Depth of Disturbance

• All trenches will be excavated to a depth of 57 inches below grade, in accordance with LUMA Standard URD-6.

• Trench cross-sections include:
o Concrete encasement at road crossings and utility intersections

o Compacted backfill in non-critical areas

o Warning tape and spacers as per LUMA standards

Additional Notes

• All conduit installations will follow LUMA trenching and conduit standards, including PVC Schedule 40 for horizontal runs and Schedule 80 for riser transitions.

• Pull boxes will be installed flush with grade and located to allow safe access for future maintenance.

_ **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.

A. Vegetation clearance will be performed solely to the extent that it allows crews to conduct work and will be limited to a 10 ft radius surrounding the surface of the pole, but not to exceed the width of the right-of-way. This is for the exclusive purpose of gaining access to the pole to conduct repairs. The costs related to vegetation clearance procedures are covered in FAASt #723883 [Region San Juan – Municipality San Juan Group A] (Vegetation). The vegetation removal process will be managed in accordance with federal and state regulations.

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

A. Material Disposal:

i. Polychlorinated biphenyl ("PCB"), oil from the transformer and breakers, sealants, and chemical wastes will be disposed of by the contractor in authorized facilities.

ii. The type of debris generated in the process of removal are luminaires, pole arms, photocells, wiring, transformers, concrete, metal scrap, steel, wood, domestic and construction waste. The debris will be separated and taken to an authorized waste disposal facility.

iii. Photocells are considered universal waste and will be disposed of by the contractor in authorized facilities.

B. Transformer:

i. Transformers will be contained and returned to LUMA in compliance with applicable federal and state regulations. The removal of transformers will require testing the existing oil for PCB levels, draining of the oil, and delivery to the authorized waste disposal site.

Information on GPS location of temporary debris storage sites; final debris disposal location; and final debris disposal method is not yet available.

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

- The proposed **staging area** has been identified, located at Sabana Llana 284 A, Calle 6, San Juan, PR, 00926 [redacted] Refer to Appendix D – Staging Area, which includes photographs. LUMA does not anticipate that ground disturbance or stabilization measures will be required. The area will store equipment and materials such as poles, cables, transformers, hardware and construction materials. Normally growing vegetation on the property will be cleared to the minimum extent necessary to make the staging area workable.

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

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

_ **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) to complete the project are summarized in the table(s) below. The cost estimate(s) was developed utilizing detailed Architectural and Engineering ("A&E") design information. For a more detailed cost estimate refer to Appendix E – LUMA Project Cost Estimate.

COST ESTIMATE			
Cost Element	**428**	**406**	**PROJECT TOTAL**
PLANNING	$1,233,165.98	$35,654.56	$1,268,820.54
(A&E) Permitting and Assessments	$45,364.79	$1,311.69	$46,676.48
(A&E) Environmental Documentation & Management	$363,062.34	$10,497.66	$373,560.00
(A&E) Engineering Services & Design	$824,738.85	$23,845.21	$848,584.06
MANAGEMENT	**$349,431.69**	**$10,102.92**	**$359,534.61**
(A&E) Design Development Project Management A&E	$49,554.20	$1,432.73	$50,986.93
(A&E) - Design Lodging & Per Diem A&E	$6,569.24	$189.93	$6,759.17
Project Management	$59,791.97	$1,728.73	$61,520.70
Construction Management	$110,120.45	$3,183.85	$113,304.30
Contracting, Procurement & Contract Administration	$54,570.56	$1,577.77	$56,148.33
Projects Controls (Scheduling, Estimating, Support, Cost Control, Risk, Document Control & Reporting)	$68,825.27	$1,989.91	$70,815.18
FEMA Project Name: San Juan Short Term Group 3,	**$5,546,446.59**	**$160,369.83**	**$5,706,816.42**

Work to be Completed (WTBC): $ 7,395,966.53

A&E Deduction (Global A&E FAASt 335168): - $1,289,289.42

E&M Deduction (Global E&M FAASt 673691): - $531,498.70

Project Total: $5,575,178.41

VERSION SUMMARY OF KEY CHANGES:

V0: $ 6,711,420.90

Change Requested: - $1,136,242.49

V1: $5,575,178.41

ATTACHMENTS/APPENDICES

The following attachments and appendices are provided with this DSOW:

FEMA Project Name: San Juan Short Term Group 3, Feeder 1620-02, FAAST#: 798275, material, labor and equipment.	$4,581,640.42	$133,156.11	$4,714,796.53
Start Up/Commissioning	$68,734.54	$1,987.40	$70,721.94
Construction Trespass	$23,573.98	$-	$23,573.98
Transportation Expenses	$22,911.51	$662.47	$23,573.98
Security (Field 24 hr)	$41,240.72	$1,192.44	$42,433.16
Insurance	$92,562.51	$2,676.37	$95,238.88
Contingency	$550,602.25	$15,919.25	$566,521.50
Escalation	$165,180.67	$4,775.78	$169,956.45
GENERAL CONDITIONS	$266,922.27	$7,717.85	**$274,640.12**
Sales Tax	$37,807.13	$1,093.17	$38,900.30
Municipal Construction Tax	$229,115.14	$6,624.68	$235,739.82
COST TOTALS	**$7,395,966.53**	**$213,845.16**	**$7,609,811.69**
DEDUCTIONS	**TOTAL INSURANCE PROCEEDS RECEIVED**		**$ -**
	DE-OBLIGATION TO FAASt IF APPLICABLE		**$ -**
FAASt ALLOCATIONS	FAAST PROJECT # 735474 - 428		$5,575,178.41
	FAAST PROJECT # 735474 - 406 HM		$213,845.16
	FAAST PROJECT # 735474 TOTAL:		**$5,789,023.57**
	FAASt A&E # 335168 - 428		$1,289,289.42
	FAASt A&E # 335168 - 406 HM		$37,277.22
	FAASt A&E # 335168 TOTAL		**$1,326,566.64**
	FAASt E&M #673691 - 428		$531,498.70
	FAASt E&M #673691 - 406 HM		$78,348.17
	FAASt E&M #673691 TOTAL		**$609,846.87**

Appendix	Document Description or Filename
Appendix A	Structural Pole Analysis

Appendix B	Feeder Location Map
Appendix C	Project Considerations
Appendix D	Staging Area
Appendix E	LUMA Project Cost Estimate
Appendix F	Proposed Design
Appendix G	Proposed Design KMZ
Appendix H	Right of Way Plan
Appendix I	A&E Design Cost Justification

Project Notes:

1. Refer to detailed SOW provided in document labeled: "*798275-DR4339PR-Feeders 1620-02-Detailed Scope of Work V.1 Rev. 3.pdf*".

2. For cost estimate detailed information please refer to document: "*798275-DR4339PR-Feeders 1620-02- Appendix E - LUMA Project Cost Estimate-Version 1-RFI.xlsx*".

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

4.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.

5. 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.

6. The HM costs included in this project will be removed from the current version and obligated separately under the next version, in accordance with the updated administrative guidance for Sub-FAAST transactions. For more details, please see document labeled: "SP 798275-DR4339PR- Email New Guidance FW_ Sub-FAAST Transactions - allocation process change.pdf".

406 HMP Scope

Project number: 798275; FAASt [Feeder Rebuild # 1620-02] (Distribution)

Damage: 1484187; FAASt [Distribution Feeder Rebuild # 1620-02]

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

Location: San Juan, Puerto Rico

GPS Latitude/Longitude: [redacted]

Hazard Mitigation Narrative

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

The Method of Repair (MOR) included the replacement of the damaged critical distribution poles, cross-arms, insulators, guy wires, transformers, conductors and all associated hardware needed for the new structure. Feeder 1620-02 is approximately 1.76 miles of three-phase overhead and underground distribution conductor.

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, increasing the dimensions of the poles concrete foundations, and installing additional guy wires. Additionally, the Subrecipient requested the replacement of the galvanized steel transformers with stainless steel transformers. 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:

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 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.

i. Replace twenty-two (22) 50ft round galvanized steel poles with twenty-two (22) new 50ft 12-sided galvanized steel pole, tapered shaft distribution poles.

ii. Replace twenty-nine (29) 55ft round galvanized steel pole with twenty-nine (29) new 55ft 12-sided galvanized steel pole, tapered shaft distribution pole. Note: Additional funding for pole replacement could not be identified. In this case, the mitigation is accomplished through the PA method of repair.

iii. Replace forty (40) 60ft round galvanized steel poles with forty (40) new 60ft 12-sided galvanized steel pole, tapered shaft distribution poles.

v. Replace two (2) 70ft round galvanized steel poles with two (2) new 70ft 12-sided galvanized steel pole, tapered shaft distribution poles.

B. Stainless Steel Transformer (50kVA & 75kVA):

o As a mitigation strategy, 406 HM will fund the additional cost (delta) for replacing transformer material from galvanized steel to high-strength stainless steel transformers. 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.

i. Twenty-two (22) 50kVA galvanized steel transformers by twenty-two (22) 50kVA stainless steel transformers.

ii. Two (2) 75kVA galvanized steel transformers by two (2) 75kVA stainless steel transformers.

Mitigation Measures *(Supplement)*

C. Guy Wires/Anchoring:

o To avoid damage in a future event, the Subrecipient proposes as a mitigation measure, install 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.

i. Total guy wires to be installed along this Feeder are one hundred twenty (120 EA).

ii. Total 406 HM (Delta) = 120EA – 61 EA (FCE 428 PA) = 59 EA.

Hazard Mitigation Proposal (HMP) Cost:

Total Net Hazard Mitigation Cost (Base Cost) =	$159,202.00
+ HM (Subrecipient A&E, Management & General Conditions) =	$ 54,643.16
Hazard Mitigation Total Cost =	**$ 213,845.16**

Hazard Mitigation Proposal (HMP) Cost Distribution:

Equipment and Materials (E&M) =	$78,348.17
Architecture and Engineering (A&E) =	$37,277.22
Construction Cost =	$98,219.77
Hazard Mitigation Total Cost =	**$213,845.16**

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 **$213,845.16 (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.

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

Cost

Code	Quantity	Unit	Total Cost	Section
9001	1	Lump Sum	$8,418,694.51	Uncompleted
3510	1	Lump Sum	($954,420.68)	Uncompleted
9001	1	Lump Sum	($752,852.93)	Uncompleted
9201	1	Lump Sum	$0.00	Completed
9001	1	Lump Sum	$752,852.93	Uncompleted
3510	1	Lump Sum	$954,420.68	Uncompleted
9001	1	Lump Sum	($8,418,694.51)	Uncompleted
9001	1	Lump Sum	$7,395,966.53	Uncompleted
3510	1	Lump Sum	($1,289,289.42)	Uncompleted
9001	1	Lump Sum	($531,498.70)	Uncompleted

CRC Gross Cost	$5,575,178.41
Total 406 HMP Cost	$0.00
Total Insurance Reductions	$0.00
CRC Net Cost	$5,575,178.41
Federal Share (90.00%)	$5,017,660.57
Non-Federal Share (10.00%)	$557,517.84

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.

Insurance

Additional Information

7/22/2026

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 [Feeder Rebuild # 1620-02] (Distribution)**.

406 Mitigation

There is no additional mitigation information on ***FAASt [Feeder Rebuild # 1620-02] (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.
- NHPA (1): All borrow or fill material must come from pre-existing stockpiles, material reclaimed from maintained roadside ditches (provided the designed width or depth of the ditch is not increased) or commercially procured material from a source existing prior to the event. For any FEMA-funded project requiring the use of a non-commercial source or a commercial source that was not permitted to operate prior to the event (e.g. a new pit, agricultural fields, road ROWs, etc.) in whole or in part, regardless of cost, the Applicant must notify FEMA and the Recipient prior to extracting material. FEMA must review the source for compliance with all applicable federal environmental planning and historic preservation laws and executive orders prior to a subrecipient or their contractor commencing borrow extraction. Consultation and regulatory permitting may be required. Non-compliance with his requirement may jeopardize receipt of federal funding. Documentation of borrow sources utilized is required at closeout. See the attached Construction Management Plan (CMP).
- Pursuant to Stipulation III.B of the PSPA, if, in the course of implementing this Individual Undertaking(s), previously unidentified structures, sites, buildings, objects, districts, or archaeological deposits, that may be eligible for listing in the National Register, or human remains are uncovered, or if it appears that an Individual Undertaking has affected or will affect a previously identified historic property in an unanticipated manner, the contractor must notify Subrecipient who will immediately notify the Recipient.

Work must stop in the vicinity of the discovery and measures must be taken to protect the discovery and avoid additional harm.

- If there are any further changes to the SOW, including any increase in the extent of ground disturbance, the applicant must notify FEMA beforehand, prior to engaging in further activities not within the current SOW.
- - 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. - 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.
- The Subrecipient and/or Subrecipient s contractor must follow the Low Impact Debris Removal Stipulations (LIDRS) outlined in Appendix E of the Project-Specific Programmatic Agreement Among FEMA, the SHPO, ACHP, COR3, and PREPA (PSPA), executed on August 2, 2022.
- Additional staging areas and/or work pads within work site area haven't been identified yet. The Subrecipient and/or private operator must provide the information of any additional staging areas or work pads for EHP evaluation as soon as available specially if any construction activity will be necessary to prepare the site(s). Information for staging areas and/or work pads confined to previously disturbed or hardened surfaces can be provided at close-out.
- ***Disregard previous conditions***
- ***Disregard previous conditions***
- 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.

EHP Additional Info

There is no additional environmental historical preservation on ***FAASt [Feeder Rebuild # 1620-02] (Distribution)**.

Final Reviews

Final Review

Reviewed By LEFRANC-GARCIA, CARLOS L. **Reviewed On** 09/11/2026 9:02 PM PDT

Review Comments

ersion 1 reflects the negative cost for PA reconciliation process. Change request - $1,136,242.49 for a total Federal share for this project of $5,017,660.57.

Recipient Review

Reviewed By Mulero, Noel **Reviewed On** 09/21/2026 6:33 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

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 $5,575,178.41 for subaward number 108075 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
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	9/17/2025	$6,040,278.81	90%	Accepted	4339DRPRP01080751
1	9/25/2026	($1,022,618.24)	90%	Accepted	4339DRPRP01080751

Department of Homeland Security
Federal Emergency Management Agency

v0

General Info

Project #	801172 **P/W #** 108083	**Project Type**	Specialized
Project Category	F - Utilities	**Applicant**	PR Electric Power Authority (000-UA2QU-00)
Project Title	FAASt [Feeder Rebuild # 1529-15] (Distribution) (Cost Only)	**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 #1492050; FAASt [Distribution Feeder Rebuild # 1529-15]

General Facility Information:

- **Facility Type:** Power generation, transmission, and distribution facilities
- **Facility:** Distribution Feeder Rebuild # 1529-15
- **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:** 1980
- **Start GPS Latitude/Longitude:** [redacted]
- **End GPS Latitude/Longitude:** [redacted]

Final Scope

1492050 **FAASt [Distribution Feeder Rebuild # 1529-15]**

Introduction:

This document contains the Detailed Scope of Work (DSOW) for the project 801172 Distribution Feeder Rebuild #1529-15 Project. The document provides a detailed description of the project, including scope, schedule, cost estimates and project considerations. LUMA Energy is seeking approvalfrom COR3 and FEMA for project funding to repair, restore, or replace the eligible facilities under DR-4339-PR Public Assistance.

LUMA submits this (DSOW) pursuant to the Transmission and DistributionOperations & Maintenance Agreement between the 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 LUMA Vendor Directory Listincluded on the Applicant Event Profile in Grants Portal, which collectively provides the necessary consent for LUMA Energy, as agent of PREPA, to execute federally-funded projects and seek reimbursement from FEMA as it relates to the Transmission and Distribution ("T&D") System.

Facilities Description

Feeder 1529-15 serves suburban and rural areas of the municipality of San Juan. Feeder 1529-15 is approximately 1.33 miles of three-phase overhead and underground distribution conductor. During the design process, LUMA decided that the 0.71-mile underground segment of the Feeder would be removed from this project because it complies with Code and Standards. The existing feeder route and runs along with three other feeders in the same poles (1526-05, 1526-01 & 1529-12). To bring the poles to standard and add reliability and resiliency to the system, the design is relocating the overhead feeder with a new route of poles along with feeder 1526-05 to the other side of the PR-17 Avenida Central. It continues thru marginal Jesus T. Pinero until pole FID 12250191 where it goes underground. The feeder comes out from the underground in PR-21 to continue the overhead until the recloser FID 1002118839. Also coming out of las Lomas substation the feeder moves to the west until pole FID 12253033. Therefore, this project is a 0.62-mile project split into three segments.

The First Segment exits from Cachete substation (see table below with GPS Start coordinates [redacted] (please refer to ***Appendix B- Design*** and ***Appendix A- Structural Pole Analysis*** for a map and list of all GPS locations to be impacted by this project) and continues west following road PR-17 Av. Central for approximately 0.5 miles. At that point, the First Segment ends and connects to an existing underground section of the distribution line (see table below with GPS End coordinates [redacted] While not part of this project, the feeder continues for approximately 0.71 miles on the existing underground section of the distribution line.

The Second Segment of the project resumes when the feeder is installed as overhead wire at the termination of the existing underground segment located at the riser in front of Hospital Metropolitano (see table below with GS Start coordinates [redacted]). From that point a new conductor is installed and it continues east, following road PR-21, for 0.06 miles until reaching the existing recloser with an FID 1002118839 (see table below with GPS End coordinates [redacted].

The Third Segments of the project starts in Lomas Substation (see table below with GPS Start coordinates [redacted] and continues west following road PR-21 for approximately 0.06 miles and ends at a pole with FID 12253033 (see table below with GPS End coordinates [redacted]

GPS Coordinates for the start and end points of the electrical feeder backbone (BB) project are noted in the table below. This existing overhead distribution line consists of three segments extending for approximately 0.62 miles. The table also identifies the number and type of poles in each Line Segment and the voltage of the line.

Facility List

Line Segment	Line Number	GPS Start	GPS End	Concrete	Wood	Steel	Voltage (kV
First Segment	1529-15	[redacted]		18	5	0	13.2
Second Segment	1529-15			3	0	1	13.2
Third Segment	1529-15			3	0	0	13.2

The table below lists a pole that is excluded from this project because it was installed through the Distribution Automation Program (DA):

Pole FID	Program	Latitude	Longitude
1002118839	DA	[redacted]	

Project Scope of Work:

This section contains the proposed SOW for the project, including work to repair PREPA's disaster- damaged facilities for which LUMA will request funding under PREPA's § 428 fixed cost subaward (this work and funding is referred to herein as § 428 work or § 428 funding). For specific details of the proposed reconstruction of the feeder, please refer to ***Appendix B – Design and Appendix C – Voltage Improvements and Additional Protection Devices.***

As noted above, § 428 work includes efforts to repair PREPA's facilities damaged by Hurricanes Irma and Maria, including (pursuant to the Bipartisan Budget Act of 2018) the repair or restoration of non- damaged components required to fully effectuate a disaster-related repair. Work funded under § 428 will be completed consistent with required codes and standards. Further, the Bipartisan Budget Act requires that work on non-damaged elements restore the function of the facility or system to industry standards.

Proposed 428 Public Assistance Scope of Work

This project includes the removal and replacement of twenty (20) existing poles, the installation of eleven new poles and works in two existing poles to install components to comply with code and standards. The tables below summarize the structure count of the work in this project backbone for the distribution feeder, grouped into the following categories:

A. **Poles**

Pole Description	Remove and Replace	New Installation
Steel galvanized, 12-sided, tapered shaft, 50' S8.5	8	2
Steel galvanized, 12-sided, tapered shaft, 50' S10	2	0
Steel galvanized, 12-sided, tapered shaft, 55' S10	1	0
Steel galvanized, 12-sided, tapered shaft, 60' S8.5	6	2
Steel galvanized, 12-sided, tapered shaft, 60' S10	1	4
Steel galvanized, 12-sided, tapered shaft, 60' S13	0	2
Steel galvanized, 12-sided, tapered shaft, 65' S10	0	1
Steel galvanized, 12-sided, tapered shaft, 73' S21	1	0
Steel galvanized, 12-sided, tapered shaft, 73' S35	1	0
Sub-Total	20	11
Total	31	

B. **Concrete Bases**

Concrete Base Description	Diameter (in.)	Depth (ft.)	Volume (CY)	Quant
Concrete Base for 50-S8.5 and 60-S8.5	40	14.5	6.7	2
Concrete Base for 60'-S10, 60-S13, and 65- S10	48	16	18.33	3

C. Stainless Steel Transformers

Interconnection Voltage 13.2kV/Power Transformer Single Configuration	
37.5 kVA	**75 kVA**
3	1

D. Guys & Anchors

Guy Wire and Anchor Distribution		
Description	**Unit**	**Quantity**
Guy Wires 1/2" & Anchors	**ea.**	37

E. Conductor

Type of Conductor	Unit	Quantity
556 ACSR Conductor	**C.L.F.**	207.60
1/0 TPX	**C.L.F.**	26.4

Distribution Line Replacement:

A. Install eleven (11) additional poles to comply with structure loading cases along the feeder backbone. The pole quantities are described in part A of section 4.1, above.
B. Remove existing transformers and replace them with new stainless-steel units with their respective capacity. The transformer quantities are described in part C of section 4.1, above.
C. Remove existing transformers and replace them with three (3) new 37.5KVA and one (1) new 75KVA transformers. The transformers are sized to comply with the current consensus-based Codes and Standards, the LUMA Overhead Electrical Distribution System Manual 4301.001 version 4, available in Grants Portal - Applicant Event Profiles.
D. Remove existing conductors and replace with new conductors per the LUMA specification. The conductor quantities are described in part E of section 4.1, above.

E. Remove existing poles and replace with new poles with streetlighting, including a new luminaire.

F. Remove and replace all distribution equipment, including disconnect switches, fuse cutouts, surge arresters, pole insulators, suspension insulators, cross arms, service drops, secondary lines, tap conductors (first span), in compliance with LUMA Overhead Electrical Distribution System Manual 4301.001 version 4, available in Grants Portal - Applicant Event Profiles.
G. Remove and dispose of the existing distribution lines facilities with their related components (poles, conductors, insulators, and hardware).

H. All the work to be completed will be in the current utility easement.

I. The replacement of individual structures and components will follow the design methodology per the Project Design Criteria and will conform to LUMA codes and standards applicable to the infrastructure.
J. Remove and install three fuses at pole FID# 12253897, coordinates [redacted] Please refer to **Appendix C - Voltage Improvement and Additional Protection Devices.**

Pole Replacement:

A. Remove existing poles and hardware and replace with new poles and hardware within 10 feet of the same location.

B. Depths of the poles to be erected are provided in **Appendix B – Design**.

C. Install new concrete foundation bases in compliance with Distribution Construction Standards (Concrete Base Standard), available in Grants Portal - Applicant Event Profiles. The maximum auger width to be used is 48".
D. Install new guys and anchors to new poles and existing poles in compliance with LUMA Overhead Electrical Distribution System Manual, version 4, available in Grants Portal - Applicant Event Profiles.

Scope Notes

1) Miscellaneous Civil Earthworks:
   i) Install erosion control blankets as temporary **erosion control and protection measures** to mitigate erosion or environmental risks will be installed.

2) Water Quality
   Install temporary erosion and control measures to protect any water body, as required by applicable state and federal regulations.

3) List of Equipment to be used

   i) 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.
   ii) Vegetation will be brushed using a machete, chainsaw, electric pruner, telescopic pole pruner, bucket truck, and/or chipper.

   iii) All the above equipment will adhere to Tier 4 EPA Emission Standards where applicable.

4) 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.

5) Staging Area:

   The main staging area will be in Cachete Substation ([redacted] Additional temporary staging areas are located at [redacted]

   [redacted] Refer to ***Appendix D – Staging Area***

   for locations with detailed information.

6) Material Disposal:

   i) The types of debris that will be removed from the project are luminaires, pole arms, photocells, wiring, transformers, concrete, metal scrap, steel, wood, domestic and construction waste. The debris will be separated and taken to an authorized waste disposal facility.
   ii) Chemical wastes typical of a construction site are considered hazardous waste and will be disposed of by the contractor in authorized facilities.

7) Transformer:
   Transformers will be contained and returned to LUMA in compliance with applicable local regulations. The removal of transformers will require testing of the existing oil for PCB levels, draining of the oil, and delivery to the authorized waste disposal site.

8) Ground disturbance:
   Poles and Concrete Bases: Location and depth of poles and concrete bases to be installed are provided in **Appendix B – Design.** For concrete bases, the maximum auger diameter is 48". The project's design is not 100% complete and details on exact width of ground disturbance for poles and concrete bases is still to be determined.

9) Vegetation Management:

   i) Vegetation clearance will be performed solely to extent that it allows crews to conduct work and will be limited to 10ft radius surroundings the surface of the pole, but to exceed the width of the right-of way for the exclusive purpose of gaining access to the pole to conduct repairs. The costs related to Vegetation clearance procedures are in project 723883 FAASt Region San Juan Municipality San Juan Group A High Density (Vegetation). The vegetation removal process will be managed according to federal and state regulations.

10) Access Roads
   No access roads are needed. Poles can be accessed from PR-17 Av. Central, PR-21 and municipal roads.

Project Cost Estimate (PCE):

The estimated costs (compliant with 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 to mitigate potential known risks.

COST ESTIMATE			
Cost Element	**428**	**406**	**PROJECT TOTAL**
PLANNING	**$ 378,044.53**	**$ -**	**$ 378,044.53**
(A&E) Permitting and Assessments	$ 19,631.70	$ -	$ 19,631.70
(A&E) Environmental Documentation & Management	$ 223,240.00	$ -	$ 223,240.00
(A&E) Engineering Services & Design	$ 135,172.83	$ -	$ 135,172.83
MANAGEMENT	**$ 130,732.48**	**$ -**	**$ 130,732.48**
(A&E) Project Management	$ 36,791.51	$ -	$ 36,791.51
(A&E) Construction Management	$ 49,055.34	$ -	$ 49,055.34
(A&E) Contracting, Procurement & Contract Administration	$ 20,357.96	$ -	$ 20,357.96
(A&E) Projects Controls (Scheduling, Estimating, Support, Cost Control, Risk, Document Control & Reporting)	$ 24,527.67	$ -	$ 24,527.67
San Juan Distribution Hardening Project Cachete 1529-15, FEMA Project Name: San Juan Distribution Hardening Project Cachete 1529-15 Rev. 2, FAAST#: 801172	**$ 2,409,831.44**	**$ -**	**$ 2,409,831.44**
San Juan Distribution Hardening Project Cachete 1529-15, FEMA Project Name: San Juan Distribution Hardening Project Cachete 1529-15 Rev. 2, FAAST#: 801172, material, labor and equipment.	$ 1,983,001.00	$ -	$ 1,983,001.00
Start Up/Commissioning	$ 29,745.01	$ -	$ 29,745.01
Construction Trespass	$ 9,915.00	$ -	$ 9,915.00
Transportation Expenses	$ 9,915.00	$ -	$ 9,915.00

Security (Field 24 hr)	$ 17,847.00	$ -	$ 17,847.00
Insurance	$ 40,056.62	$ -	$ 40,056.62
Construction Contingency	$ 245,768.79	$ -	$ 245,768.79
Escalation	$ 73,583.02	$ -	$ 73,583.02
GENERAL CONDITIONS	**$ 119,416.08**	**$ -**	**$ 119,416.08**
Sales Tax	$ 20,266.03	$ -	$ 20,266.03
Municipal Construction Tax	$ 99,150.05	$ -	$ 99,150.05
COST TOTALS	**$ 3,038,024.53**	**$ -**	**$ 3,038,024.53**
DEDUCTIONS	**TOTAL INSURANCE PROCEEDS RECEIVED**		**$ -**
	DE-OBLIGATION TO FAASt IF APPLICABLE		**$ -**
FAASt ALLOCATIONS	FAAST PROJECT # 801172 - 428		**$ 2,285,961.13**
	FAAST PROJECT # 801172 - 406 HM		**$ -**
	FAAST PROJECT # 801172 TOTAL:		**$ 2,285,961.13**
	FAASt A&E # 335168 - 428		**$ 508,777.01**
	FAASt A&E # 335168 - 406 HM		**$ -**
	FAASt A&E # 335168 TOTAL		**$ 508,777.01**
	FAASt E&M #673691 - 428		**$ 243,286.39**
	FAASt E&M #673691 - 406 HM		**$ -**
	FAASt E&M #673691 TOTAL		**$ 243,286.39**

Work To Be Completed: $ 3,038,024.53

A&E Deduction (Global A&E FAASt# 335168): $ 508,777.01

E&M Deduction (FAASt# 673691): $ 243,286.39

Project Total Cost (FAASt Project# 801172): $ 2,285,961.13

Project Notes:

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

2. For additional information of detailed SOW please refer to document labeled:801172-DR4339PR- - FEEDER 1529-15 DETAILED SCOPE OF WORK FULL 428 REV.3.pdf.

3. For detailed Cost Estimate please refer to document labeled: 801172-DR4339PR-FEEDER 1529-15-APPENDIX F - LUMA LPCE-Rev.2.xlsx.

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

5. 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.

6. For reference documents Appendix A through H, see the file labelled:

APPENDIX A – Structural Pole Analysis
APPENDIX B – Design
APPENDIX C – Voltage Improvements and Additional Protection Devices
APPENDIX D – Staging Area
APPENDIX E –Vegetation Management
APPENDIX F – LUMA LPCE

APPENDIX G – Proposed Design KMZ
APPENDIX H – Project Considerations

406 HMP Scope

406 Hazard Mitigation measures were not requested by the Subrecipient for this project in Version 0. However, the mitigation opportunities will be applied in a future version of the Permanent Work Project. The project is ready for insurance completion.

Cost

Code	Quantity	Unit	Total Cost	Section
3510	1	Lump Sum	($508,777.01)	Uncompleted
9001	1	Lump Sum	($243,286.39)	Uncompleted
9001	1	Lump Sum	$3,038,024.53	Uncompleted
9201	1	Lump Sum	$0.00	Completed

CRC Gross Cost	$2,285,961.13
Total 406 HMP Cost	$0.00
Total Insurance Reductions	$0.00
CRC Net Cost	$2,285,961.13
Federal Share (90.00%)	$2,057,365.02
Non-Federal Share (10.00%)	$228,596.11

Subgrant Conditions

- As described in Title 2 Code of Federal Regulations (C.F.R.) § 200.333, financial records, supporting documents, statistical records and all other non-Federal entity records pertinent to a Federal award must be retained for a period of three (3) years from the date of submission of the final expenditure report or, for Federal awards that are renewed quarterly or annually, from the date of the submission of the quarterly or annual financial report, respectively, as reported to the Federal awarding agency or pass-through entity in the case of a subrecipient. Federal awarding agencies and pass-through entities must not impose any other record retention requirements upon non-Federal entities. Exceptions are stated in 2 C.F.R. §200.333(a) – (f)(1) and (2). All records relative to this project are subject to examination and audit by the State, FEMA and the Comptroller General of the United States and must reflect work related to disaster-specific costs.
- The terms of the FEMA-State Agreement are incorporated by reference into this project under the Public Assistance award and the applicant must comply with all applicable laws, regulations, policy, and guidance. This includes, among others, the Robert T. Stafford Disaster Relief and Emergency Assistance Act; Title 44 of the Code of Federal Regulations; FEMA Policy No. 104-009-2, Public Assistance Program and Policy Guide; and other applicable FEMA policy and guidance.
- The DHS Standard Terms and Conditions in effect as of the declaration date of this emergency declarations or major disaster, as applicable, are incorporated by reference into this project under the Public Assistance grant, which flow down from the Recipient to subrecipients unless a particular term or condition indicates otherwise.
- The Uniform Administrative Requirements, Cost Principles, and Audit Requirements set forth at Title 2 Code of Federal Regulations (C.F.R.) Part 200 apply to this project award under the Public Assistance grant, which flow down from the Recipient to all subrecipients unless a particular section of 2 C.F.R. Part 200, the FEMA-State Agreement, or the terms and conditions of this project award indicate otherwise. See 2 C.F.R. §§ 200.101 and 110.
- The subrecipient must submit a written request through the Recipient to FEMA before it makes a change to the approved scope of work in this project. If the subrecipient commences work associated with a change before FEMA approves the change, it will jeopardize financial assistance for this project. See FEMA Policy No. 104-009-2, Public Assistance Program and Policy Guide.
- When any individual item of equipment purchased with PA funding is no longer needed, or a residual inventory of unused supplies exceeding $5,000 remains, the subrecipient must follow the disposition requirements in Title 2 Code of Federal Regulations (C.F.R.) § 200.313-314.
- Pursuant to section 312 of the Stafford Act, 42 U.S.C. 5155, FEMA is prohibited from providing financial assistance to any entity that receives assistance from another program, insurance, or any other source for the same work. The subrecipient agrees to repay all duplicated assistance to FEMA if they receive assistance for the same work from another Federal agency, insurance, or any other source. If an subrecipient receives funding from another federal program for the same purpose, it must notify FEMA through the Recipient and return any duplicated funding.
- 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.
- 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 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

9/4/2026

No adjustments to be made to the previous insurance coverage determination, no revisions to narrative needed, updated applicant tracker if

needed, providing administrative function and forwarding project for completion.

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

5/14/2026

Does the Applicant have a Commercial Policy: Yes.

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

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

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

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

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

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

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

O&M Requirements

There are no Obtain and Maintain Requirements on **FAASt [Feeder Rebuild # 1529-15] (Distribution) (Cost Only)**.

406 Mitigation

There is no additional mitigation information on **FAASt [Feeder Rebuild # 1529-15] (Distribution) (Cost Only)**.

Environmental Historical Preservation

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

EHP Conditions

- Any change to the approved scope of work will require re-evaluation for compliance with NEPA and other Laws and Executive Orders.
- This review does not address all federal, state and local requirements. Acceptance of federal funding requires recipient to comply with all federal, state and local laws. Failure to obtain all appropriate federal, state and local environmental permits and clearances may jeopardize funding.
- If ground disturbing activities occur during construction, applicant will monitor ground disturbance and if any potential archaeological resources are discovered, will immediately cease construction in that area and notify the State and FEMA.
- All borrow or fill material must come from pre-existing stockpiles, material reclaimed from maintained roadside ditches (provided the designed width or depth of the ditch is not increased), or commercially procured material from a source existing prior to the event. For any FEMA-funded project requiring the use of a non-commercial source or a commercial source that was not permitted

to operate prior to the event (e.g., a new pit, agricultural fields, road ROWs, etc.) in whole or in part, regardless of cost, the Applicant must notify FEMA and the Recipient prior to extracting material. FEMA must review the source for compliance with all applicable federal environmental planning and historic preservation laws and executive orders prior to a Sub-recipient or their contractor beginning to borrow extraction. Consultation and regulatory permitting may be required. Non-compliance with this requirement may jeopardize receipt of federal funding. Documentation of borrow sources utilized is required at close-out and must include fill type (private, commercial, etc.), name, fill site GPS coordinates (not of the company/governmental office), address, and type of mater.

- The Subrecipient and/or Subrecipient s contractor shall follow the Low Impact Debris Removal Stipulations (LIDRS) as stated in Appendix E of the Project-Specific Programmatic Agreement Among FEMA, the SHPO, ACHP, COR3, and PREPA (PSPA), executed on August 2, 2022. Unexpected Discoveries: Pursuant to Stipulation III.B of the PSPA, if, in the course of implementing this Individual Undertaking(s), previously unidentified structures, sites, buildings, objects, districts, or archaeological deposits, that may be eligible for listing in the National Register, or human remains are uncovered, or if it appears that an Individual Undertaking has affected or will affect a previously identified historic property in an unanticipated manner, the contractor must notify Subrecipient who will immediately notify the Recipient. Work must stop in the vicinity of the discovery and measures must be taken to protect the discovery and avoid additional harm. Additional staging areas and/or work pads within work site area haven t been identified yet. The Recipient/Subrecipient and/or private operator must provide the information of any additional staging areas or work pads for EHP evaluation as soon as available specially if any construction activity will be necessary to prepare the site(s). Information for staging areas and/or work pads confined to previously disturbed or hardened surfaces can be provided at close-out.
- The Applicant shall handle, manage, and dispose of all types of hazardous waste in accordance with requirements of local, state, and federal laws, regulations, and ordinances. In addition, the Applicant shall ensure that all debris is separated and disposed of in a manner consistent with the PR DNER guidelines at a permitted site or landfill. The contractor/applicant will be responsible for the proper disposition of construction debris in authorized landfills providing the name, location, coordinates and permits of the facility to the corresponding authorities. Unusable equipment, debris, white goods, scrap metal any other material shall be disposed in approved manner and location. In the event significant items are discovered during the implementation or development of the project the Applicant shall handle, manage and dispose petroleum products, hazardous materials and toxic waste in accordance with the requirements of the local and federal agencies. Noncompliance with these requirements may jeopardize receipt of federal funds. 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.

EHP Additional Info

There is no additional environmental historical preservation on **FAASt [Feeder Rebuild # 1529-15] (Distribution) (Cost Only)**.

Final Reviews

Final Review

Reviewed By LEFRANC-GARCIA, CARLOS L. **Reviewed On** 06/18/2025 12:51 PM PDT

Review Comments

Reviewed, found eligible and reasonable - CLG 06.18.25

Recipient Review

Reviewed By Mulero, Noel **Reviewed On** 07/03/2025 3:44 PM PDT

Review Comments

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

Project Signatures

Reviewed By Unsigned **Reviewed On** Unsigned

General Info

Project #	801172 **P/W #** 108083	**Project Type**	Specialized
Project Category	F - Utilities	**Applicant**	PR Electric Power Authority (000-UA2QU-00)
Project Title	FAASt [Feeder Rebuild # 1529-15] (Distribution) (Cost Only)	**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 #1492050; FAASt [Distribution Feeder Rebuild # 1529-15]

General Facility Information:

- **Facility Type:** Power generation, transmission, and distribution facilities
- **Facility:** Distribution Feeder Rebuild # 1529-15
- **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:** 1980
- **Start GPS Latitude/Longitude:** [redacted]
- **End GPS Latitude/Longitude:** [redacted]

Final Scope

1492050 **FAASt [Distribution Feeder Rebuild # 1529-15]**

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

Version 1 created to align the scope and cost in PA and HM. 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. SOW from previous Versions has been removed from current SOW. It can be found in the "Versioning and Amendments" tab in GM.

SOW from previous version 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 defines the activities that will be performed using Public Assistance ("PA") funding and § 406 hazard mitigation proposals (" HMPs").

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

limit the submission to a drawing set. Refer to Part C - II. Recipient/Subrecipient Checklist for Submissions as a guide to review completeness." SOP at 4.

This document contains the detailed SOW for FEMA PA Project #801172 Distribution Feeder Rebuild #1529-15 under DR-4339-PR Public Assistance. The document provides a detailed description of the project, scope of PA construction activities to be completed, common EHP review information, proposed hazard mitigation measures, and project cost estimates. LUMA is seeking approval from COR3 and FEMA for PA and HM 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

Feeder 1529-15 serves suburban and rural areas of the municipality of San Juan. Feeder 1529-15 is approximately 1.26 miles of three-phase overhead and underground distribution conductor. During the design process, LUMA decided that the 0.71-mile underground segment of the Feeder would be removed from this project because it complies with Code and Standards. The existing feeder route runs along with three other feeders in the same poles (1526-05, 1526-01 & 1529-12). To bring the poles to standard and add reliability and resiliency to the system, the design is relocating the overhead feeder with a new route of poles along with feeder 1526-05 to the other side of the PR-17 Avenida Central. It continues through marginal Jesus T. Piñero until pole FID 12250191 where it goes underground. The feeder comes out from the underground in PR-21 to continue the overhead until the recloser FID 1002118839. Therefore, this project is a 0.55-mile project split into two segments.

The First Segment exits from Cachete substation (see table in Section 7.1 below with GPS Start coordinates [redacted] (please refer to Appendix C- Design and Appendix B-Structural Pole Analysis for a map and list of all GPS locations to be impacted by this project) and continues west following road PR-17 Av. Central for approximately 0.5 miles. At that point, the First Segment ends and connects to an existing underground section of the distribution line (see table in Section 7.1 below with GPS End coordinates [redacted]. While not part of this project, the feeder continues for approximately 0.71 miles on the existing underground section of the distribution line. In front of the substation, a new riser will be installed at location WL-N3.1 to transition feeder 1526-05 from overhead to underground. The scope also includes the installation of a new pull box and underground work to connect the riser to the pull box (please refer to Appendix I – Underground Design for a map and list of all the GPS locations to be impacted by this project and the work associated with each installation). At location WL-N19, underground work will be performed to replace the existing riser and install a new pull box. This will support the transition of feeder 1526-05 from overhead to underground (please refer to Appendix I – Underground Design for a map and list of all the GPS locations to be impacted by this project and the work associated with each installation).

The Second Segment of the project resumes when the feeder is installed as overhead wire at the termination of the existing underground segment located at the new riser in front of Hospital Metropolitano (see table in Section 7.1 below with GPS Start coordinates [redacted]. From that point a new aerial conductor is installed, and continues east, following road PR-21, for 0.05 miles until reaching the existing recloser with an FID 1002118839 (see table in Section 7.1 below with GPS End coordinates ([redacted]). The new riser at location WL-N22 includes underground work. A new trench will connect to an existing conduit path, allowing the existing underground conductor to link with the new one. This enables the transition from underground to overhead service (please refer to Appendix I – Underground Design for a map and list of all the GPS locations to be impacted by this project and the work associated with each installation).

GPS Coordinates for the start and end points of the electrical feeder backbone (BB) project are noted in the table in Section 7.1 below. This existing overhead distribution line consists of two segments extending for approximately 0.55 miles. The table also identifies the number and type of poles in each Line Segment and the voltage of the line.

LUMA will remove and replace poles along the feeder backbone. New poles will be located within the public easement and are listed in Appendix B – Structural Pole Analysis, which includes the pole FID, coordinates, type of pole, hardware and equipment to be installed, type of pole and hardware to be removed, and whether it has a concrete foundation or not.

This scope of work also includes the installation of poles and guy wires within the existing easement, as shown in Appendix H – Easement Plan. At this stage of the project, surveying has already been completed. LUMA is awaiting stamped plans. No new land acquisition is required.

Facilities

FACILITIES LIST

Electrical feeder 1529-15 serves 1,802 customers along a route to various locations.None

Feeder Number	Feeder Name	Poles to be impacted	GPS Start	GPS End	Phase	Voltage Level (kV)	Construction Date
1529-15	First Segment	24	[redacted]		3-Phase	13.2	More than 20 years
1529-15	Second Segment	4			3-Phase	13.2	More than 20 years

The table below lists one (1) pole that is along this feeder line but was replaced as part of Distribution Automation FAASt #741678 and therefore is not part of the scope of this project.

As mentioned, Pole FIDs were removed and replaced as part of Distribution Automation FAASt #741678. This DSOW does not include scope or costs associated with that previously funded repair and replacement work. For details on the additional work on these FIDs, please refer to Section 9.1.

Pole FID	Program	FAASt	Latitude	Longitude	Executed Scope of Work
1002118839	Distribution Automation	741678	[redacted]		Replace pole with 50ft 12-side galvanized steel, insulators, Crossarms, and all associated hardware with 3-Phase recloser.

PROJECT AREA MAP WITH BOUNDARIES OF CONSTRUCTION

The map below (also included as Appendix A – Location Map) identifies the project location.

The photographs are available at Appendix F – Proposed Design KMZ. Poles are marked in each picture.

First Segment from WLN1 to WLN5

First Segment from WLN6 to WLN12

First Segment from WLN11 to WLN16

First Segment from WLN16 to WLN20.1

Second Segment from WL-21 to WL24

Also refer to ***Appendix C – Design*** for aerial pictures of poles.

SECTION 428 SCOPE OF WORK

The proposed type of work for this project:

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

? 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 . In the obligated project (Version 0), LUMA proposed:

- Removal and replacement of 20 poles and installation of eleven (11) new poles.
- Installation of five (5) concrete bases.
- Removal of four (4) existing transformers and replacement with three (3) 37.5kVA transformers and one (1) 75kVA transformer.

- Installation of 37 guy wires.
- Removal and replacement of 207.60 C.L.F. of 556 ACSR conductor and removal and replacement of 26.4 C.L.F. of 1/0 TPX.
- In Version 0, the project consisted of three segments.

Version 1 of this project reflects the incorporation of this revised Detailed Scope of Work and the revised Line-Item Project Cost Estimate (LPCE) for Feeder 1529-15. The update reconciles design adjustments identified during the engineering and IFC development stage.

Key updates of Version 1 include:

- Relocation of the feeder alignment to the opposite side of PR-17 (Avenida Central) to meet code-compliant clearances and structural loading criteria.
- Replacement of 14 existing wood and concrete poles with 50' and 70’ galvanized steel round poles, plus installation of 10 new poles for improved geometry and load distribution.
- Installation of six concrete foundation types (precast and cast-in-place) totaling 23.11 CY (11 CY with 428 PA funds and 406 HM will cover the additional 12.11 CY).
- Installation of 1 span guy and 28 guy wires for stability under 160 mph wind loads (19 ea. With 428 PA funds and 406 HM will cover the additional 9 ea.).
- Removal of four (4) existing pole-mounted transformers and installation of three (3) stainless-steel replacements (2 × 37.5 kVA, 1 × 100 kVA) (406 HM will cover the replacement of material from galvanized steel to stainless steel).
- Definition of the scope of work related to underground interface work at WL-N3.1, WL-N19, and WL-N22 for transitions between overhead and underground systems.
- Replacement of six (6) streetlights and reuse of one (1) LED luminaire to prevent duplication of benefits.
- Replacement of multiple conductor types, all classified under §428 Public Assistance in accordance with Luma standards (195 Spacer Cable, 556 ACSR,652.4 AAAC,3/0 ACSR,750 MCM 15kV,4/0 THW,4/0 Cu 15 kV,1/0 TPX,#2 Cu 600 V,1/0 Cu 600 V,4/0

Cu 600 V, THHN/THWN #12,&no7 Alum weld Messenger, Copper Bare 2 AWG, and Copper-Clad Steel 19 #9.).

- Consists of two (2) segments.

Version 1 also adds the required labor adjustments for §406 Hazard Mitigation scope to account for the installation of heavier 12-sided poles, larger concrete foundations, and enhanced anchoring systems.

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

DESCRIPTION OF PROPOSED WORK TO BE PERFORMED

The tables below summarize the § 428 PA scope of work.

A. Poles

i. Remove and replace fourteen (14) poles to comply with structure loading cases along the feeder backbone. Refer to line 25 of the LPCE for removal of the 18 poles, but only four (4) will not be replaced. The pole types and quantities are described in the table below.

ii. Retire and dispose of four (4) existing streetlight distribution pole (that do not have a replacement) with their related components. Refer to line 25 of the LPCE. The total quantity of poles to be removed is 18, but only four (4) will not be replaced.

iii. Install ten (10) additional poles to meet structural requirements and to support the relocation of the feeder along the backbone alignment. The pole types, quantities and references to LPCE lines are described in the tables below.

iv. The total of poles to be installed is 24. Refer to lines 66 to 72 of the LPCE for such total.

Poles to Be Removed and the §428 Pole That Would Replace It Per the Fixed Cost Estimate (see columns C, F and G of "Dist. Install Pole Schedule" tab of Appendix B Structural Pole Analysis for pole FIDs and pole coordinates).

Poles to Be Removed	**§ 428 Pole of the Fixed Cost Estimate (FCE)** (refer to Section 10.2(A) for description of the poles that are proposed as §406)	**Quantity (Ea.)**
40' Wood C2	Poles to be replaced by electrical utility pole, 50ft round galvanized Steel	1
40' Concrete H3	Poles to be replaced by electrical utility pole, 50ft round galvanized Steel	1
	Poles to be replaced by electrical utility pole, 55ft round galvanized Steel	1
	Poles to be replaced by electrical utility pole, 60ft round galvanized Steel	3
	Poles to be replaced by electrical utility pole, 65ft round galvanized Steel	1
45' Concrete H3	Poles to be replaced by electrical utility pole, 60ft round galvanized Steel	1
45' Concrete H4	Poles to be replaced by electrical utility pole, 50ft round galvanized Steel	1
50' Concrete H6	Poles to be replaced by electrical utility pole, 60ft round galvanized Steel	2
	Poles to be replaced by electrical utility pole, 65ft round galvanized Steel	1

60' Wood C2	Poles to be replaced by electrical utility pole, 70ft round galvanized Steel	1
65' Concrete H6	Poles to be replaced by electrical utility pole, 70ft round galvanized Steel	1

Poles to Be Removed	**§ 428 Pole of the Fixed Cost Estimate (FCE)** (refer to Section 10.2(A) for description of the poles that are proposed as §406)	**Quantity (Ea.)**
	Total	**14**

New §428 Poles That Would Be Installed Per the Fixed Cost Estimate (see columns C, F and G of "Dist. Install Pole Schedule" tab of **Appendix B Structural Pole Analysis** for pole FIDs and pole coordinates)

Description (refer to Section 10.2(A) for description of the poles that are proposed as §406)	Quantity (Ea.)
Poles to be installed, electrical utility pole, 60ft round galvanized Steel	7
Poles to be installed, electrical utility pole, 70ft round galvanized Steel	3
Total	**10**

Pole to Be Removed and Retired

Poles to Be Removed	**Quantity (Ea.)**
Pole to be removed, 37' Aluminum STL	3 (refer to line 25 of the LPCE)
Pole to be removed, 38' Concrete Octagonal	1 (refer to line 25 of the LPCE)
Total	**4**

Existing to Remain: Work on Pole FID 1002118839

As mentioned in Section 7.1 above, Pole FID: 1002118839 was removed and replaced as part of Distribution Automation FAASt #741678. This project, 801172 DSOW does not include scope or costs associated with that previously funded pole replacement work. The scope of work included in this Project 801172 for this pole is limited to the following, which is not duplicated in Distribution Automation FAASt #741678.

FID	Description of Work Under This DSOW
1002118839	Remove conductor and replace with new 556 ACSR conductor

Refer to **Appendix B – Structural Pole Analysis**

The following poles are existing poles that passed the PLA analysis and complied with codes and standards. The table below describes the work to be performed under such poles in this DSOW.

FID	Description of Work Under This DSOW*
12251068	Install one (1) CP-A5, one (1) T-1 (37.5 kVA)
12250191	Install one (1) CP-C4-XARM, two (2) E-1-2-3, one (1) F-4-2, one (1) URD-3
12253079	Install two (2) E-1-2-3, one (1) E-2-1, one (1) F-4-2
Total	**3**

- ***Refer to Appendix B – Structural Pole Analysis and LUMA Standards located in Grants Portal Applicant Profile.**

v. Remove existing hardware and replace it with new hardware.

vi. Pole depths range from 7 feet to 11.4 feet. The exact depth for a pole replacement or new pole is provided in **Appendix G – Project Considerations**, column E. The maximum pole diameter is 24 inches.

vii. Remove six (6) street lighting on 3 phase primary poles and replace them with a new five (5) LED luminaire. Refer to lines 27 and 60 of the LPCE. Transfer existing LED lighting to new poles. For additional information, please refer to **Appendix B – Structural Pole Analysis.** The luminaries included in this DSOW to be replaced have been verified with the following Streetlight Projects to avoid any duplication of benefits:

i. San Juan Municipality:

- P666894

B. Concrete Foundations for Line Poles

i. Install eleven (11) cubic yards of new concrete foundations at locations provided in **Appendix B – Structural Pole Analysis** (see column M). The table below summarizes the total volume of concrete installed for all bases. Refer to Section 11.0 (letter A of "Ground Disturbance") for information on ground disturbance of the concrete bases.

Description	Quantity (CY)
Concrete Foundation Base	11
Total	**11**

C. Steel Galvanized Transformers

i. Remove four (4) existing transformers (for additional information refer to Appendix B) and replace them with two (2) 37.5kVA and one (1) 100kVA steel galvanized transformers, in compliance with LUMA's current codes and standards for replacement and design. Transformer quantities are described in the table below.

Steel Galvanized Transformers	Interconnection Voltage	Quantity (Ea.)
37.5 kVA	13.2 kV	2 (refer to line 73 of the LPCE)
100 kVA	13.2 kV	1 (refer to line 74 of the LPCE)
	Total	**3**

D. Guy Wires / Anchoring

i. Install nineteen (19) new guy wires, one (1) span guy wire, four (4) expansion anchors and twelve (12) screw type anchors in compliance with the LUMA Overhead Electrical Distribution System Manual, available in Grants Portal - Applicant Event Profiles.

Description	Quantity (Ea.)
Guy Wires 1/2"	19 (refer to line item 42 of LPCE, which presents the total quantity of 28 guy wires to be installed, including those proposed as hazard mitigation)

Span Guy Wire	1 (refer to line item 43 of LPCE)
Expansion Anchor	4 (refer to line item 44 of LPCE)
Screw Type Anchor	12 (refer to line item 45 of LPCE)

E. Conductors

i. Remove two hundred thirty-seven point sixty (237.60) C.L.F. of existing conductor and replace with the following conductors for feeders 1529-15 and 1526-05 per LUMA codes and standards.

Description	Quantity
195 Spacer Cable	6 C.L.F. (refer to line 93 of LPCE)
652.4 AAAC Cable	66.11 C.L.F. (refer to line 79 of LPCE)
556.5 ACSR	111.70 C.L.F. (refer to line 76 of LPCE)
3/0 ACSR	5.51 C.L.F. (refer to line 77 of LPCE)
750 MCM 15KV	6.75 C.L.F. (refer to line 80 of LPCE)
4/0 THW	2.25 C.L.F. (refer to line 81 of LPCE)
4/0 Copper 15KV	4 C.L.F. (refer to line 91 of LPCE)
1/0 TPX	11.2 C.L.F. (refer to line 78 of LPCE)
Copper Bare Conductor, 2 AWG	2.48 C.L.F. (refer to line 99 of LPCE)
Copper-Clad Steel-Bare Ground Wire 19#9	0.25 C.L.F. (refer to line 95 of LPCE)
Stranded copper cable 600V #2 AWG	3.78 C.L.F. (refer to line 96 of LPCE)
Stranded copper cable 600V 1/0 AWG	0.24 C.L.F. (refer to line 97 of LPCE)
Stranded copper cable 600V 4/0 AWG	0.91 C.L.F. (refer to line 98 of LPCE)
THHN/THWN #12	1.5 C.L.F. (refer to line 100 of LPCE)
7no7 Alum weld Messenger Cable	23.77 C.L.F. (refer to line 94 of LPCE)

F. Underground

The underground scope of work includes construction activities at three distinct locations to support the transition of feeders 1526-05 and 1529-15 between overhead and underground infrastructure. The work includes trenching, conduit installation, and pull box placement as detailed below:

A. WL-N3.1:

Installation of two (2) 6-inch conduits to connect a new riser to a newly installed pull box measuring 7'L x 4'-6"W x 5'D. This work supports the transition of feeder 1526-05 from overhead to underground. Installation of one (1) Underground cable connection to the overhead three phase system, including a disconnecting switch URD-3. Refer to line 61 of the LPCE. Install one (1) Primary and secondary voltage riser with precast concrete foundation URD-4-A. Refer to line 64 of the LPCE. For additional information, please refer to **Appendix I – Underground Design and Appendix B – Structural Pole Analysis.**

Pull Box ID	Work Description	Reference to LPCE (Qty.)
PB-15-3.1-(N)	Install one (1) Pull Box (7ft.(l), 4ft., 6-inch(w), 5ft. (d))	1 (Refer to line 65 of the LPCE)

B. WL-N19:

Installation of two (2) 6-inch conduits between a new riser and a new 7ft.(l), 4ft., 6-inch(w), 5ft. (d) pull box to facilitate the overhead-to-underground transition of feeder 1526-05. Install one (1) Underground cable connection to the overhead three phase system, including a disconnecting switch URD-3. Refer to line 61 of the LPCE. Install one (1) primary and secondary distribution voltage riser URD-4. Refer to line 63 of the LPCE. For additional information, please refer to **Appendix I -Underground Design and Appendix B – Structural Pole Analysis.**

Pull Box ID	Work Description	Reference to LPCE
PB-15-19-(N)	Install one (1) Pull Box (7ft. (l), 4ft., 6-inch (w) 5ft. (d))	1 (Refer to line 65 of the LPCE)

C. WL-N22 (in front of Hospital Metropolitano):

Installation of two (2) 6-inch conduits to connect a new riser to the existing underground infrastructure. This work supports the transition of feeder 1529-15 from underground to overhead. Install one (1) primary and secondary distribution voltage riser URD-4. Refer to line 63 of the LPCE. Install one (1) underground cable connection to overhead system, including a three-phase disconnecting switch URD-3-B. Refer to line 62 of the

LPCE. For additional information, please refer to Appendix I -Underground Design and Appendix B – Structural Pole Analysis.

2.3 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. LUMA Overhead Electrical Distribution System Manual, version 5.0, available in Grants Portal - Applicant Event Profiles.

SECTION 406 HAZARD MITIGATION PROPOSAL

FEMA PAPPG v.3.1 provides, "Hazard mitigation is any sustained action taken to reduce or eliminate long-term risk to people and property from natural hazards and their effects." The subrecipient proposes to lessen or eliminate long-term risk to people and property from future natural hazards and their effects by performing the work described in this project to

Subrecipient's Distribution Design Criteria, which exceeds required codes and standards. Doing so will directly reduce the potential of future, similar negative consequences of damage to the T&D system, as occurred after Hurricane Maria by improving the system's physical resilience, functional resiliency, or both.

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

Refer to Appendix B – Structural Pole Analysis, Column FN– HM Justification, for site-specific rationales supporting labor delta assignments to pole replacements. These entries are aligned with FEMA's hazard mitigation guidance and validate the inclusion of associated costs under Category 406."

§ 406 HAZARD MITIGATION OPPORTUNITY

1. Poles:

Poles will be replaced with a new 12-sided, electrical utility pole, steel galvanized tapered shaft with a wind resistance rating of up to 160 mph. Because the 12-sided poles are stronger than the round steel galvanized pole established in the Fixed Cost Estimate (FCE) these poles will improve facility resiliency from future disasters. LUMA requests 406 HM funding for the replacement of material of the FCE round pole to the class of 12-sided poles that are being proposed as a hazard mitigation measure. The table below lists the quantity and types of poles (refer to columns C, F and G of the "Dist. Install Pole Schedule" tab of Appendix B Structural Pole Analysis for pole FIDs and pole coordinates) eligible for which LUMA is requesting § 406 hazard mitigation assistance:

428 Fixed Cost Estimate	428 PA	406 Hazard Mitigation Pole Description:	406 HM
Pole Description	Quantity	Material	Quantity
50ft Round Galvanized Steel	3	Electrical utility pole, steel galvanized, 12-sided, tapered shaft, 50ft S-8.5, for distribution	3
55ft Round Galvanized Steel	1	Electrical utility pole, steel galvanized, 12-sided, tapered shaft, 55ft S-8.5, for distribution	1
60ft Round Galvanized Steel	13	Electrical utility pole, steel galvanized, 12-sided, tapered shaft, 60ft S-10, for distribution	13

65ft Round Galvanized Steel	2	Electrical utility pole, steel galvanized, 12-sided, tapered shaft, 65ft S-10, for distribution	2
70ft Round Galvanized Steel	4	Electrical utility pole, steel galvanized, 12-sided, tapered shaft, 70ft S-13, for distribution	4
	1	Electrical utility pole, steel galvanized, 12-sided, tapered shaft, 70ft S-21, for distribution	1
		Total	24

For detail information please refer to Appendix B – Structural Pole Analysis.

428 Fixed Cost Estimate	428 PA	406 Hazard Mitigation Pole Description:	406 HM
Pole Description	Quantity	Material	Quantity
50ft Round Galvanized Steel	3	Electrical utility pole, steel galvanized, 12-sided, tapered shaft, 50ft S-8.5, for distribution	3
55ft Round Galvanized Steel	1	Electrical utility pole, steel galvanized, 12-sided, tapered shaft, 55ft S-8.5, for distribution	1
60ft Round Galvanized Steel	13	Electrical utility pole, steel galvanized, 12-sided, tapered shaft, 60ft S-10, for distribution	13
65ft Round Galvanized Steel	2	Electrical utility pole, steel galvanized, 12-sided, tapered shaft, 65ft S-10, for distribution	2
70ft Round Galvanized Steel	4	Electrical utility pole, steel galvanized, 12-sided, tapered shaft, 70ft S-13, for distribution	4
	1	Electrical utility pole, steel galvanized, 12-sided, tapered shaft, 70ft S-21, for distribution	1
		Total	24

2. Concrete Base Foundations

This proposed hazard mitigation measure prevents the cascading domino effect of pole collapse due to a future similar disaster. Based on LUMA STD 4350.198, the dimensions for the concrete foundation will vary based on the size and classification of the pole that will be installed (50'/60'/70' S8.5, S10, S13, or S21).

The table below presents Foundation dimensions for Precast Concrete Bases:

Concrete Base Description	Diam. (in.)	Length (ft.)	Volume (CY)	HM Amount of Precast Foundation
Precast Concrete Base for 50-S10, 55-S10, 60'-S10, 60-S13, and 65-S10	48	16	6.11	1
Cast in Place 70' S-13	48	10	14	4
Cast in Place 70' S-21	48	11.5	3	1

As per design, the total volume of concrete bases for the entire project is 23.11 cubic yards. The FCE was developed using 20 cubic yards of concrete per mile for the foundations. As a proposed hazard mitigation measure, LUMA proposes to install larger foundations that would comply with a design that withstands sustained winds of 160 mph.

The following table indicates the cubic yards per mile requested for § 428 PA assistance and for § 406 hazard mitigation assistance:

Concrete Base evaluation of quantity of CY/mi PA vs. HM			
Total miles	Project Design CY/mi	428 PA CY/mi	406HM CY/mi

3. Guys Wires:

LUMA requests § 406 hazard mitigation funding to cover the cost difference for additional guy wires beyond those included in the FCE. The FCE includes guy wires at a rate of 35 per mile.

Total guy wires per the FCE = (35 guy wires per mile) x 0.55 miles = 19 guy wires (PA). The total of guy wires to be installed along this Feeder so the line can withstand sustained winds of 160 MPH is 28. That is more than the 19 guy wires that would be installed under the FCE. Therefore, LUMA proposes that 9 guy wires be eligible for § 406 hazard mitigation funds.

Quantity of Guy wires vs. FCE

Total miles	Project Design	428 PA Guy wires	406 HM Guy Wires Quantity
0.55	28	19	9

4. Stainless Steel Transformers:

LUMA is upgrading all steel galvanized transformers outside the 1 mile from the seashore to stainless steel. The following table indicates the quantity of transformers outside of the 1 mile from the coast that are considered as 406 Hazard Mitigation upgrade LUMA galvanized steel transformers are being upgraded to high-strength stainless steel. Stainless steel transformers protect life and property from catastrophic failures of corroded transformers caused by a disaster. Transformer failure poses harm to the equipment and the public due to resulting loss of power. LUMA proposes that this measure be eligible for § 406 hazard mitigation funding. In addition, the Fixed Cost Estimate was based on pole mounted transformers that are coated steel with a corrosion resistant cover band and not stainless steel transformers.

Stainless Steel transformer tanks offer several advantages over galvanized steel and other materials, including durability, overall strength, and corrosion resistance. Stainless steel is a high-strength material that can withstand a variety of harsh conditions that transformers are subjected to before, during, and after a hurricane, such as high temperatures, extreme pressures, and physical impact. They are made of non-combustible materials, so they resist fire more effectively than other materials often used in transformer construction, such as painted steel. This reduces the likelihood of fires which place the system at risk of further damage and neighborhoods at risk of life and property damage after a storm.

Additionally, existing transformers across the island suffer from corrosion, not just the ones close to the seashore. Stainless steel transformers offer superior resistance to corrosion. Corroded transformers have a higher likelihood of failure during a disaster due to debris impacts, fires, and significant water intrusion. Such failure can create unintended electrical paths outside the insulated circuits. This leads to short circuits, which can immediately disrupt transformer function and cause widespread power outages. Additionally, corrosion degrades insulation within the transformer, making it prone to electrical arcing, further increasing the risk of failure or potential for a fire. Oil leaking from a damaged transformer could lead to vegetation damage or groundwater contamination. A stainless steel transformer is better able to withstand the corrosive effects of that exposure than a galvanized steel transformer. As a result, a stainless steel transformer will be more resistant to the effects of a disaster like Hurricane Maria and help to protect life and property.

By upgrading to this material, LUMA 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. LUMA requests that stainless steel galvanized transformers that are more than one mile from the seashore be eligible for § 406 hazard mitigation funding equal to the difference in price between a stainless steel and galvanized steel transformer.

The following table indicates the quantity of transformers that are more than 1 mile from the coast for which LUMA requests § 406 hazard mitigation assistance:

Proposed Stainless Steel Power Transformer	
Stainless Steel Transformers	**Quantity**
37.5 KVA	2
100 KVA	1

Refer to columns EL and EM of the “Dist. Install Pole Schedule” tab to identify the poles and their coordinates and refer to the “Equipment Schedule” tab of Appendix B for the capacity information that will support the three transformers.

COMMON EHP REVIEW INFORMATION

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

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

A. Poles and Concrete Bases

Location and depth of poles and concrete bases to be installed are provided in **APPENDIX B – Structural Pole Analysis** (refer to column J). Pole depths range from 7 feet to 11.4 feet. Maximum pole diameter is 32 inches. For further details of the volume impact for the installation of concrete bases and poles, please refer to column E in **APPENDIX G - PROJECT CONSIDERATIONS.**

Concrete Base Description	Diameter (in.)	Depth (ft.)
Precast Concrete Base for 50-S10, 55-S10, 60’-S10, 60-S13, and 65-S10	48	16
Concrete Bases for Concrete Poles 70’ S-13	48	10
Concrete Bases for Concrete Poles 70’ S-21	48	11.5

B. Underground Works

The proposed underground electrical work will involve trenching and excavation activities at three locations—WL-N3.1, WL-N19, and WL-N22—to install new conduit systems and pull boxes as part of the transition of feeders 1526-05 and 1529-15 between overhead and underground infrastructure.

Extent and Location of Disturbance

1. WL-N3.1 (Feeder 1526-05)

- Scope: Installation of two (2) 6-inch PVC conduits and one (1) pull box (7'L x 4'-6"W x 5'D)
- Trench Length: Approx. 120 linear feet
- Location: Along the feeder route near the Cachete Substation, within existing utility corridors

2. WL-N19 (Feeder 1526-05)

- Scope: Installation of two (2) 6-inch PVC conduits and one (1) pull box (7'L x 4'-6"W x 5'D)
- Trench Length: Approx. 75 linear feet

o Location: Along Manuel Rodríguez Ema Boulevard (PR-20), connecting to a new riser pole

3. WL-N22 (Feeder 1529-15)

o Scope: Installation of two (2) 6-inch PVC conduits to intercept existing duct bank and connect to a new riser pole

o Trench Length: Approx. 100 linear feet

o Location: Along PR-21, in front of Hospital Metropolitano

Depth of Disturbance

• All trenches will be excavated to a depth of 57 inches below grade, in accordance with LUMA Standard URD-6.

• Trench cross-sections include:

o Concrete encasement at road crossings and utility intersections

o Compacted backfill in non-critical areas

o Warning tape and spacers as per LUMA standards

Additional Notes

• All conduit installations will follow LUMA trenching and conduit standards, including PVC Schedule 40 for horizontal runs and Schedule 80 for riser transitions.

• Pull boxes will be installed flush with grade and located to allow safe access for future maintenance.

_ _ **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.

A. 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 FAASt #723883 [Region San Juan – Municipality San Juan Group A] (Vegetation). The vegetation removal process will be managed in accordance with federal and state regulations.

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

A. Material Disposal:

i. Polychlorinated biphenyl (“PCB”), oil from the transformer and breakers, sealants, and chemical wastes will be disposed of by the contractor in authorized facilities.

ii. The type of debris generated in the process of removal are luminaires, pole arms, photocells, wiring, transformers, concrete, metal scrap, steel, wood, domestic and construction waste. The debris will be separated and taken to an authorized waste disposal facility.

iii. Photocells are considered universal waste and will be disposed of by the contractor in authorized facilities.

B. Transformer:

i. Transformers will be contained and returned to LUMA in compliance with applicable federal and state regulations. The removal of transformers will require testing the existing oil for PCB levels, draining of the oil, and delivery to the authorized waste disposal site.

Information on location of temporary debris storage sites, final debris disposal location, and final debris disposal method are not yet available.

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

walls, retaining walls, paving, etc.).

• The proposed **staging area** has been identified, located at Cachete Substation [redacted] Refer to **Appendix D – Staging Area**, which includes photographs. LUMA does not anticipate that ground disturbance or stabilization measures will be required. The area will store equipment and materials such as poles, cables, transformers, hardware and construction materials. Normally growing vegetation on the property will be cleared to the minimum extent necessary to make the staging area workable.

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

• Fill, gravel, and sand materials will be obtained from an approved supplier as referenced in the LUMA Vendor Directory List included in the Applicant Event Profile in Grants Portal.

_ _ **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) to complete the project are summarized in the table(s) below. The cost estimate(s) was developed utilizing detailed Architectural and Engineering ("A&E") design information. For a more detailed cost estimate refer **to Appendix E – LUMA LPCE.**

COST ESTIMATE			
Cost Element	**428**	**406**	**PROJECT TOTAL**
PLANNING	**$ 541,423.54**	**$ 21,152.86**	**$ 562,576.40**
(A&E) Permitting and Assessments	$ 14,570.55	$ 569.25	$ 15,139.80
(A&E) Environmental Documentation & Management	$ 214,846.18	$ 8,393.82	$ 223,240.00
(A&E) Engineering Services & Design	$ 312,006.81	$ 12,189.79	$ 324,196.60
MANAGEMENT	**$ 165,556.61**	**$ 6,468.13**	**$ 172,024.74**
(A&E) Design Development Project Management A&E	$ 16,909.27	$ 660.63	$ 17,569.90

(A&E) - Design Lodging & Per Diem A&E	$ 9,757.53	$ 381.22	$ 10,138.75
Project Management	$ 59,207.52	$ 2,313.18	$ 61,520.70
Construction Management	$ 37,576.18	$ 1,468.06	$ 39,044.24
Contracting, Procurement & Contract Administration	$ 18,621.00	$ 727.50	$ 19,348.50
Projects Controls (Scheduling, Estimating, Support, Cost Control, Risk, Document Control & Reporting)	$ 23,485.11	$ 917.54	$ 24,402.65
San Juan Distribution Hardening Project Cachete 1529-15, FAAST#: 801172	**$ 1,795,788.07**	**$ 70,159.48**	**$ 1,865,947.55**
San Juan Distribution Hardening Project Cachete 1529-15, FAAST#: 801172, material, labor and equipment.	$ 1,471,485.32	$ 57,788.05	$ 1,529,273.37
Start Up/Commissioning	$ 22,076.59	$ 862.51	$ 22,939.10
Construction Trespass	$ 7,646.36	$ -	$ 7,646.36
Transportation Expenses	$ 7,358.86	$ 287.50	$ 7,646.36
Security (Field 24 hr)	$ 13,245.96	$ 517.50	$ 13,763.46
Insurance	$ 29,729.81	$ 1,161.51	$ 30,891.32
Contingency	$ 187,880.90	$ 7,340.32	$ 195,221.22
Escalation	$ 56,364.26	$ 2,202.10	$ 58,566.36
GENERAL CONDITIONS	**$ 88,575.56**	**$ 3,460.55**	**$ 92,036.11**
Sales Tax	$ 14,986.93	$ 585.52	$ 15,572.45
Municipal Construction Tax	$ 73,588.63	$ 2,875.03	$ 76,463.66
COST TOTALS	**$ 2,591,343.77**	**$ 101,241.03**	**$ 2,692,584.80**
DEDUCTIONS		**TOTAL INSURANCE PROCEEDS RECEIVED**	**$ -**
		DE-OBLIGATION TO FAASt IF APPLICABLE?	**$ -**
FAASt ALLOCATIONS	~~FAAST PROJECT # 801172 - 428~~		~~$ 1,862,738.37~~
	FAAST PROJECT # 801172 - 406 HM		$ 101,241.03

	FAAST PROJECT # 801172 TOTAL:	**$ 1,963,979.40**
	FAASt A&E # 335168 - 428	$ 568,090.34
	FAASt A&E # 335168 - 406 HM	$ 22,194.71
	FAASt A&E # 335168 TOTAL	**$ 590,285.05**
	FAASt E&M #673691 - 428	$ 160,515.06
	FAASt E&M #673691 - 406 HM	$ 28,092.46
	FAASt E&M #673691 TOTAL	**$ 188,607.52**

428 Project Summary, Version 1:

Work to Be Completed (WTBC): $ 2,591,347.77 - 2,591,347.77 = $0.00 (See project note #7).

E&M Deduction (#673691) 428: -$ 160,515.06 + 160,515.06 = $0.00 (See project note #7).

A&E Deduction (Global A&E FAASt 335168): -$ 568,090.34 + 568,090.34 = $0.00 (See project note #7).

Project Total Cost: $1,862,738.37

- 1,862,738.37 = $0.00 (See project note #7).

VERSION SUMMARY OF KEY CHANGES:

V0: $2,285,961.13 (WTBC, A&E Deduction)

V1: $0.00 (WTBC)

Project Cost Estimate Notes:

1. Refer to detailed SOW provided in document: *801172-DR4339PR-Feeder 1529-15-Amendment-Detailed Scope of Work-v.1 rev. 2.pdf*.
2. Refer to detailed cost estimate in document: *801172-DR4339PR-Feeder 1529-15-Amendment-Appendix E - LUMA LPCE.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 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 costs of equipment and/or material will be reduced from this project (not labor). All costs associated with Planning, Management, General Conditions, and Contingencies will remain in this project.
5. This project is part of 136271-MEPA078 Puerto Rico Electrical Power Authority Island Wide FAASt Project.
6. The following attachments and appendices are provided with this DSOW:

Appendix A	Location Map
Appendix B	Structural Pole Analysis
Appendix C	Design
Appendix D	Staging Area
Appendix E	LUMA LPCE
Appendix F	Proposed Design KMZ
Appendix G	Project Considerations

Appendix H	Easement Plan
Appendix I	Underground Design
Appendix J	A&E Design Cost Justification

7. 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 the positive funds (whether 406 HMP or 428), and Version 2 (amendment) will de-obligate the negative portion. This guidance applies only to Sub-FAASt transactions; non-FAASt transactions remain unchanged. See document file: 'SP 801172- DR4339PR - Email Confirmation Sub-FAASt Transaction Guidance.pdf.'"

406 HMP Scope

Project number: 801172; FAASt [Feeder Rebuild # 1529-15] (Distribution)

Damage: 1492050; FAASt [Distribution Feeder Rebuild #1529-15]

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

Location: San Juan, Puerto Rico

GPS Latitude/Longitude: Start: [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 infrastructure 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 poles, cross-arms, insulators, guy wires, transformers, conductors and all associated hardware needed for the new structure. Feeder 1529-15 is approximately 1.26 miles of three-phase overhead and underground distribution conductor. During the design process, LUMA decided that the 0.71-mile underground segment of the feeder would be removed from this project because it complies with Code and Standards. Therefore, the total scope of this project is 0.55 miles.

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, increasing the dimensions of the poles concrete foundations, and installing additional guy wires. Additionally, the Subrecipient requested the replacement of the galvanized steel transformers with stainless steel transformers. 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:

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 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.

i. Replace three (3) 50ft round galvanized steel poles with three (3) new 50ft 12-sided galvanized steel pole, tapered shaft distribution poles.

ii. Replace one (1) 55ft round galvanized steel pole with one (1) new 55ft 12-sided galvanized steel pole, tapered shaft distribution pole. Note: Additional funding for pole replacement could not be identified. In this case, the mitigation is accomplished through the PA method of repair.

iii. Replace thirteen (13) 60ft round galvanized steel poles with thirteen (13) new 50ft 12-sided galvanized steel pole, tapered shaft distribution poles.

iv. Replace two (2) 65ft round galvanized steel poles with two (2) new 65ft 12-sided galvanized steel pole, tapered shaft distribution poles.

v. Replace five (5) 70ft round galvanized steel poles with five (5) new 70ft 12-sided galvanized steel pole, tapered shaft distribution poles.

B. Stainless Steel Transformer (37.5kVA & 50kVA):

○ As a mitigation strategy, 406 HM will fund the additional cost (delta) for replacing transformer material from galvanized steel to high-strength stainless steel transformers. 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.

i. Two (2) 37.5kVA galvanized steel transformers by two (2) 37.5kVA stainless steel transformers.

ii. One (1) 50kVA galvanized steel transformer by one (1) 50kVA stainless steel transformer.

Mitigation Measures *(Supplement)*

C. Poles Concrete Base Foundations:

○ To avoid damage in a future event, the Subrecipient proposes as a mitigation measure, increase the dimensions of the concrete bases in order to mitigate future damage to the structures caused by strong winds (160mph) and flooding. The above mitigation measures will protect and make the affected infrastructure more resistant, stronger, and resilient to similar hazards.

i. Install one (1) concrete base foundation for one (1) 50ft 12-sided galvanized steel pole.

- [(4/2)^2*3.14*16] – [(1.85/2)^2*3.14*15] = 163.35/27 = approx. 6.11Y x 1 base = 6.11CY.

ii. Install four (4) concrete base foundation for four (4) 70ft 12-sided galvanized steel pole.

- [(4/2)^2*3.14*10] – [(2/2)^2*3.14*9] = 97.34/27 = approx. 3.5CY x 4 base = 14CY.

iii. Install one (1) concrete base foundation for one (1) 70ft 12-sided galvanized steel pole.

- [(4/2)^2*3.14*11.5] – [(2/2)^2*3.14*10.5] = 111.47/27 = approx. 3CY x 1 base = 3CY.

iv. Total 406 HM (Delta) = (6.11CY + 14CY + 3CY) = 23.11CY – 11CY (FCE 428 PA) = 12.11CY.

D. Guy Wires/Anchoring:

○ To avoid damage in a future event, the Subrecipient proposes as a mitigation measure, install 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.

i. Total guy wires to be installed along this Feeder are twenty-eight (28).

ii. Total 406 HM (Delta) = 28EA– 19EA (FCE 428 PA) = 9EA.

Hazard Mitigation Proposal (HMP) Cost:

Total Net Hazard Mitigation Cost (Base Cost) =	$ 73,040.69
+ HM (Subrecipient A&E, Management & General Conditions) =	$ 28,200.34
Hazard Mitigation Total Cost =	**$ 101,241.03**

Hazard Mitigation Proposal (HMP) Cost Distribution:

Equipment and Materials (E&M) =	$ 28,092.46
Architecture and Engineering (A&E) =	$ 22,194.71

Construction Cost = $ 50,953.86

Hazard Mitigation Total Cost = **$101,241.03**

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 **$101,241.03 (Hazard Mitigation Total Cost)**. The cost of this HMP combined will all other proposals (both PA and HMGP) does not exceed the maximum potential benefit and is therefore deemed cost effective per FEMA Public Assistance Program and Policy Guide (PAPPG) V3.1 April 2018, Chapter 2, VII., Section C, BCA Rule. This Hazard Mitigation Proposal meets eligible repair and restoration cost-effective requirements.

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

Cost

Code	Quantity	Unit	Total Cost	Section
3510	1	Lump Sum	($508,777.01)	Uncompleted
9001	1	Lump Sum	($243,286.39)	Uncompleted
9001	1	Lump Sum	$3,038,024.53	Uncompleted
9201	1	Lump Sum	$0.00	Completed
9001	1	Lump Sum	$0.00	Uncompleted
9001	1	Lump Sum	$0.00	Uncompleted
9001	1	Lump Sum	$0.00	Uncompleted

CRC Gross Cost	$2,285,961.13
Total 406 HMP Cost	$101,241.03
Total Insurance Reductions	$0.00
CRC Net Cost	$2,387,202.16
Federal Share (90.00%)	$2,148,481.95
Non-Federal Share (10.00%)	$238,720.21

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.
- 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.
- 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 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

9/4/2026

No adjustments to be made to the previous insurance coverage determination, no revisions to narrative needed, updated applicant tracker if

needed, providing administrative function and forwarding project for completion.

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

5/14/2026

Does the Applicant have a Commercial Policy: Yes.

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

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

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

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

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

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

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

O&M Requirements

There are no Obtain and Maintain Requirements on **FAASt [Feeder Rebuild # 1529-15] (Distribution) (Cost Only)**.

406 Mitigation

There is no additional mitigation information on **FAASt [Feeder Rebuild # 1529-15] (Distribution) (Cost Only)**.

Environmental Historical Preservation

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

EHP Conditions

- Any change to the approved scope of work will require re-evaluation for compliance with NEPA and other Laws and Executive Orders.
- This review does not address all federal, state and local requirements. Acceptance of federal funding requires recipient to comply with all federal, state and local laws. Failure to obtain all appropriate federal, state and local environmental permits and clearances may jeopardize funding.
- If ground disturbing activities occur during construction, applicant will monitor ground disturbance and if any potential archaeological resources are discovered, will immediately cease construction in that area and notify the State and FEMA.
- All borrow or fill material must come from pre-existing stockpiles, material reclaimed from maintained roadside ditches (provided the designed width or depth of the ditch is not increased), or commercially procured material from a source existing prior to the event. For any FEMA-funded project requiring the use of a non-commercial source or a commercial source that was not permitted

to operate prior to the event (e.g., a new pit, agricultural fields, road ROWs, etc.) in whole or in part, regardless of cost, the Applicant must notify FEMA and the Recipient prior to extracting material. FEMA must review the source for compliance with all applicable federal environmental planning and historic preservation laws and executive orders prior to a Sub-recipient or their contractor beginning to borrow extraction. Consultation and regulatory permitting may be required. Non-compliance with this requirement may jeopardize receipt of federal funding. Documentation of borrow sources utilized is required at close-out and must include fill type (private, commercial, etc.), name, fill site GPS coordinates (not of the company/governmental office), address, and type of mater.

- The Subrecipient and/or Subrecipient s contractor shall follow the Low Impact Debris Removal Stipulations (LIDRS) as stated in Appendix E of the Project-Specific Programmatic Agreement Among FEMA, the SHPO, ACHP, COR3, and PREPA (PSPA), executed on August 2, 2022. Unexpected Discoveries: Pursuant to Stipulation III.B of the PSPA, if, in the course of implementing this Individual Undertaking(s), previously unidentified structures, sites, buildings, objects, districts, or archaeological deposits, that may be eligible for listing in the National Register, or human remains are uncovered, or if it appears that an Individual Undertaking has affected or will affect a previously identified historic property in an unanticipated manner, the contractor must notify Subrecipient who will immediately notify the Recipient. Work must stop in the vicinity of the discovery and measures must be taken to protect the discovery and avoid additional harm. Additional staging areas and/or work pads within work site area haven t been identified yet. The Recipient/Subrecipient and/or private operator must provide the information of any additional staging areas or work pads for EHP evaluation as soon as available specially if any construction activity will be necessary to prepare the site(s). Information for staging areas and/or work pads confined to previously disturbed or hardened surfaces can be provided at close-out.
- The Applicant shall handle, manage, and dispose of all types of hazardous waste in accordance with requirements of local, state, and federal laws, regulations, and ordinances. In addition, the Applicant shall ensure that all debris is separated and disposed of in a manner consistent with the PR DNER guidelines at a permitted site or landfill. The contractor/applicant will be responsible for the proper disposition of construction debris in authorized landfills providing the name, location, coordinates and permits of the facility to the corresponding authorities. Unusable equipment, debris, white goods, scrap metal any other material shall be disposed in approved manner and location. In the event significant items are discovered during the implementation or development of the project the Applicant shall handle, manage and dispose petroleum products, hazardous materials and toxic waste in accordance with the requirements of the local and federal agencies. Noncompliance with these requirements may jeopardize receipt of federal funds. 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.
- PLEASE DISREGARD PREVIOUS CONDITIONS
- 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 reestablish the right-of-way, and asset management, including component refurbishment and replacement, to ensure operational availability of

the transmission and distribution facilities.

EHP Additional Info

There is no additional environmental historical preservation on **FAASt [Feeder Rebuild # 1529-15] (Distribution) (Cost Only)**.

Final Reviews

Final Review

Reviewed By LEFRANC-GARCIA, CARLOS L. **Reviewed On** 07/15/2026 12:34 PM PDT

Review Comments

Project has been reviewed, found eligible and reasonable. Subrecipient and its agents are responsible for complying with all grants and subgrant conditions including any applicable Federal, State and Local requirements. CLG 07.15.26

Recipient Review

Reviewed By Mulero, Noel **Reviewed On** 07/29/2026 1:40 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

General Info

Project #	801172 **P/W #** 108083	**Project Type**	Specialized
Project Category	F - Utilities	**Applicant**	PR Electric Power Authority (000-UA2QU-00)
Project Title	FAASt [Feeder Rebuild # 1529-15] (Distribution) (Cost Only)	**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 #1492050; FAASt [Distribution Feeder Rebuild # 1529-15]

General Facility Information:

- **Facility Type:** Power generation, transmission, and distribution facilities
- **Facility:** Distribution Feeder Rebuild # 1529-15
- **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:** 1980
- **Start GPS Latitude/Longitude:** [redacted]
- **End GPS Latitude/Longitude:** [redacted]

Final Scope

1492050 **FAASt [Distribution Feeder Rebuild # 1529-15]**

********** Version 2 **********

Version 2 has been created as an administrative amendment due to limitations in IFMIS (The Finance system), which cannot currently accommodate two separate accounting streams within a single transaction. This administrative amendment includes the cost changes that were pending in the previous project version. Refer to document: Sub-FAAST Transactions - allocation process.pdf

Introduction

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

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

This document contains the detailed SOW for FEMA PA Project #801172 Distribution Feeder Rebuild #1529-15 under DR-4339-PR Public Assistance. The document provides a detailed description of the project, scope of PA construction activities to be completed, common EHP review information, proposed hazard mitigation measures, and project cost estimates. LUMA is seeking approval from COR3 and FEMA for PA and HM 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

Feeder 1529-15 serves suburban and rural areas of the municipality of San Juan. Feeder 1529-15 is approximately 1.26 miles of three-phase overhead and underground distribution conductor. During the design process, LUMA decided that the 0.71-mile underground segment of the Feeder would be removed from this project because it complies with Code and Standards. The existing feeder route runs along with three other feeders in the same poles (1526-05, 1526-01 & 1529-12). To bring the poles to standard and add reliability and resiliency to the system, the design is relocating the overhead feeder with a new route of poles along with feeder 1526-05 to the other side of the PR-17 Avenida Central. It continues through marginal Jesus T. Piñero until pole FID 12250191 where it goes underground. The feeder comes out from the underground in PR-21 to continue the overhead until the recloser FID 1002118839. Therefore, this project is a 0.55-mile project split into two segments.

The First Segment exits from Cachete substation (see table in Section 7.1 below with GPS Start coordinates [redacted] (please refer to Appendix C- Design and Appendix B-Structural Pole Analysis for a map and list of all GPS locations to be impacted by this project) and continues west following road PR-17 Av. Central for approximately 0.5 miles. At that point, the First Segment ends and connects to an existing underground section of the distribution line (see table in Section 7.1 below with GPS End coordinates [redacted] While not part of this project, the feeder continues for approximately 0.71 miles on the existing underground section of the distribution line. In front of the substation, a new riser will be installed at location WL-N3.1 to transition feeder 1526-05 from overhead to underground. The scope also includes the installation of a new pull box and underground work to connect the riser to the pull box (please refer to Appendix I – Underground Design for a map and list of all the GPS locations to be impacted by this project and the work associated with each installation). At location WL-N19, underground work will be performed to replace the existing riser and install a new pull box. This will support the transition of feeder 1526-05 from overhead to underground (please refer to Appendix I – Underground Design for a map and list of all the GPS locations to be impacted by this project and the work associated with each installation).

The Second Segment of the project resumes when the feeder is installed as overhead wire at the termination of the existing underground segment located at the new riser in front of Hospital Metropolitano (see table in Section 7.1 below with GPS Start coordinates [redacted]. From that point a new aerial conductor is installed, and continues east, following road PR-21, for 0.05 miles until reaching the existing recloser with an FID 1002118839 (see table in Section 7.1 below with GPS End coordinates [redacted]). The new riser at location WL-N22 includes underground work. A new trench will connect to an existing conduit path, allowing the existing underground conductor to link with the new one. This enables the transition from underground to overhead service (please refer to Appendix I – Underground Design for a map and list of all the GPS locations to be impacted by this project and the work associated with each installation).

GPS Coordinates for the start and end points of the electrical feeder backbone (BB) project are noted in the table in Section 7.1 below. This existing overhead distribution line consists of two segments extending for approximately 0.55 miles. The table also identifies the number and type of poles in each Line Segment and the voltage of the line.

LUMA will remove and replace poles along the feeder backbone. New poles will be located within the public easement and are listed in Appendix B – Structural Pole Analysis, which includes the pole FID, coordinates, type of pole, hardware and equipment to be installed, type of pole and hardware to be removed, and whether it has a concrete foundation or not.

This scope of work also includes the installation of poles and guy wires within the existing easement, as shown in Appendix H – Easement Plan. At this stage of the project, surveying has already been completed. LUMA is awaiting stamped plans. No new land acquisition is required.

Facilities

FACILITIES LIST

Electrical feeder 1529-15 serves 1,802 customers along a route to various locations.None

Feeder Number	Feeder Name	Poles to be impacted	GPS Start	GPS End	Phase	Voltage Level (kV)	Construction Date
1529-15	First Segment	24	[redacted]		3-Phase	13.2	More than 20 years
1529-15	Second Segment	4			3-Phase	13.2	More than 20 years

The table below lists one (1) pole that is along this feeder line but was replaced as part of Distribution Automation FAASt #741678 and therefore is not part of the scope of this project.

As mentioned, Pole FIDs were removed and replaced as part of Distribution Automation FAASt #741678. This DSOW does not include scope or costs associated with that previously funded repair and replacement work. For details on the additional work on these FIDs, please refer to Section 9.1.

Pole FID	Program	FAASt	Latitude	Longitude	Executed Scope of Work
1002118839	Distribution Automation	741678	[redacted]		Replace pole with 50ft 12-side galvanized steel, insulators, Crossarms, and all associated hardware with 3-Phase recloser.

PROJECT AREA MAP WITH BOUNDARIES OF CONSTRUCTION

The map below (also included as Appendix A – Location Map) identifies the project location.
The photographs are available at Appendix F – Proposed Design KMZ. Poles are marked in each picture.

First Segment from WLN1 to WLN5

First Segment from WLN6 to WLN12

First Segment from WLN11 to WLN16

First Segment from WLN16 to WLN20.1

Second Segment from WL-21 to WL24

Also refer to ***Appendix C – Design*** for aerial pictures of poles.

Date Downloaded: 9/25/26 11:51am PDT

SECTION 428 SCOPE OF WORK

The proposed type of work for this project:

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

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

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

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

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

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

[] Recipient's approval letter included, see Appendix . In the obligated project (Version 0), LUMA proposed:

- Removal and replacement of 20 poles and installation of eleven (11) new poles.
- Installation of five (5) concrete bases.
- Removal of four (4) existing transformers and replacement with three (3) 37.5kVA transformers and one (1) 75kVA transformer.
- Installation of 37 guy wires.
- Removal and replacement of 207.60 C.L.F. of 556 ACSR conductor and removal and replacement of 26.4 C.L.F. of 1/0 TPX.
- In Version 0, the project consisted of three segments.

Version 1 of this project reflects the incorporation of this revised Detailed Scope of Work and the revised Line-Item Project Cost Estimate (LPCE) for Feeder 1529-15. The update reconciles design adjustments identified during the engineering and IFC development stage.

Key updates of Version 1 include:

- Relocation of the feeder alignment to the opposite side of PR-17 (Avenida Central) to meet code-compliant clearances and structural loading criteria.
- Replacement of 14 existing wood and concrete poles with 50' and 70' galvanized steel round poles, plus installation of 10 new poles for improved geometry and load distribution.
- Installation of six concrete foundation types (precast and cast-in-place) totaling 23.11 CY (11 CY with 428 PA funds and 406 HM will cover the additional 12.11 CY).
- Installation of 1 span guy and 28 guy wires for stability under 160 mph wind loads (19 ea. With 428 PA funds and 406 HM will cover the additional 9 ea.).
- Removal of four (4) existing pole-mounted transformers and installation of three (3) stainless-steel replacements (2 × 37.5 kVA, 1 × 100 kVA) (406 HM will cover the replacement of material from galvanized steel to stainless steel).
- Definition of the scope of work related to underground interface work at WL-N3.1, WL-N19, and WL-N22 for transitions between overhead and underground systems.
- Replacement of six (6) streetlights and reuse of one (1) LED luminaire to prevent duplication of benefits.
- Replacement of multiple conductor types, all classified under §428 Public Assistance in accordance with Luma standards (195 Spacer Cable, 556 ACSR,652.4 AAAC,3/0 ACSR,750 MCM 15kV,4/0 THW,4/0 Cu 15 kV,1/0 TPX,#2 Cu 600 V,1/0 Cu 600 V,4/0

Cu 600 V, THHN/THWN #12,&no7 Alum weld Messenger, Copper Bare 2 AWG, and Copper-Clad Steel 19 #9.).

- Consists of two (2) segments.

Version 1 also adds the required labor adjustments for §406 Hazard Mitigation scope to account for the installation of heavier 12-sided poles, larger concrete foundations, and enhanced anchoring systems.

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

DESCRIPTION OF PROPOSED WORK TO BE PERFORMED

The tables below summarize the § 428 PA scope of work.

A. Poles

i. Remove and replace fourteen (14) poles to comply with structure loading cases along the feeder backbone. Refer to line 25 of the LPCE for removal of the 18 poles, but only four (4) will not be replaced. The pole types and quantities are described in the table below.

ii. Retire and dispose of four (4) existing streetlight distribution pole (that do not have a replacement) with their related components. Refer to line 25 of the LPCE. The total quantity of poles to be removed is 18, but only four (4) will not be replaced.

iii. Install ten (10) additional poles to meet structural requirements and to support the relocation of the feeder along the backbone alignment. The pole types, quantities and references to LPCE lines are described in the tables below.

iv. The total of poles to be installed is 24. Refer to lines 66 to 72 of the LPCE for such total.

Poles to Be Removed and the §428 Pole That Would Replace It Per the Fixed Cost Estimate (see columns C, F and G of "Dist. Install Pole Schedule" tab of Appendix B Structural Pole Analysis for pole FIDs and pole coordinates).

Poles to Be Removed	**§ 428 Pole of the Fixed Cost Estimate (FCE)** (refer to Section 10.2(A) for description of the poles that are proposed as §406)	**Quantity (Ea.)**
40' Wood C2	Poles to be replaced by electrical utility pole, 50ft round galvanized Steel	1
40' Concrete H3	Poles to be replaced by electrical utility pole, 50ft round galvanized Steel	1
	Poles to be replaced by electrical utility pole, 55ft round galvanized Steel	1
	Poles to be replaced by electrical utility pole, 60ft round galvanized Steel	3
	Poles to be replaced by electrical utility pole, 65ft round galvanized Steel	1
45' Concrete H3	Poles to be replaced by electrical utility pole, 60ft round galvanized Steel	1
45' Concrete H4	Poles to be replaced by electrical utility pole, 50ft round galvanized Steel	1

50' Concrete H6	Poles to be replaced by electrical utility pole, 60ft round galvanized Steel	2
	Poles to be replaced by electrical utility pole, 65ft round galvanized Steel	1
60' Wood C2	Poles to be replaced by electrical utility pole, 70ft round galvanized Steel	1
65' Concrete H6	Poles to be replaced by electrical utility pole, 70ft round galvanized Steel	1

Poles to Be Removed	**§ 428 Pole of the Fixed Cost Estimate (FCE)** (refer to Section 10.2(A) for description of the poles that are proposed as §406)	**Quantity (Ea.)**
	Total	**14**

New §428 Poles That Would Be Installed Per the Fixed Cost Estimate (see columns C, F and G of "Dist. Install Pole Schedule" tab of **Appendix B Structural Pole Analysis** for pole FIDs and pole coordinates)

Description (refer to Section 10.2(A) for description of the poles that are proposed as §406)	Quantity (Ea.)
Poles to be installed, electrical utility pole, 60ft round galvanized Steel	7
Poles to be installed, electrical utility pole, 70ft round galvanized Steel	3
Total	**10**

Pole to Be Removed and Retired

Poles to Be Removed	**Quantity (Ea.)**
Pole to be removed, 37' Aluminum STL	3 (refer to line 25 of the LPCE)
Pole to be removed, 38' Concrete Octagonal	1 (refer to line 25 of the LPCE)
Total	**4**

Existing to Remain: Work on Pole FID 1002118839

As mentioned in Section 7.1 above, Pole FID: 1002118839 was removed and replaced as part of Distribution Automation FAASt #741678. This

project, 801172 DSOW does not include scope or costs associated with that previously funded pole replacement work. The scope of work included in this Project 801172 for this pole is limited to the following, which is not duplicated in Distribution Automation FAASt #741678.

FID	Description of Work Under This DSOW
1002118839	Remove conductor and replace with new 556 ACSR conductor

Refer to **Appendix B – Structural Pole Analysis**

The following poles are existing poles that passed the PLA analysis and complied with codes and standards. The table below describes the work to be performed under such poles in this DSOW.

FID	Description of Work Under This DSOW*
12251068	Install one (1) CP-A5, one (1) T-1 (37.5 kVA)
12250191	Install one (1) CP-C4-XARM, two (2) E-1-2-3, one (1) F-4-2, one (1) URD-3
12253079	Install two (2) E-1-2-3, one (1) E-2-1, one (1) F-4-2
Total	**3**

- ***Refer to Appendix B – Structural Pole Analysis and LUMA Standards located in Grants Portal Applicant Profile.**

v. Remove existing hardware and replace it with new hardware.

vi. Pole depths range from 7 feet to 11.4 feet. The exact depth for a pole replacement or new pole is provided in **Appendix G – Project Considerations**, column E. The maximum pole diameter is 24 inches.

vii. Remove six (6) street lighting on 3 phase primary poles and replace them with a new five (5) LED luminaire. Refer to lines 27 and 60 of the LPCE. Transfer existing LED lighting to new poles. For additional information, please refer to **Appendix B – Structural Pole Analysis.** The luminaries included in this DSOW to be replaced have been verified with the following Streetlight Projects to avoid any duplication of benefits:

i. San Juan Municipality:

- P666894

B. Concrete Foundations for Line Poles

i. Install eleven (11) cubic yards of new concrete foundations at locations provided in **Appendix B – Structural Pole Analysis** (see column M). The table below summarizes the total volume of concrete installed for all bases. Refer to Section 11.0 (letter A of "Ground Disturbance") for information on ground disturbance of the concrete bases.

Description	Quantity (CY)
Concrete Foundation Base	11
Total	**11**

C. Steel Galvanized Transformers

i. Remove four (4) existing transformers (for additional information refer to Appendix B) and replace them with two (2) 37.5kVA and one (1) 100kVA steel galvanized transformers, in compliance with LUMA's current codes and standards for replacement and design. Transformer quantities are described in the table below.

Steel Galvanized Transformers	Interconnection Voltage	Quantity (Ea.)
37.5 kVA	13.2 kV	2 (refer to line 73 of the LPCE)
100 kVA	13.2 kV	1 (refer to line 74 of the LPCE)
	Total	**3**

D. Guy Wires / Anchoring

i. Install nineteen (19) new guy wires, one (1) span guy wire, four (4) expansion anchors and twelve (12) screw type anchors in compliance with the LUMA Overhead Electrical Distribution System Manual, available in Grants Portal - Applicant Event Profiles.

Description	Quantity (Ea.)
Guy Wires 1/2"	19 (refer to line item 42 of LPCE, which presents the total quantity of 28 guy wires to be installed, including those proposed as hazard mitigation)
Span Guy Wire	1 (refer to line item 43 of LPCE)
Expansion Anchor	4 (refer to line item 44 of LPCE)
Screw Type Anchor	12 (refer to line item 45 of LPCE)

E. Conductors

i. Remove two hundred thirty-seven point sixty (237.60) C.L.F. of existing conductor and replace with the following conductors for feeders 1529-15 and 1526-05 per LUMA codes and standards.

Description	Quantity
195 Spacer Cable	6 C.L.F. (refer to line 93 of LPCE)
652.4 AAAC Cable	66.11 C.L.F. (refer to line 79 of LPCE)
556.5 ACSR	111.70 C.L.F. (refer to line 76 of LPCE)
3/0 ACSR	5.51 C.L.F. (refer to line 77 of LPCE)
750 MCM 15KV	6.75 C.L.F. (refer to line 80 of LPCE)
4/0 THW	2.25 C.L.F. (refer to line 81 of LPCE)
4/0 Copper 15KV	4 C.L.F. (refer to line 91 of LPCE)
1/0 TPX	11.2 C.L.F. (refer to line 78 of LPCE)
Copper Bare Conductor, 2 AWG	2.48 C.L.F. (refer to line 99 of LPCE)
Copper-Clad Steel-Bare Ground Wire 19#9	0.25 C.L.F. (refer to line 95 of LPCE)
Stranded copper cable 600V #2 AWG	3.78 C.L.F. (refer to line 96 of LPCE)
Stranded copper cable 600V 1/0 AWG	0.24 C.L.F. (refer to line 97 of LPCE)
Stranded copper cable 600V 4/0 AWG	0.91 C.L.F. (refer to line 98 of LPCE)
THHN/THWN #12	1.5 C.L.F. (refer to line 100 of LPCE)
7no7 Alum weld Messenger Cable	23.77 C.L.F. (refer to line 94 of LPCE)

F. Underground

The underground scope of work includes construction activities at three distinct locations to support the transition of feeders 1526-05 and 1529-15 between overhead and underground infrastructure. The work includes trenching, conduit installation, and pull box placement as detailed below:

A. WL-N3.1:

Installation of two (2) 6-inch conduits to connect a new riser to a newly installed pull box measuring 7'L x 4'-6"W x 5'D. This work supports the transition of feeder 1526-05 from overhead to underground. Installation of one (1) Underground cable connection to the overhead three phase system, including a disconnecting switch URD-3. Refer to line 61 of the LPCE. Install one (1) Primary and secondary voltage riser with precast concrete foundation URD-4-A. Refer to line 64 of the LPCE. For additional information, please refer to **Appendix I – Underground Design and Appendix B – Structural Pole Analysis.**

Pull Box ID	Work Description	Reference to LPCE (Qty.)
PB-15-3.1-(N)	Install one (1) Pull Box (7ft.(l), 4ft., 6-inch(w), 5ft. (d))	1 (Refer to line 65 of the LPCE)

B. WL-N19:

Installation of two (2) 6-inch conduits between a new riser and a new 7ft.(l), 4ft., 6-inch(w), 5ft. (d) pull box to facilitate the overhead-to-underground transition of feeder 1526-05. Install one (1) Underground cable connection to the overhead three phase system, including a disconnecting switch URD-3. Refer to line 61 of the LPCE. Install one (1) primary and secondary distribution voltage riser URD-4. Refer to line 63 of the LPCE. For additional information, please refer to **Appendix I -Underground Design and Appendix B – Structural Pole Analysis.**

Pull Box ID	Work Description	Reference to LPCE
PB-15-19-(N)	Install one (1) Pull Box (7ft. (l), 4ft., 6-inch (w) 5ft. (d))	1 (Refer to line 65 of the LPCE)

C. WL-N22 (in front of Hospital Metropolitano):

Installation of two (2) 6-inch conduits to connect a new riser to the existing underground infrastructure. This work supports the transition of feeder 1529-15 from underground to overhead. Install one (1) primary and secondary distribution voltage riser URD-4. Refer to line 63 of the LPCE. Install one (1) underground cable connection to overhead system, including a three-phase disconnecting switch URD-3-B. Refer to line 62 of the LPCE. For additional information, please refer to Appendix I -Underground Design and Appendix B – Structural Pole Analysis.

2.3 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. LUMA Overhead Electrical Distribution System Manual, version 5.0, available in Grants Portal - Applicant Event Profiles.

SECTION 406 HAZARD MITIGATION PROPOSAL

FEMA PAPPG v.3.1 provides, "Hazard mitigation is any sustained action taken to reduce or eliminate long-term risk to people and property from natural hazards and their effects." The subrecipient proposes to lessen or eliminate long-term risk to people and property from future natural hazards and their effects by performing the work described in this project to

Subrecipient's Distribution Design Criteria, which exceeds required codes and standards. Doing so will directly reduce the potential of future, similar negative consequences of damage to the T&D system, as occurred after Hurricane Maria by improving the system's physical resilience, functional resiliency, or both.

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

Refer to Appendix B – Structural Pole Analysis, Column FN– HM Justification, for site-specific rationales supporting labor delta assignments to pole replacements. These entries are aligned with FEMA's hazard mitigation guidance and validate the inclusion of associated costs under Category 406."

§ 406 HAZARD MITIGATION OPPORTUNITY

1. Poles:

Poles will be replaced with a new 12-sided, electrical utility pole, steel galvanized tapered shaft with a wind resistance rating of up to 160 mph. Because the 12-sided poles are stronger than the round steel galvanized pole established in the Fixed Cost Estimate (FCE) these poles will improve facility resiliency from future disasters. LUMA requests 406 HM funding for the replacement of material of the FCE round pole to the class of 12-sided poles that are being proposed as a hazard mitigation measure. The table below lists the quantity and types of poles (refer to

columns C, F and G of the “Dist. Install Pole Schedule” tab of Appendix B Structural Pole Analysis for pole FIDs and pole coordinates) eligible for which LUMA is requesting § 406 hazard mitigation assistance:

428 Fixed Cost Estimate	428 PA	406 Hazard Mitigation Pole Description:	406 HM Quantity
Pole Description	Quantity	Material	
50ft Round Galvanized Steel	3	Electrical utility pole, steel galvanized, 12-sided, tapered shaft, 50ft S-8.5, for distribution	3
55ft Round Galvanized Steel	1	Electrical utility pole, steel galvanized, 12-sided, tapered shaft, 55ft S-8.5, for distribution	1
60ft Round Galvanized Steel	13	Electrical utility pole, steel galvanized, 12-sided, tapered shaft, 60ft S-10, for distribution	13
65ft Round Galvanized Steel	2	Electrical utility pole, steel galvanized, 12-sided, tapered shaft, 65ft S-10, for distribution	2
70ft Round Galvanized Steel	4	Electrical utility pole, steel galvanized, 12-sided, tapered shaft, 70ft S-13, for distribution	4
	1	Electrical utility pole, steel galvanized, 12-sided, tapered shaft, 70ft S-21, for distribution	1
		Total	24

For detail information please refer to Appendix B – Structural Pole Analysis.

428 Fixed Cost Estimate	428 PA	406 Hazard Mitigation Pole Description:	406 HM Quantity
Pole Description	Quantity	Material	
50ft Round Galvanized Steel	3	Electrical utility pole, steel galvanized, 12-sided, tapered shaft, 50ft S-8.5, for distribution	3
55ft Round Galvanized Steel	1	Electrical utility pole, steel galvanized, 12-sided, tapered shaft, 55ft S-8.5, for distribution	1
60ft Round Galvanized Steel	13	Electrical utility pole, steel galvanized, 12-sided, tapered shaft, 60ft S-10, for distribution	13
65ft Round Galvanized Steel	2	Electrical utility pole, steel galvanized, 12-sided, tapered shaft, 65ft S-10, for distribution	2
70ft Round Galvanized Steel	4	Electrical utility pole, steel galvanized, 12-sided, tapered shaft, 70ft S-13, for distribution	4
	1	Electrical utility pole, steel galvanized, 12-sided, tapered shaft, 70ft S-21, for distribution	1
		Total	24

2. Concrete Base Foundations

This proposed hazard mitigation measure prevents the cascading domino effect of pole collapse due to a future similar disaster. Based on LUMA STD 4350.198, the dimensions for the concrete foundation will vary based on the size and classification of the pole that will be installed (50'/60'/70' S8.5, S10, S13, or S21).

The table below presents Foundation dimensions for Precast Concrete Bases:

Concrete Base Description	Diam. (in.)	Length (ft.)	Volume (CY)	HM Amount of Precast Foundation
Precast Concrete Base for 50-S10, 55-S10, 60'-S10, 60-S13, and 65-S10	48	16	6.11	1
Cast in Place 70' S-13	48	10	14	4
Cast in Place 70' S-21	48	11.5	3	1

As per design, the total volume of concrete bases for the entire project is 23.11 cubic yards. The FCE was developed using 20 cubic yards of concrete per mile for the foundations. As a proposed hazard mitigation measure, LUMA proposes to install larger foundations that would comply with a design that withstands sustained winds of 160 mph.

The following table indicates the cubic yards per mile requested for § 428 PA assistance and for § 406 hazard mitigation assistance:

Concrete Base evaluation of quantity of CY/mi PA vs. HM			
Total miles	Project Design CY/mi	428 PA CY/mi	406HM CY/mi

3. Guys Wires:

LUMA requests § 406 hazard mitigation funding to cover the cost difference for additional guy wires beyond those included in the FCE. The FCE includes guy wires at a rate of 35 per mile.

Total guy wires per the FCE = (35 guy wires per mile) x 0.55 miles = 19 guy wires (PA). The total of guy wires to be installed along this Feeder so the line can withstand sustained winds of 160 MPH is 28. That is more than the 19 guy wires that would be installed under the FCE. Therefore, LUMA proposes that 9 guy wires be eligible for § 406 hazard mitigation funds.

Quantity of Guy wires vs. FCE

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Total miles	Project Design	428 PA Guy wires	406 HM Guy Wires Quantity
0.55	28	19	9

4. Stainless Steel Transformers:

LUMA is upgrading all steel galvanized transformers outside the 1 mile from the seashore to stainless steel. The following table indicates the quantity of transformers outside of the 1 mile from the coast that are considered as 406 Hazard Mitigation upgrade LUMA galvanized steel transformers are being upgraded to high-strength stainless steel. Stainless steel transformers protect life and property from catastrophic failures of corroded transformers caused by a disaster. Transformer failure poses harm to the equipment and the public due to resulting loss of power. LUMA proposes that this measure be eligible for § 406 hazard mitigation funding. In addition, the Fixed Cost Estimate was based on pole mounted transformers that are coated steel with a corrosion resistant cover band and not stainless steel transformers.

Stainless Steel transformer tanks offer several advantages over galvanized steel and other materials, including durability, overall strength, and corrosion resistance. Stainless steel is a high-strength material that can withstand a variety of harsh conditions that transformers are subjected to before, during, and after a hurricane, such as high temperatures, extreme pressures, and physical impact. They are made of non-combustible materials, so they resist fire more effectively than other materials often used in transformer construction, such as painted steel. This reduces the likelihood of fires which place the system at risk of further damage and neighborhoods at risk of life and property damage after a storm.

Additionally, existing transformers across the island suffer from corrosion, not just the ones close to the seashore. Stainless steel transformers offer superior resistance to corrosion. Corroded transformers have a higher likelihood of failure during a disaster due to debris impacts, fires, and significant water intrusion. Such failure can create unintended electrical paths outside the insulated circuits. This leads to short circuits, which can immediately disrupt transformer function and cause widespread power outages. Additionally, corrosion degrades insulation within the transformer, making it prone to electrical arcing, further increasing the risk of failure or potential for a fire. Oil leaking from a damaged transformer could lead to vegetation damage or groundwater contamination. A stainless steel transformer is better able to withstand the corrosive effects of that exposure than a galvanized steel transformer. As a result, a stainless steel transformer will be more resistant to the effects of a disaster like Hurricane Maria and help to protect life and property.

By upgrading to this material, LUMA 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. LUMA requests that stainless steel galvanized transformers that are more than one mile from the seashore be eligible for § 406 hazard mitigation funding equal to the difference in price between a stainless steel and galvanized steel transformer.

The following table indicates the quantity of transformers that are more than 1 mile from the coast for which LUMA requests § 406 hazard mitigation assistance:

Proposed Stainless Steel Power Transformer	
Stainless Steel Transformers	**Quantity**
37.5 KVA	2
100 KVA	1

Refer to columns EL and EM of the “Dist. Install Pole Schedule” tab to identify the poles and their coordinates and refer to the “Equipment Schedule” tab of Appendix B for the capacity information that will support the three transformers.

COMMON EHP REVIEW INFORMATION

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

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

A. Poles and Concrete Bases

Location and depth of poles and concrete bases to be installed are provided in **APPENDIX B – Structural Pole Analysis** (refer to column J). Pole depths range from 7 feet to 11.4 feet. Maximum pole diameter is 32 inches. For further details of the volume impact for the installation of concrete bases and poles, please refer to column E in **APPENDIX G - PROJECT CONSIDERATIONS.**

Concrete Base Description	Diameter (in.)	Depth (ft.)
Precast Concrete Base for 50-S10, 55-S10, 60'-S10, 60-S13, and 65-S10	48	16
Concrete Bases for Concrete Poles 70' S-13	48	10
Concrete Bases for Concrete Poles 70' S-21	48	11.5

B. Underground Works

The proposed underground electrical work will involve trenching and excavation activities at three locations—WL-N3.1, WL-N19, and WL-N22—to install new conduit systems and pull boxes as part of the transition of feeders 1526-05 and 1529-15 between overhead and underground infrastructure.

Extent and Location of Disturbance

1. WL-N3.1 (Feeder 1526-05)

o Scope: Installation of two (2) 6-inch PVC conduits and one (1) pull box (7'L x 4'-6"W x 5'D)

o Trench Length: Approx. 120 linear feet

o Location: Along the feeder route near the Cachete Substation, within existing utility corridors

2. WL-N19 (Feeder 1526-05)

o Scope: Installation of two (2) 6-inch PVC conduits and one (1) pull box (7'L x 4'-6"W x 5'D)

o Trench Length: Approx. 75 linear feet

o Location: Along Manuel Rodríguez Ema Boulevard (PR-20), connecting to a new riser pole

3. WL-N22 (Feeder 1529-15)

o Scope: Installation of two (2) 6-inch PVC conduits to intercept existing duct bank and connect to a new riser pole

o Trench Length: Approx. 100 linear feet

o Location: Along PR-21, in front of Hospital Metropolitano

Depth of Disturbance

• All trenches will be excavated to a depth of 57 inches below grade, in accordance with LUMA Standard URD-6.

• Trench cross-sections include:

o Concrete encasement at road crossings and utility intersections

o Compacted backfill in non-critical areas

o Warning tape and spacers as per LUMA standards

Additional Notes

• All conduit installations will follow LUMA trenching and conduit standards, including PVC Schedule 40 for horizontal runs and Schedule 80 for riser transitions.

• Pull boxes will be installed flush with grade and located to allow safe access for future maintenance.

_ _ **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.

A. 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 FAASt #723883 [Region San Juan – Municipality San Juan Group A] (Vegetation). The vegetation removal process will be managed in accordance with federal and state regulations.

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

A. Material Disposal:

i. Polychlorinated biphenyl ("PCB"), oil from the transformer and breakers, sealants, and chemical wastes will be disposed of by the contractor in authorized facilities.

ii. The type of debris generated in the process of removal are luminaires, pole arms, photocells, wiring, transformers, concrete, metal scrap, steel, wood, domestic and construction waste. The debris will be separated and taken to an authorized waste disposal facility.

iii. Photocells are considered universal waste and will be disposed of by the contractor in authorized facilities.

B. Transformer:

i. Transformers will be contained and returned to LUMA in compliance with applicable federal and state regulations. The removal of transformers will require testing the existing oil for PCB levels, draining of the oil, and delivery to the authorized waste disposal site.

Information on location of temporary debris storage sites, final debris disposal location, and final debris disposal method are not yet available.

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

• The proposed **staging area** has been identified, located at Cachete Substation [redacted] Refer to **Appendix D – Staging Area**, which includes photographs. LUMA does not anticipate that ground disturbance or stabilization measures will be required. The area will store equipment and materials such as poles, cables, transformers, hardware and construction materials. Normally growing vegetation on the property will be cleared to the minimum extent necessary to make the staging area workable.

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

• Fill, gravel, and sand materials will be obtained from an approved supplier as referenced in the LUMA Vendor Directory List included in the Applicant Event Profile in Grants Portal.

_ _ **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) to complete the project are summarized in the table(s) below. The cost estimate(s) was developed utilizing detailed Architectural and Engineering ("A&E") design information. For a more detailed cost estimate refer **to Appendix E – LUMA LPCE.**

COST ESTIMATE			
Cost Element	**428**	**406**	**PROJECT TOTAL**
PLANNING	**$ 541,423.54**	**$ 21,152.86**	**$ 562,576.40**
(A&E) Permitting and Assessments	$ 14,570.55	$ 569.25	$ 15,139.80
(A&E) Environmental Documentation & Management	$ 214,846.18	$ 8,393.82	$ 223,240.00
(A&E) Engineering Services & Design	$ 312,006.81	$ 12,189.79	$ 324,196.60
MANAGEMENT	**$ 165,556.61**	**$ 6,468.13**	**$ 172,024.74**
(A&E) Design Development Project Management A&E	$ 16,909.27	$ 660.63	$ 17,569.90
(A&E) - Design Lodging & Per Diem A&E	$ 9,757.53	$ 381.22	$ 10,138.75
Project Management	$ 59,207.52	$ 2,313.18	$ 61,520.70
Construction Management	$ 37,576.18	$ 1,468.06	$ 39,044.24
Contracting, Procurement & Contract Administration	$ 18,621.00	$ 727.50	$ 19,348.50
Projects Controls (Scheduling, Estimating, Support, Cost Control, Risk, Document Control & Reporting)	$ 23,485.11	$ 917.54	$ 24,402.65
San Juan Distribution Hardening Project Cachete 1529-15, FAAST#: 801172	**$ 1,795,788.07**	**$ 70,159.48**	**$ 1,865,947.55**
San Juan Distribution Hardening Project Cachete 1529-15, FAAST#: 801172, material, labor and equipment.	$ 1,471,485.32	$ 57,788.05	$ 1,529,273.37

Start Up/Commissioning	$ 22,076.59	$ 862.51	$ 22,939.10
Construction Trespass	$ 7,646.36	$ -	$ 7,646.36
Transportation Expenses	$ 7,358.86	$ 287.50	$ 7,646.36
Security (Field 24 hr)	$ 13,245.96	$ 517.50	$ 13,763.46
Insurance	$ 29,729.81	$ 1,161.51	$ 30,891.32
Contingency	$ 187,880.90	$ 7,340.32	$ 195,221.22
Escalation	$ 56,364.26	$ 2,202.10	$ 58,566.36
GENERAL CONDITIONS	**$ 88,575.56**	**$ 3,460.55**	**$ 92,036.11**
Sales Tax	$ 14,986.93	$ 585.52	$ 15,572.45
Municipal Construction Tax	$ 73,588.63	$ 2,875.03	$ 76,463.66
COST TOTALS	**$ 2,591,343.77**	**$ 101,241.03**	**$ 2,692,584.80**
DEDUCTIONS	**TOTAL INSURANCE PROCEEDS RECEIVED**		**$ -**
	DE-OBLIGATION TO FAASt IF APPLICABLE		**$ -**
FAASt ALLOCATIONS	FAAST PROJECT # 801172 - 428		$ 1,862,738.37
	FAAST PROJECT # 801172 - 406 HM		$ 101,241.03
	FAAST PROJECT # 801172 TOTAL:		**$ 1,963,979.40**
	FAASt A&E # 335168 - 428		$ 568,090.34
	FAASt A&E # 335168 - 406 HM		$ 22,194.71
	FAASt A&E # 335168 TOTAL		**$ 590,285.05**
	FAASt E&M #673691 - 428		$ 160,515.06
	FAASt E&M #673691 - 406 HM		$ 28,092.46
	FAASt E&M #673691 TOTAL		**$ 188,607.52**

428 Project Summary, Version 2:

Work to Be Completed (WTBC): $2,591,343.77

E&M Deduction (#673691) 428: -$ 160,515.06

A&E Deduction (Global A&E FAASt 335168): -$ 568,090.34

Project Total Cost: $1,862,738.37

VERSION SUMMARY OF KEY CHANGES:

V0: $2,285,961.13 (WTBC, A&E Deduction)

V1: $0.00 (WTBC)

V2: $2,591,343.77 -$ 160,515.06 -$ 568,090.34 - $2,285,961.13 (WTBC V2, E&M DEDUCTION V2, A&E DEDUCTION V2, V0 WTBC DEDUCTION).

Project Cost Estimate Notes:

1. Refer to detailed SOW provided in document: *801172-DR4339PR-Feeder 1529-15-Amendment-Detailed Scope of Work-v.1 rev. 2.pdf*.

2. Refer to detailed cost estimate in document: *801172-DR4339PR-Feeder 1529-15-Amendment-Appendix E - LUMA LPCE.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 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 costs of equipment and/or material will be reduced from this project (not labor). All costs associated with Planning, Management, General Conditions, and Contingencies will remain in this project.

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

6. The following attachments and appendices are provided with this DSOW:

Appendix A	Location Map
Appendix B	Structural Pole Analysis
Appendix C	Design
Appendix D	Staging Area
Appendix E	LUMA LPCE
Appendix F	Proposed Design KMZ
Appendix G	Project Considerations
Appendix H	Easement Plan
Appendix I	Underground Design
Appendix J	A&E Design Cost Justification

7. 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 the positive funds (whether 406 HMP or 428), and Version 2 (amendment) will de-obligate the negative portion. This guidance applies only to Sub-FAASt transactions; non-FAASt transactions remain unchanged. See document file: 'SP 801172-DR4339PR - Email Confirmation Sub-FAASt Transaction Guidance.pdf.'" and "Sub-FAAST Transactions - allocation process.pdf"

406 HMP Scope

Project number: 801172; FAASt [Feeder Rebuild # 1529-15] (Distribution)

Damage: 1492050; FAASt [Distribution Feeder Rebuild #1529-15]

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

Location: San Juan, Puerto Rico

GPS Latitude/Longitude: Start: [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 infrastructure 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 poles, cross-arms, insulators, guy wires, transformers, conductors and all associated hardware needed for the new structure. Feeder 1529-15 is approximately 1.26 miles of three-phase overhead and underground distribution conductor. During

the design process, LUMA decided that the 0.71-mile underground segment of the feeder would be removed from this project because it complies with Code and Standards. Therefore, the total scope of this project is 0.55 miles.

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, increasing the dimensions of the poles concrete foundations, and installing additional guy wires. Additionally, the Subrecipient requested the replacement of the galvanized steel transformers with stainless steel transformers. 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:

○ 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 (160mph). The above mitigation measures will protect and make the affected infrastructure more resistant, stronger, and resilient to similar hazards.

i. Replace three (3) 50ft round galvanized steel poles with three (3) new 50ft 12-sided galvanized steel pole, tapered shaft distribution poles.

ii. Replace one (1) 55ft round galvanized steel pole with one (1) new 55ft 12-sided galvanized steel pole, tapered shaft distribution pole. Note: Additional funding for pole replacement could not be identified. In this case, the mitigation is accomplished through the PA method of repair.

iii. Replace thirteen (13) 60ft round galvanized steel poles with thirteen (13) new 50ft 12-sided galvanized steel pole, tapered shaft distribution poles.

iv. Replace two (2) 65ft round galvanized steel poles with two (2) new 65ft 12-sided galvanized steel pole, tapered shaft distribution poles.

v. Replace five (5) 70ft round galvanized steel poles with five (5) new 70ft 12-sided galvanized steel pole, tapered shaft distribution poles.

B. Stainless Steel Transformer (37.5kVA & 50kVA):

○ As a mitigation strategy, 406 HM will fund the additional cost (delta) for replacing transformer material from galvanized steel to high-strength stainless steel transformers. 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.

i. Two (2) 37.5kVA galvanized steel transformers by two (2) 37.5kVA stainless steel transformers.

ii. One (1) 50kVA galvanized steel transformer by one (1) 50kVA stainless steel transformer.

Mitigation Measures *(Supplement)*

C. Poles Concrete Base Foundations:

○ To avoid damage in a future event, the Subrecipient proposes as a mitigation measure, increase the dimensions of the concrete bases in order to mitigate future damage to the structures caused by strong winds (160mph) and flooding. The above mitigation measures will protect and make the affected infrastructure more resistant, stronger, and resilient to similar hazards.

i. Install one (1) concrete base foundation for one (1) 50ft 12-sided galvanized steel pole.

- [(4/2)^2*3.14*16] – [(1.85/2)^2*3.14*15] = 163.35/27 = approx. 6.11Y x 1 base = 6.11CY.

ii. Install four (4) concrete base foundation for four (4) 70ft 12-sided galvanized steel pole.

- [(4/2)^2*3.14*10] – [(2/2)^2*3.14*9] = 97.34/27 = approx. 3.5CY x 4 base = 14CY.

iii. Install one (1) concrete base foundation for one (1) 70ft 12-sided galvanized steel pole.

- [(4/2)^2*3.14*11.5] – [(2/2)^2*3.14*10.5] = 111.47/27 = approx. 3CY x 1 base = 3CY.

iv. Total 406 HM (Delta) = (6.11CY + 14CY + 3CY) = 23.11CY – 11CY (FCE 428 PA) = 12.11CY.

D. Guy Wires/Anchoring:

o To avoid damage in a future event, the Subrecipient proposes as a mitigation measure, install 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.

i. Total guy wires to be installed along this Feeder are twenty-eight (28).

ii. Total 406 HM (Delta) = 28EA– 19EA (FCE 428 PA) = 9EA.

Hazard Mitigation Proposal (HMP) Cost:

Total Net Hazard Mitigation Cost (Base Cost) =	$ 73,040.69
+ HM (Subrecipient A&E, Management & General Conditions) =	$ 28,200.34
Hazard Mitigation Total Cost =	**$ 101,241.03**

Hazard Mitigation Proposal (HMP) Cost Distribution:

Equipment and Materials (E&M) =	$ 28,092.46
Architecture and Engineering (A&E) =	$ 22,194.71
Construction Cost =	$ 50,953.86
Hazard Mitigation Total Cost =	**$101,241.03**

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 **$101,241.03 (Hazard Mitigation Total Cost)**. The cost of this HMP combined will all other proposals (both PA and HMGP) does not exceed the maximum potential benefit and is therefore deemed cost effective per FEMA Public Assistance Program and Policy Guide (PAPPG) V3.1 April 2018, Chapter 2, VII., Section C, BCA Rule. This Hazard Mitigation Proposal meets eligible repair and restoration cost-effective requirements.

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

Cost

Code	Quantity	Unit	Total Cost	Section
3510	1	Lump Sum	($508,777.01)	Uncompleted
9001	1	Lump Sum	($243,286.39)	Uncompleted
9001	1	Lump Sum	$3,038,024.53	Uncompleted
9201	1	Lump Sum	$0.00	Completed
9001	1	Lump Sum	$0.00	Uncompleted
9001	1	Lump Sum	$0.00	Uncompleted
9001	1	Lump Sum	$0.00	Uncompleted
9001	1	Lump Sum	($2,285,961.13)	Uncompleted
9001	1	Lump Sum	($160,515.06)	Uncompleted
9001	1	Lump Sum	$2,591,343.77	Uncompleted
3510	1	Lump Sum	($568,090.34)	Uncompleted

CRC Gross Cost	$1,862,738.37
Total 406 HMP Cost	$101,241.03
Total Insurance Reductions	$0.00
CRC Net Cost	$1,963,979.40
Federal Share (90.00%)	$1,767,581.46
Non-Federal Share (10.00%)	$196,397.94

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.
- 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.
- 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 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

9/4/2026

No adjustments to be made to the previous insurance coverage determination, no revisions to narrative needed, updated applicant tracker if

needed, providing administrative function and forwarding project for completion.

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

5/14/2026

Does the Applicant have a Commercial Policy: Yes.

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

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

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

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

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

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

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

O&M Requirements

There are no Obtain and Maintain Requirements on **FAASt [Feeder Rebuild # 1529-15] (Distribution) (Cost Only)**.

406 Mitigation

There is no additional mitigation information on **FAASt [Feeder Rebuild # 1529-15] (Distribution) (Cost Only)**.

Environmental Historical Preservation

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

EHP Conditions

- Any change to the approved scope of work will require re-evaluation for compliance with NEPA and other Laws and Executive Orders.
- This review does not address all federal, state and local requirements. Acceptance of federal funding requires recipient to comply with all federal, state and local laws. Failure to obtain all appropriate federal, state and local environmental permits and clearances may jeopardize funding.
- If ground disturbing activities occur during construction, applicant will monitor ground disturbance and if any potential archaeological resources are discovered, will immediately cease construction in that area and notify the State and FEMA.
- All borrow or fill material must come from pre-existing stockpiles, material reclaimed from maintained roadside ditches (provided the designed width or depth of the ditch is not increased), or commercially procured material from a source existing prior to the event. For any FEMA-funded project requiring the use of a non-commercial source or a commercial source that was not permitted

to operate prior to the event (e.g., a new pit, agricultural fields, road ROWs, etc.) in whole or in part, regardless of cost, the Applicant must notify FEMA and the Recipient prior to extracting material. FEMA must review the source for compliance with all applicable federal environmental planning and historic preservation laws and executive orders prior to a Sub-recipient or their contractor beginning to borrow extraction. Consultation and regulatory permitting may be required. Non-compliance with this requirement may jeopardize receipt of federal funding. Documentation of borrow sources utilized is required at close-out and must include fill type (private, commercial, etc.), name, fill site GPS coordinates (not of the company/governmental office), address, and type of mater.

- The Subrecipient and/or Subrecipient s contractor shall follow the Low Impact Debris Removal Stipulations (LIDRS) as stated in Appendix E of the Project-Specific Programmatic Agreement Among FEMA, the SHPO, ACHP, COR3, and PREPA (PSPA), executed on August 2, 2022. Unexpected Discoveries: Pursuant to Stipulation III.B of the PSPA, if, in the course of implementing this Individual Undertaking(s), previously unidentified structures, sites, buildings, objects, districts, or archaeological deposits, that may be eligible for listing in the National Register, or human remains are uncovered, or if it appears that an Individual Undertaking has affected or will affect a previously identified historic property in an unanticipated manner, the contractor must notify Subrecipient who will immediately notify the Recipient. Work must stop in the vicinity of the discovery and measures must be taken to protect the discovery and avoid additional harm. Additional staging areas and/or work pads within work site area haven t been identified yet. The Recipient/Subrecipient and/or private operator must provide the information of any additional staging areas or work pads for EHP evaluation as soon as available specially if any construction activity will be necessary to prepare the site(s). Information for staging areas and/or work pads confined to previously disturbed or hardened surfaces can be provided at close-out.
- The Applicant shall handle, manage, and dispose of all types of hazardous waste in accordance with requirements of local, state, and federal laws, regulations, and ordinances. In addition, the Applicant shall ensure that all debris is separated and disposed of in a manner consistent with the PR DNER guidelines at a permitted site or landfill. The contractor/applicant will be responsible for the proper disposition of construction debris in authorized landfills providing the name, location, coordinates and permits of the facility to the corresponding authorities. Unusable equipment, debris, white goods, scrap metal any other material shall be disposed in approved manner and location. In the event significant items are discovered during the implementation or development of the project the Applicant shall handle, manage and dispose petroleum products, hazardous materials and toxic waste in accordance with the requirements of the local and federal agencies. Noncompliance with these requirements may jeopardize receipt of federal funds. 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.
- PLEASE DISREGARD PREVIOUS CONDITIONS
- ***Disregard previous conditions***
- 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 reestablish

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.

EHP Additional Info

There is no additional environmental historical preservation on **FAASt [Feeder Rebuild # 1529-15] (Distribution) (Cost Only)**.

Final Reviews

Final Review

Reviewed By LEFRANC-GARCIA, CARLOS L. **Reviewed On** 09/11/2026 9:00 PM PDT

Review Comments

Version 2 reflects the negative cost for PA reconciliation process. Change request - $423,222.76 for a total Federal share for this project of $1,767,581.46.

Recipient Review

Reviewed By Mulero, Noel **Reviewed On** 09/15/2026 8:12 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

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 $1,963,979.40 for subaward number 108083 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
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	9/17/2025	$2,057,365.02	90%	Accepted	4339DRPRP01080831
1	8/3/2026	$91,116.93	90%	Accepted	4339DRPRP01080831
2	9/25/2026	($380,900.49)	90%	Accepted	4339DRPRP01080831

Department of Homeland Security
Federal Emergency Management Agency

v0

General Info

Project #	334468 **P/W #** 10679	**Project Type**	Specialized
Project Category	F - Utilities	**Applicant**	PR Electric Power Authority (000-UA2QU-00)
Project Title	FAASt [Priority Pole Replacement Program (Line 2200)] (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 #661586; FAASt Line 2200 Dos Bocas HP to Dorado TC

General Facility Information:

- **Facility Type:** Power generation, transmission, and distribution facilities
- **Facility:** Line 2200 Dos Bocas HP to Dorado TC
- **Facility Description:** The facilities are part of the 52.6 circuit miles of overhead transmission line for 38kV Line 2200 from Dos Bocas HP to Dorado 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 urban areas between Dos Bocas HP substation and Dorado TC substation.
- **Approx. Year Built:** 1980
- **Start GPS Latitude/Longitude:** [redacted]
- **End GPS Latitude/Longitude:** [redacted]

Final Scope

661586 **FAASt Line 2200 Dos Bocas HP to Dorado TC**

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 2200 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 are part of the 52.6 mile long 38 kV overhead transmission Line 2200. 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 name, FID, GPS Coordinates, Phase Voltage Level (kV), and Construction Date, are provided in a table in Facilities section document labeled: 334468-DR4339PR-DSOW -TL 2200-Transmission Priority Pole Replacement- V0.pdf, page 5/13.

For additional information please refers to 334468-DR4339PR-Appendix B - General Arrangement.

Proposed Scope of Work:

Cambalache TC - Factor Sect. Structures Scope:

A. Remove two 50ft wood poles and install two 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.

Barceloneta TC - Manati TC Structure Scope:

B. Remove one 50ft wood poles and install one 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.

Manati TC – Vega Baja TC Structures Scope:

C. Remove one 60ft concrete poles and install one 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.

D. Remove nine 50ft wood poles and install nine 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.

Factor Sect. - Barceloneta TC Structures Scope:

E. Remove one 60ft concrete poles and install one 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.

F. Remove five 50ft 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.

Vega Baja TC - Vega Alta Sect. Structures Scope:

G. Remove two 50ft wood poles and install two 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.

For additional details please refers to 334468-DR4339PR-Appendix D - Engineering Plans.

Project Cost 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.

Planning (FAASt 335168)	$	84,937
Management (FAASt 335168)	$	157,913
Transmission Line Construction	$	930,554
General Conditions	$	103,938
Contingency	$	182,937
Total	**$**	**1,460,279**

Work to be Completed (WTBC): $1,460,279.00

A&E Deduction (Global A&E FAASt 335168): -$242,850.00

Project Total $1,217,429.00

Please refer to Appendix G for Detailed Cost Estimate.

For the Project Total Cost clarification, please refer to document labeled: *334468-DR4339PR-Project Total Clarification.pdf*

Project Notes:

1. For more information, please refer to document labeled: 334468-DR4339PR-DSOW -TL 2200-Transmission Priority Pole Replacement-V0.pdf.
2. For reference documents Appendix A thru J, see file labeled: DSOW-TL 2200-Transmission Priority Pole Replacement-V0- Attachments A-J.zip.

406 HMP Scope

There is No Hazard Mitigation opportunity identified Nor requested by sub-applicant

Cost

Code	Quantity	Unit	Total Cost	Section
9001	1	Lump Sum	$1,460,279.00	Uncompleted
3510	1	Lump Sum	($242,850.00)	Uncompleted
9201	1	Lump Sum	$0.00	Completed

CRC Gross Cost	$1,217,429.00
Total 406 HMP Cost	$0.00
Total Insurance Reductions	$0.00
CRC Net Cost	$1,217,429.00
Federal Share (90.00%)	$1,095,686.10
Non-Federal Share (10.00%)	$121,742.90

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.

Insurance

Additional Information

7/14/2026

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

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

6/15/2026

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 2200)] (Transmission)**.

406 Mitigation

There is no additional mitigation information on **FAASt [Priority Pole Replacement Program (Line 2200)] (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.
- Executive Order 11988 - Floodplains - Applicant must obtain any required permits from the Planning Board prior to initiating work and comply with any conditions of the permit. All coordination (emails, letters, documented phone calls) pertaining to these activities and compliance must be provided and maintained in the Applicant's permanent files.
- Endangered Species Act (ESA) - The Applicant must provide documentation at close-out that proves completion of required Conservation Measures.
- Endangered Species Act (ESA) - Conditions for Epicrates inornatus 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.
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- Resource Conservation and Recovery Act, aka Solid Waste Disposal Act (RCRA) - 1. The Applicant shall handle, manage, and dispose of all solid and hazardous waste in accordance with requirements of local, state, and federal laws, regulations, and ordinances. In addition, the Applicant shall ensure that all debris is separated and disposed of in a manner consistent with the PR DNER guidelines at a permitted site or landfill. The contractor/applicant will be responsible for the proper disposition of construction debris in authorized landfills providing the name, location, coordinates and permits of the facility to the corresponding authorities. 2. Unusable equipment, debris, white goods, scrap metal any other material shall be disposed in approved manner and location. In the event significant items are discovered during the implementation or development of the project the Applicant shall handle, manage, and dispose petroleum products, hazardous materials and

toxic waste in accordance to the requirements of the local and federal agencies. Noncompliance with these requirements may jeopardize receipt of federal funds.

EHP Additional Info

There is no additional environmental historical preservation on **FAASt [Priority Pole Replacement Program (Line 2200)] (Transmission)**.

Final Reviews

Final Review

Reviewed By Soto Toro, Hildelix L. **Reviewed On** 06/17/2022 7:43 PM PDT

Review Comments

Project Final review completed. Project ready for Recipient Review.

Recipient Review

Reviewed By Salgado, Gabriel **Reviewed On** 06/17/2022 8:17 PM PDT

Review Comments

Recipient review completed. Project is ready for Applicant review.

Project Signatures

Reviewed By Nieves, Ezequiel **Reviewed On** 07/07/2022 1:51 PM PDT

General Info

Project #	334468 **P/W #** 10679	**Project Type**	Specialized
Project Category	F - Utilities	**Applicant**	PR Electric Power Authority (000-UA2QU-00)
Project Title	FAASt [Priority Pole Replacement Program (Line 2200)] (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 #661586; FAASt Line 2200 Dos Bocas HP to Dorado TC

General Facility Information:

- **Facility Type:** Power generation, transmission, and distribution facilities
- **Facility:** Line 2200 Dos Bocas HP to Dorado TC
- **Facility Description:** The facilities are part of the 52.6 circuit miles of overhead transmission line for 38kV Line 2200 from Dos Bocas HP to Dorado 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 urban areas between Dos Bocas HP substation and Dorado TC substation.
- **Approx. Year Built:** 1980
- **Start GPS Latitude/Longitude:** [redacted]
- **End GPS Latitude/Longitude:** [redacted]

Final Scope

661586 **FAASt Line 2200 Dos Bocas HP to Dorado TC**

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

Version 1 was created to address the EHP review for critical Habitat of the PR Harlequin Butterfly according to the requirements of the Endangered Species Act. At this time, no additional SOW and costs changes are included in this version.

The DDD and SOW of this DI remains the same as in Version 0.

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

406 HMP Scope

There is No Hazard Mitigation opportunity identified Nor requested by sub-applicant

Cost

Code	Quantity	Unit	Total Cost	Section
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Additional Information

7/14/2026

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

6/15/2026

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O&M Requirements

There are no Obtain and Maintain Requirements on **FAASt [Priority Pole Replacement Program (Line 2200)] (Transmission)**.

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There is no additional mitigation information on **FAASt [Priority Pole Replacement Program (Line 2200)] (Transmission)**.

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toxic waste in accordance to the requirements of the local and federal agencies. Noncompliance with these requirements may jeopardize receipt of federal funds.

- Endangered Species Act (ESA): ***The Applicant must provide documentation at close-out that proves completion of required Conservation Measures.*** Puerto Rican harlequin butterfly (Atlantea tulita): The Puerto Rican harlequin butterfly (Atlantea tulita) is endemic to Puerto Rico, occurring in the western portion of the island, in the northern karst region, and in the west-central volcanic-serpentine region. The following measures apply to the Puerto Rican harlequin butterfly through its current range: a. The contractor must inform all personnel about the potential presence of the Puerto Rican harlequin butterfly and its host plant, prickly bush (Oplonia spinosa), in the project areas. A pre-work meeting should inform all project personnel about the need to avoid harming this butterfly and its occupied host plant. All personnel will be advised that there are civil and criminal penalties for harming, harassing, or killing species protected under the Endangered Species Act of 1973, as amended. Educational material (e.g., posters, flyers, or signs with photos or illustrations of all the life stages of the Puerto Rican harlequin butterfly (i.e., eggs, caterpillar, chrysalids, and adult, and its host plant) should be prepared and available to all personnel for reference. b. Before starting any project activity, including removal of vegetation and earth movement, the contractor must clearly delineate the boundaries of the working area in the field to avoid unnecessary habitat impacts. Once the project areas are clearly marked, and before any work activity, including site preparation, personnel with knowledge and ability to identify the Puerto Rican harlequin butterfly (all life stages) and the prickly bush must survey the areas where the work will be performed for the presence of the species and its host plant. It is important to note that the Puerto Rican harlequin butterfly can be observed year-round in all life stages; thus, oviposition (egg-laying) may occur at any time during the year. c. If the prickly bush is present on the project site, try to avoid cutting the plant, even if no eggs, caterpillars, or chrysalids are present. d. If there is no prickly bush within the project area, but the butterfly is observed flying within the project area, do not harass, harm, pursue, wound, kill, trap, capture, collect, or attempt to engage in any such conduct, the species. e. Adult butterflies are often observed flying near the host plant as part of their mating behavior and for laying eggs. Project-related activities must stop if the prickle bush is found in the project area and the Puerto Rican harlequin butterfly is observed flying in that same area. A temporary 50-meter (164 feet) buffer zone of no activity or human disturbance should be established and clearly marked around that prickly bush until the butterfly moves out on its own. f. Once the Puerto Rican harlequin butterfly has moved away, within a period of 24 to 36 hours, a search of the prickly bush that has been buffered should be conducted to determine the presence of any eggs, caterpillars, or chrysalids of the butterfly on the plant. The contractor or the Applicant should send a report of the observation and its findings to caribbean_es@fws.gov after the 36-hour search is concluded. g. If, after the initial search or after the 24 to 36-hour search, any life stage of the Puerto Rican harlequin butterfly is found in the prickly bush, take the following actions: o Clearly mark the host plant with flagging tape. o Establish a 10-meter (32-foot) buffer zone around the bush for its protection. o Eggs are typically found on the prickly bush's newly grown, tender branches. Once the egg hatch, the caterpillar moves and feeds throughout the bush. Therefore, avoid cutting off the prickly bush within the project site even if no eggs, caterpillars, or chrysalids are present. o Work within the 10-meter buffered area may resume when no signs of any live life stage of the butterfly are detected, which usually takes approximately 60 to 120 days. h. For all Puerto Rican harlequin butterfly sightings (all life stages), the time and date of the sighting and the specific location where the butterfly was found must be recorded. Data should also include a photo of the butterfly (if possible) and the habitat where it was observed, site GPS coordinates, and comments on how the butterfly was detected and its behavior. All Puerto Rican harlequin butterfly sighting reports should be sent to the Service’s Caribbean Ecological Service Field Office at caribbean_es@fws.gov. j. For questions regarding the Puerto Rican harlequin butterfly, the Point of Contacts are: o José Cruz-Burgos, Endangered Species Coordinator: • Mobile: 305-304-1386 • Office phone: 786-244-0081 • Office Direct Line: 939-320-3120 • Email: jose_cruz-burgos@fws.gov o Carlos Pacheco, Fish and Wildlife Biologist • Mobile: 786-847-5951 • Office Direct Line: 939-320-3113

EHP Additional Info

There is no additional environmental historical preservation on **FAASt [Priority Pole Replacement Program (Line 2200)] (Transmission)**.

Final Reviews

Final Review

Reviewed By Amaro, Luis N. **Reviewed On** 03/13/2024 1:52 PM PDT

Review Comments

LNA 03/13/24. This project has been reviewed and it is ready to continue the process.

Recipient Review

Reviewed By Salgado, Gabriel **Reviewed On** 03/19/2024 5:42 PM PDT

Review Comments

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

Project Signatures

Reviewed By Miller, Thomas **Reviewed On** 03/20/2024 10:28 AM PDT

General Info

Project #	334468 **P/W #** 10679	**Project Type**	Specialized
Project Category	F - Utilities	**Applicant**	PR Electric Power Authority (000-UA2QU-00)
Project Title	FAASt [Priority Pole Replacement Program (Line 2200)] (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 # 661586; F (FAASt Line 2200 Dos Bocas HP to Dorado TC)

PA-02-PR-4339-PW-10679(0) The Disaster #4339DR, which occurred between 9/17/2017 and 11/15/2017 , caused: Damage #661586; FAASt Line 2200 Dos Bocas HP to Dorado TC DDD for this facility codified in the 136271 - MEPA078 Puerto Rico Electrical Power Authority Island Wide FAASt Project. General Facility Information: Facility Type: Power generation, transmission, and distribution facilities Facility: Line 2200 Dos Bocas HP to Dorado TC Facility Description: The facilities are part of the 52.6 circuit miles of overhead transmission line for 38kV Line 2200 from Dos Bocas HP to Dorado 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 urban areas between Dos Bocas HP substation and Dorado TC substation. Approx. Year Built: 1980 Start GPS Latitude/Longitude: [redacted] End GPS Latitude/Longitude: [redacted] General Damage Information: Date Damaged: 9/20/2017 Cause of Damage: High winds & wind driven rain, caused by Cat 4 Hurricane Maria Location: Puerto Rico Electrical Power Authority Island Wide PA-02-PR-4339-PW-10679(1) PA-02-PR-4339-PW-10679(2) No changes to DDD in Version 1 Location: No changes to location in Version 1

Final Scope

661586 **FAASt Line 2200 Dos Bocas HP to Dorado TC**

PA-02-PR-4339-PW-10679(0)

661586 FAASt Line 2200 Dos Bocas HP to Dorado TC

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 2200 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 are part of the 52.6 mile long 38 kV overhead transmission Line 2200. 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 name, FID, GPS Coordinates, Phase Voltage Level (kV), and Construction Date, are provided in a table in Facilities section document labeled: 334468-DR4339PR-DSOW -TL 2200-Transmission Priority Pole Replacement- V0.pdf, page 5/13.

For additional information please refers to 334468-DR4339PR-Appendix B - General Arrangement.

Proposed Scope of Work:

Cambalache TC - Factor Sect. Structures Scope:

A. Remove two 50ft wood poles and install two 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.

Barceloneta TC - Manati TC Structure Scope:

B. Remove one 50ft wood poles and install one 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.

Manati TC ? Vega Baja TC Structures Scope:

C. Remove one 60ft concrete poles and install one 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.

D. Remove nine 50ft wood poles and install nine 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.

Factor Sect. - Barceloneta TC Structures Scope:

E. Remove one 60ft concrete poles and install one 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.

F. Remove five 50ft 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.

Vega Baja TC - Vega Alta Sect. Structures Scope:

G. Remove two 50ft wood poles and install two 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.

For additional details please refers to 334468-DR4339PR-Appendix D - Engineering Plans.

Project Cost 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.

Planning (FAASt 335168) $ 84,937

Management (FAASt 335168) $ 157,913

Transmission Line Construction $ 930,554

General Conditions $ 103,938

Contingency $ 182,937

Total $ 1,460,279

Work to be Completed (WTBC): $1,460,279.00

A&E Deduction (Global A&E FAASt 335168): -$242,850.00

Project Total $1,217,429.00

Please refer to Appendix G for Detailed Cost Estimate.

For the Project Total Cost clarification, please refer to document labeled: 334468-DR4339PR-Project Total Clarification.pdf

Project Notes:

1. For more information, please refer to document labeled: 334468-DR4339PR-DSOW -TL 2200-Transmission Priority Pole Replacement- V0.pdf.

2. For reference documents Appendix A thru J, see file labeled: DSOW-TL 2200-Transmission Priority Pole Replacement-V0-Attachments A-J.zip.

PA-02-PR-4339-PW-10679(1)

PA-02-PR-4339-PW-10679(2)

661586 FAASt Line 2200 Dos Bocas HP to Dorado TC

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

Version 1 was created to address the EHP review for critical Habitat of the PR Harlequin Butterfly according to the requirements of the Endangered Species Act. At this time, no additional SOW and costs changes are included in this version.

The DDD and SOW of this DI remains the same as in Version 0.

Note: SOW from previous version has been removed from current SOW. It can be found in the ?Versioning and Amendments? tab in GM.

406 HMP Scope

PA-02-PR-4339-PW-10679(0)

PA-02-PR-4339-PW-10679(1)

Date Downloaded: 9/29/26 6:26am PDT

Cost

Code	Quantity	Unit	Total Cost	Section
9001	1	Lump Sum	$1,460,279.00	Uncompleted
3510	1	Lump Sum	($242,850.00)	Uncompleted
9201	1	Lump Sum	$0.00	Completed

CRC Gross Cost	$1,217,429.00
Total 406 HMP Cost	$0.00
Total Insurance Reductions	$0.00
CRC Net Cost	$1,217,429.00
Federal Share (90.00%)	$1,095,686.10
Non-Federal Share (10.00%)	$121,742.90

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.

Insurance

Additional Information

7/14/2026

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

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

6/15/2026

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 2200)] (Transmission)**.

406 Mitigation

There is no additional mitigation information on **FAASt [Priority Pole Replacement Program (Line 2200)] (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.
- Executive Order 11988 - Floodplains - Applicant must obtain any required permits from the Planning Board prior to initiating work and comply with any conditions of the permit. All coordination (emails, letters, documented phone calls) pertaining to these activities and compliance must be provided and maintained in the Applicant's permanent files.
- Endangered Species Act (ESA) - The Applicant must provide documentation at close-out that proves completion of required Conservation Measures.
- Endangered Species Act (ESA) - Conditions for Epicrates inornatus 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.
- Endangered Species Act (ESA) - Conditions for the Broad-Winged Hawk (Buteo platypeturs brunnescens) 1. During breeding seasons (Buteo platypterus brunnescens: December-June), nest surveys shall be conducted if a project occurs in a species' range. Nest searches must be conducted by qualified personnel with the appropriate DNER permits prior to start of work. If nesting activity is detected, all construction activities or human disturbance must be avoided within a 200-meter buffer to the closest nest. This avoidance strategy must be kept until fledglings successfully leave the nest permanently. 2. Outside the nesting season, if a nest is encountered, work shall not interfere with the species until they have left the site. If nesting activity is detected, all construction activities or human disturbance must be avoided within a 200-meter buffer to the closest nest. This avoidance strategy must be kept until juvenile birds fledge the nest and are permanently gone. 3. For all nest sightings, the Applicant must record the time and date of the sighting and the specific location where it was found. Data should also include a photo of the nest and eggs, relocation site GPS coordinates, and the time and date of the relocation. All sightings and incidental lethal take 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
- Resource Conservation and Recovery Act, aka Solid Waste Disposal Act (RCRA) - 1. The Applicant shall handle, manage, and dispose of all solid and hazardous waste in accordance with requirements of local, state, and federal laws, regulations, and ordinances. In addition, the Applicant shall ensure that all debris is separated and disposed of in a manner consistent with the PR DNER guidelines at a permitted site or landfill. The contractor/applicant will be responsible for the proper disposition of construction debris in authorized landfills providing the name, location, coordinates and permits of the facility to the corresponding authorities. 2. Unusable equipment, debris, white goods, scrap metal any other material shall be disposed in approved manner and location. In the event significant items are discovered during the implementation or development of the project the Applicant shall handle, manage, and dispose petroleum products, hazardous materials and

toxic waste in accordance to the requirements of the local and federal agencies. Noncompliance with these requirements may jeopardize receipt of federal funds.

- Endangered Species Act (ESA): ***The Applicant must provide documentation at close-out that proves completion of required Conservation Measures.*** Puerto Rican harlequin butterfly (Atlantea tulita): The Puerto Rican harlequin butterfly (Atlantea tulita) is endemic to Puerto Rico, occurring in the western portion of the island, in the northern karst region, and in the west-central volcanic-serpentine region. The following measures apply to the Puerto Rican harlequin butterfly through its current range: a. The contractor must inform all personnel about the potential presence of the Puerto Rican harlequin butterfly and its host plant, prickly bush (Oplonia spinosa), in the project areas. A pre-work meeting should inform all project personnel about the need to avoid harming this butterfly and its occupied host plant. All personnel will be advised that there are civil and criminal penalties for harming, harassing, or killing species protected under the Endangered Species Act of 1973, as amended. Educational material (e.g., posters, flyers, or signs with photos or illustrations of all the life stages of the Puerto Rican harlequin butterfly (i.e., eggs, caterpillar, chrysalids, and adult, and its host plant) should be prepared and available to all personnel for reference. b. Before starting any project activity, including removal of vegetation and earth movement, the contractor must clearly delineate the boundaries of the working area in the field to avoid unnecessary habitat impacts. Once the project areas are clearly marked, and before any work activity, including site preparation, personnel with knowledge and ability to identify the Puerto Rican harlequin butterfly (all life stages) and the prickly bush must survey the areas where the work will be performed for the presence of the species and its host plant. It is important to note that the Puerto Rican harlequin butterfly can be observed year-round in all life stages; thus, oviposition (egg-laying) may occur at any time during the year. c. If the prickly bush is present on the project site, try to avoid cutting the plant, even if no eggs, caterpillars, or chrysalids are present. d. If there is no prickly bush within the project area, but the butterfly is observed flying within the project area, do not harass, harm, pursue, wound, kill, trap, capture, collect, or attempt to engage in any such conduct, the species. e. Adult butterflies are often observed flying near the host plant as part of their mating behavior and for laying eggs. Project-related activities must stop if the prickle bush is found in the project area and the Puerto Rican harlequin butterfly is observed flying in that same area. A temporary 50-meter (164 feet) buffer zone of no activity or human disturbance should be established and clearly marked around that prickly bush until the butterfly moves out on its own. f. Once the Puerto Rican harlequin butterfly has moved away, within a period of 24 to 36 hours, a search of the prickly bush that has been buffered should be conducted to determine the presence of any eggs, caterpillars, or chrysalids of the butterfly on the plant. The contractor or the Applicant should send a report of the observation and its findings to caribbean_es@fws.gov after the 36-hour search is concluded. g. If, after the initial search or after the 24 to 36-hour search, any life stage of the Puerto Rican harlequin butterfly is found in the prickly bush, take the following actions: o Clearly mark the host plant with flagging tape. o Establish a 10-meter (32-foot) buffer zone around the bush for its protection. o Eggs are typically found on the prickly bush's newly grown, tender branches. Once the egg hatch, the caterpillar moves and feeds throughout the bush. Therefore, avoid cutting off the prickly bush within the project site even if no eggs, caterpillars, or chrysalids are present. o Work within the 10-meter buffered area may resume when no signs of any live life stage of the butterfly are detected, which usually takes approximately 60 to 120 days. h. For all Puerto Rican harlequin butterfly sightings (all life stages), the time and date of the sighting and the specific location where the butterfly was found must be recorded. Data should also include a photo of the butterfly (if possible) and the habitat where it was observed, site GPS coordinates, and comments on how the butterfly was detected and its behavior. All Puerto Rican harlequin butterfly sighting reports should be sent to the Service’s Caribbean Ecological Service Field Office at caribbean_es@fws.gov. j. For questions regarding the Puerto Rican harlequin butterfly, the Point of Contacts are: o José Cruz-Burgos, Endangered Species Coordinator: • Mobile: 305-304-1386 • Office phone: 786-244-0081 • Office Direct Line: 939-320-3120 • Email: jose_cruz-burgos@fws.gov o Carlos Pacheco, Fish and Wildlife Biologist • Mobile: 786-847-5951 • Office Direct Line: 939-320-3113

EHP Additional Info

There is no additional environmental historical preservation on **FAASt [Priority Pole Replacement Program (Line 2200)] (Transmission)**.

Final Reviews

Final Review

Reviewed By Not Reviewed

Reviewed On Not Reviewed

Review Comments

No comments available for the Final Review step

Recipient Review

Reviewed By Not Reviewed

Reviewed On Not Reviewed

Review Comments

No comments available for the Final Review step

Project Signatures

Reviewed By Unsigned

Reviewed On Unsigned

General Info

Project #	334468 **P/W #** 10679	**Project Type**	Specialized
Project Category	F - Utilities	**Applicant**	PR Electric Power Authority (000-UA2QU-00)
Project Title	FAASt [Priority Pole Replacement Program (Line 2200)] (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 #661586; FAASt Line 2200 Dos Bocas HP to Dorado TC

General Facility Information:

- **Facility Type:** Power generation, transmission, and distribution facilities
- **Facility:** Line 2200 Dos Bocas HP to Dorado TC
- **Facility Description:** The facilities are part of the 52.6 circuit miles of overhead transmission line for 38kV Line 2200 from Dos Bocas HP to Dorado 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 urban areas between Dos Bocas HP substation and Dorado TC substation.
- **Approx. Year Built:** 1980
- **Start GPS Latitude/Longitude:** [redacted]
- **End GPS Latitude/Longitude:** [redacted]

Final Scope

661586 **FAASt Line 2200 Dos Bocas HP to Dorado TC**

PA-02-PR-4339-PW-10679(0)

661586 FAASt Line 2200 Dos Bocas HP to Dorado TC

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 2200 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 are part of the 52.6 mile long 38 kV overhead transmission Line 2200. 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 name, FID, GPS Coordinates, Phase Voltage Level (kV), and Construction Date, are provided in a table in Facilities section document labeled: 334468-DR4339PR-DSOW -TL 2200-Transmission Priority Pole Replacement- V0.pdf, page 5/13.

For additional information please refers to 334468-DR4339PR-Appendix B - General Arrangement.

Proposed Scope of Work:

Cambalache TC - Factor Sect. Structures Scope:

A. Remove two 50ft wood poles and install two 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.

Barceloneta TC - Manati TC Structure Scope:

B. Remove one 50ft wood poles and install one 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.

Manati TC ? Vega Baja TC Structures Scope:

C. Remove one 60ft concrete poles and install one 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.

D. Remove nine 50ft wood poles and install nine 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.

Factor Sect. - Barceloneta TC Structures Scope:

E. Remove one 60ft concrete poles and install one 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.

F. Remove five 50ft 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.

Vega Baja TC - Vega Alta Sect. Structures Scope:

G. Remove two 50ft wood poles and install two 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.

For additional details please refers to 334468-DR4339PR-Appendix D - Engineering Plans.

Project Cost 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.

Planning (FAASt 335168) $ 84,937

Management (FAASt 335168) $ 157,913

Transmission Line Construction $ 930,554

General Conditions $ 103,938

Contingency $ 182,937

Total $ 1,460,279

Work to be Completed (WTBC): $1,460,279.00

A&E Deduction (Global A&E FAASt 335168): -$242,850.00

Project Total $1,217,429.00

Please refer to Appendix G for Detailed Cost Estimate.

For the Project Total Cost clarification, please refer to document labeled: 334468-DR4339PR-Project Total Clarification.pdf

Project Notes:

1. For more information, please refer to document labeled: 334468-DR4339PR-DSOW -TL 2200-Transmission Priority Pole Replacement- V0.pdf.

2. For reference documents Appendix A thru J, see file labeled: DSOW-TL 2200-Transmission Priority Pole Replacement-V0-Attachments A-J.zip.

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PA-02-PR-4339-PW-10679(2)

661586 FAASt Line 2200 Dos Bocas HP to Dorado TC

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

Version 1 was created to address the EHP review for critical Habitat of the PR Harlequin Butterfly according to the requirements of the Endangered Species Act. At this time, no additional SOW and costs changes are included in this version.

The DDD and SOW of this DI remains the same as in Version 0.

Note: SOW from previous version has been removed from current SOW. It can be found in the Versioning and Amendments tab in GM.

406 HMP Scope

Project number: 334468; FAASt [Priority Pole Replacement Program (Line 2200)] (Transmission)

Damage: 661586; FAASt Line 2200 Dos Bocas HP to Dorado TC

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

Location: Arecibo, Puerto Rico.

GPS Latitude/Longitude: Start: [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 52.6 circuit miles of 38kV Overhead Transmission Line 2200 Dos Bocas HP to Dorado TC. The Subrecipient determined that twenty-one (21) poles were degraded during a high-level assessment. Given that, this project will replace the twenty-one (21) 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. Transmission Line 2200 Dos Bocas HP to Dorado TC
    - Replace twenty-one (21) 70 ft round galvanized steel poles of 145mph windspeed resistance ASCE/SEI 48-19 with twenty-one (21) new 70ft 12-sided galvanized steel pole, tapered shaft distribution pole to increase the strength of the pole by increasing the wind tolerance by design to 160mph.

Hazard Mitigation Proposal (HMP) Cost:

Total Net Hazard Mitigation Cost (Base Cost) =	$ 29,457.39
+ HM (Subrecipient A&E, Management & General Conditions) =	$ 7,104.83
Hazard Mitigation Total Cost =	**$ 36,562.22**

Hazard Mitigation Proposal (HMP) Cost Distribution:

Equipment and Materials (E&M) =	$ 25,625.46
Architecture and Engineering (A&E) =	$ 2,831.62
Construction Cost =	$ 8,105.14
Hazard Mitigation Total Cost =	**$ 36,562.22**

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 **$36,562.22 (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).*

Date Downloaded: 9/29/26 6:26am PDT

Cost

Code	Quantity	Unit	Total Cost	Section
9001	1	Lump Sum	$1,460,279.00	Uncompleted
3510	1	Lump Sum	($242,850.00)	Uncompleted
9201	1	Lump Sum	$0.00	Completed

CRC Gross Cost	$1,217,429.00
Total 406 HMP Cost	$36,562.22
Total Insurance Reductions	$0.00
CRC Net Cost	$1,253,991.22
Federal Share (90.00%)	$1,128,592.10
Non-Federal Share (10.00%)	$125,399.12

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.

Insurance

Additional Information

7/14/2026

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

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

6/15/2026

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 2200)] (Transmission)**.

406 Mitigation

There is no additional mitigation information on **FAASt [Priority Pole Replacement Program (Line 2200)] (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.
- The Puerto Rican harlequin butterfly (Atlantea tulita) is endemic to Puerto Rico, occurring in the western portion of the island, in the northern karst region, and in the west-central volcanic-serpentine region. The following measures apply to the Puerto Rican harlequin butterfly through its current range: a. The contractor must inform all personnel about the potential presence of the Puerto Rican harlequin butterfly and its host plant, prickly bush (Oplonia spinosa), in the project areas. A pre-work meeting should inform all project personnel about the need to avoid harming this butterfly and its occupied host plant. All personnel will be advised that there are civil and criminal penalties for harming, harassing, or killing species protected under the Endangered Species Act of 1973, as amended. Educational material (e.g., posters, flyers, or signs with photos or illustrations of all the life stages of the Puerto Rican harlequin butterfly (i.e., eggs, caterpillar, chrysalids, and adult, and its host plant) should be prepared and available to all personnel for reference. b. Before starting any project activity, including removal of vegetation and earth movement, the contractor must clearly delineate the boundaries of the working area in the field to avoid unnecessary habitat impacts. Once the project areas are clearly marked, and before any work activity, including site preparation, personnel with knowledge and ability to identify the Puerto Rican harlequin butterfly (all life stages) and the prickly bush must survey the areas where the work will be performed for the presence of the species and its host plant. It is important to note that the Puerto Rican harlequin butterfly can be observed year-round in all life stages; thus, oviposition (egg-laying) may occur at any time during the year. c. If the prickly bush is present on the project site, try to avoid cutting the plant, even if no eggs, caterpillars, or chrysalids are present. d. If there is no prickly bush within the project area, but the butterfly is observed flying within the project area, do not harass, harm, pursue, wound, kill, trap, capture, collect, or attempt to engage in any such conduct, the species. e. Adult butterflies are often observed flying near the host plant as part of their mating behavior and for laying eggs. Project-related activities must stop if the prickle bush is found in the project area and the Puerto Rican harlequin butterfly is observed flying in that same area. A temporary 50-meter (164 feet) buffer zone of no activity or human disturbance should be established and clearly marked around that prickly bush until the butterfly moves out on its own. f. Once the Puerto Rican harlequin butterfly has moved away, within a period of 24 to 36 hours, a search of the prickly bush that has been buffered should be conducted to determine the presence of any eggs, caterpillars, or chrysalids of the butterfly on the plant. The contractor or the Applicant should send a report of the observation and its findings to caribbean_es@fws.gov after the 36-hour search is concluded. g. If, after the initial search or after the 24 to 36-hour search, any life stage of the Puerto Rican harlequin butterfly is found in the prickly bush, take the following actions: o Clearly mark the host plant with flagging tape. o Establish a 10-meter (32-foot) buffer zone around the bush for its protection. o Eggs are typically found on the prickly bush's newly grown, tender branches. Once the egg hatch, the caterpillar moves and feeds throughout the bush. Therefore, avoid cutting off the prickly bush within the project site even if no eggs, caterpillars, or chrysalids are present. o Work within the 10-meter buffered area may resume when no signs of any live life stage of the butterfly are detected, which usually takes approximately 60 to 120 days.
- h. For all Puerto Rican harlequin butterfly sightings (all life stages), the time and date of the sighting and the specific location where the butterfly was found must be recorded. Data should also include a photo of the butterfly (if possible) and the habitat where it was observed, site GPS coordinates, and comments on how the butterfly was detected and its behavior. All Puerto Rican harlequin butterfly sighting reports should be sent to the Service's Caribbean Ecological Service Field Office at caribbean_es@fws.gov. j. For questions regarding the Puerto Rican harlequin butterfly, the Point of Contacts are: *. José Cruz-Burgos, Endangered Species Coordinator: *. Mobile: 305-304-1386 *. Office phone: 786-244-0081 *. Office Direct Line: 939-320-3120 *. Email: jose_cruz-burgos@fws.gov *. Carlos Pacheco, Fish and Wildlife Biologist *. Mobile: 786-847-5951 *. Office Direct Line: 939-320-3113 *. Email: carlos_pacheco@fws.gov
- Conditions for Epicrates inornatus 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

- 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.
- Conditions for the Broad-Winged Hawk (Buteo platypeturs brunnescens) 1. During breeding seasons (Buteo platypterus brunnescens: December-June), nest surveys shall be conducted if a project occurs in a species' range. Nest searches must be conducted by qualified personnel with the appropriate DNER permits prior to start of work. If nesting activity is detected, all construction activities or human disturbance must be avoided within a 200-meter buffer to the closest nest. This avoidance strategy must be kept until fledglings successfully leave the nest permanently. 2. Outside the nesting season, if a nest is encountered, work shall not interfere with the species until they have left the site. If nesting activity is detected, all construction activities or human disturbance must be avoided within a 200-meter buffer to the closest nest. This avoidance strategy must be kept until juvenile birds fledge the nest and are permanently gone. 3. For all nest sightings, the Applicant must record the time and date of the sighting and the specific location where it was found. Data should also include a photo of the nest and eggs, relocation site GPS coordinates, and the time and date of the relocation. All sightings and incidental lethal take 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
- 1. The Applicant shall handle, manage, and dispose of all solid and hazardous waste in accordance with requirements of local, state, and federal laws, regulations, and ordinances. In addition, the Applicant shall ensure that all debris is separated and disposed of in a manner consistent with the PR DNER guidelines at a permitted site or landfill. The contractor/applicant will be responsible for the proper disposition of construction debris in authorized landfills providing the name, location, coordinates and permits of the facility to the corresponding authorities. 2. Unusable equipment, debris, white goods, scrap metal any other material shall be disposed in approved manner and location. In the event significant items are discovered during the implementation or development of the project the Applicant shall handle, manage, and dispose petroleum products, hazardous materials and toxic waste in accordance to the requirements of the local and federal agencies. Noncompliance with these requirements may jeopardize receipt of federal funds.
- Applicant must obtain any required permits from the Planning Board prior to initiating work and comply with any conditions of the permit. All coordination (emails, letters, documented phone calls) pertaining to these activities and compliance must be provided and maintained in the Applicant's permanent files.
- ***Please disregard previous conditions***
- ***Disregard previous condition***
- On May 16, 2025, the Secretary of the U.S. Department of Energy (DOE) issued Order 202-25-2 (Order), pursuant to the authority vested in him by section 202(c) of the Federal Power Act (FPA), 16 U.S.C. § 824a(c), and section 301(b) of the Department of Energy Organization Act, 42 U.S.C. § 7151(b). The Order sought to expedite repair and maintenance efforts to the electrical grid of Puerto Rico by directing the Puerto Rico Electric Power Authority (PREPA) to perform vegetation management, including vegetation clearing to reestablish a right-of-way, for particular transmission and distribution facilities in the Territory as specified in the Order. The Order required PREPA to identify certain parameters by which the directed work would be performed, and required that all work be performed, to the maximum extent practicable, in a manner consistent with all applicable Federal, State, or local environmental laws or regulations and minimize any adverse environmental impacts. However, pursuant to Section 202(c)(3) of the FPA, to the extent any omission or action taken by PREPA that was necessary to comply with the Order, including any omission or action taken to voluntarily comply with the Order, caused PREPA to not comply with any Federal, State, or local environmental law or regulation, including any environmental conditions in this REC's "Standard Conditions," such omission or action shall not be considered a violation of such environmental law or regulation, or subject PREPA to any requirement, civil or criminal liability, or citizen suit under such environmental law or regulation. On August 15, 2025, DOE reissued the Order to direct PREPA to also perform asset management, including component refurbishment and replacement. To renew/reissue the Order, DOE was required to consult with the primary Federal agency with expertise in the environmental interest protected by such law or regulation and include in the Order conditions necessary to minimize any adverse environmental impacts to the extent practicable. Pursuant to Section 202(c)(4)(B) of the FPA, DOE provided the relevant agencies the opportunity to submit conditions for

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

- On August 07, 2026, DOE reissued the Order to direct PREPA to perform vegetation management, including vegetation clearing to re-establish the right-of-way, and asset management, including component refurbishment and replacement, to ensure operational availability of the transmission and distribution facilities.
- If ground disturbing activities occur during construction, the applicant will monitor ground disturbance, and if any previously unidentified historic properties, including archeological resources, are discovered, the applicant will immediately cease construction in that area and notify the Recipient (if applicable) and FEMA. Should any unanticipated effects to previously identified historic properties, including archaeological resources, be identified during construction activities, the applicant will immediately cease construction in that area and notify the Recipient (if applicable) and FEMA.

EHP Additional Info

There is no additional environmental historical preservation on **FAASt [Priority Pole Replacement Program (Line 2200)] (Transmission)**.

Final Reviews

Final Review

Reviewed By LEFRANC-GARCIA, CARLOS L. **Reviewed On** 09/11/2026 9:10 PM PDT

Review Comments

Project 334468 V3 was created to relocate the 428 PA and 406 HM scope of works, which required a reconciliation of funds. Project was reviewed, and HM validated the subrecipient proposed HMP. Total 406 HMP costs: $36,562.22. Federal Share: $32,906.00. EHP Compliance review was completed, see the Record of Environmental Consideration (REC) for details.

Recipient Review

Reviewed By Mulero, Noel **Reviewed On** 09/24/2026 8:40 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: 9/29/26 6:26am PDT

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 $1,253,991.22 for subaward number 10679 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-10679(12067)	$1,217,429.00	90%	$1,095,686.10	7/11/2022
1	Eligible	Notified		$0.00	90%	$0.00	
2	Eligible	Notified		$0.00	90%	$0.00	

Drawdown History

EMMIE Drawdown Status As of Date	IFMIS Obligation #	Expenditure Number	Expended Date	Expended Amount
12/20/2023	4339DRPRP00106791	20172Z6J-12192023	12/18/2023	$273,921.53
3/4/2026	4339DRPRP00106791	20172Z6J-03032026	3/2/2026	($44,219.50)

Obligation History

Version #	Date Obligated	Obligated Cost	Cost Share	IFMIS Status	IFMIS Obligation #
3	9/28/2026	$32,906.00	90%	Accepted	4339DRPRP00106791
0	7/11/2022	$1,095,686.10	90%	Accepted	4339DRPRP00106791

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 #	1066738 **P/W #** 108248	**Project Type**	Specialized
Project Category	F - Utilities	**Applicant**	PR Electric Power Authority (000-UA2QU-00)
Project Title	FAASt [Pole and Conductor Repair- Caguas Group 6 Phase 2] / Former project 806935 (Distribution)	**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 #1415612; FAASt [Pole and Conductor Repair - Caguas Group 6 - Phase 2] (Distribution) Feeder : 3007-03, 9703-01, 9703-02, 3010-01, 3015-05, 9703-03

General Facility Information:

- **Facility Type:** Power generation, transmission, and distribution facilities
- **Facility:** Distribution pole and conductor- Caguas Group 6 - Phase 2]
- **Facility Description:** The specific facilities included in this project are: poles and structures (including their foundations), framing and insulators, load break switches (manual and automated), capacitor banks, voltage regulators, transformers (including lightning arresters and fuse cut-outs), conductors, guy wires, anchoring, grounding assemblies, underground cable, underground cable systems, fault interrupting equipment (fuses, reclosers, and sectionalizers), and any other associated components.
- **Approx. Year Built:** 1970
- **Start GPS Latitude/Longitude:** [redacted]
- **End GPS Latitude/Longitude:** [redacted]

Final Scope

1415612

FAASt [Pole and Conductor Repair - Caguas Group 6 - Phase 2] (Distribution) Feeder : 3007-03, 9703-01, 9703-02, 3010-01, 3015-05, 9703-03

INTRODUCTION

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

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

Submissions as a guide to review completeness." SOP at 4.

This document contains the detailed SOW for FEMA PA Project 1066738 -Distribution Pole and Conductor Repair – Caguas Group 6 – Phase 2 under DR-4339-PR Public Assistance. The document provides a detailed description of the project, the scope of PA construction activities to be completed, common EHP review information, and project cost estimates. LUMA is seeking approval from COR3 and FEMA for PA funding for the scope described in this document.

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

PROJECT DESCRIPTION

The project's scope is the replacement of poles and the repair of conductors of the feeders listed in Section 7.2 located in the Caguas region. The proposed restoration includes the replacement of eligible disaster damage up to required codes and standards and the request to upgrade undamaged infrastructure to fully effectuate the restoration of disaster-damaged components and restore the system's function to an approved industry standard. The scope of work consists of the removal and replacement of infrastructure to restore this facility to codes and standards. As a hazard mitigation proposal this project will replace damaged poles with higher-rated poles to withstand winds of up to 160mph.

FACILITIES

FACILITIES LIST – BUILDINGS AND SUBSTATIONS

None.

FACILITIES LIST – OTHER FACILITIES

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

The interconnected and inter-functional distribution feeders (sites) that are the object of this scope of work are part of the electrical distribution system in the Caguas Region. All the feeders originate from a substation (start) and serve customers along the route to various locations (end). The coordinates shown below as "GPS End" represent the end of each feeder's mainline backbone.

Name	Feeder Number	# of Poles to Replace	GPS Start	GPS End	Phase	Voltage Level (kV)	Constructed Date
GAUTIER BENITEZ, SUB. 3007	3007-03	101	[redacted]		Single Phase	8.32	More than 20 years
VILLAS DEL REY, SUB. 3010	3010-01	21			Single Phase	8.32	More than 20 years
GAUTIER BENITEZ, SUB. 3015	3015-05	47			Single Phase	13.2	More than 20 years
COMERIO, SUB. 9703	9703-01	25			Single Phase	8.32	More than 20 years
COMERIO, SUB. 9703	9703-02	1			Single Phase	8.32	More than 20 years

COMERIO, SUB. 9703	9703-03	76	[redacted]	Single Phase	8.32	More than 20 years

See **Appendix A – Structure Coordinates** for the coordinates of each structure included in this project.

PROJECT AREA MAP WITH BOUNDARIES OF CONSTRUCTION

Please see document labeled: *"1066738-DR4339PR-Detailed SOW Caguas Group 6 - Phase 2 Rev0 .pdf"* for the attached map identified as **Caguas Group 6 - Phase 2 – Boundaries of Construction** a t **Appendix D**, which includes images of the individual feeders.

SECTION 428 SCOPE OF WORK

The proposed type of work for this project:

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

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

___Subrecipient's request letter included, see **Appendix** ___.

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

___Alternate Project: Does not restore the pre-disaster function of the damage facility. The

Subrecipient, through the Recipients, must obtain approval from FEMA.

___Subrecipient's request letter included, see **Appendix** ___.

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

DESCRIPTION OF PROPOSED WORK TO BE PERFORMED

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

Feeder 3007-03 Scope

Remove	Quantity	Replace With	Quantity
30' WOOD	1	50FT GAL STEEL ROUND POLE	1
35' WOOD	62	50FT GAL STEEL ROUND POLE	62
40' WOOD	34	50FT GAL STEEL ROUND POLE	34
40' CONCRETE	4	50FT GAL STEEL ROUND POLE	4

Feeder 3010-01 Scope

Remove	Quantity	Replace With	Quantity
35' WOOD	7	50FT GAL STEEL ROUND POLE	7
40' WOOD	8	50FT GAL STEEL ROUND POLE	8
40' CONCRETE	5	50FT GAL STEEL ROUND POLE	5
45' WOOD	1	50FT GAL STEEL ROUND POLE	1

Feeder 3015-05 Scope

Remove	Quantity	Replace With	Quantity
35' WOOD	21	50FT GAL STEEL ROUND POLE	21
40' WOOD	16	50FT GAL STEEL ROUND POLE	16
40' CONCRETE	5	50FT GAL STEEL ROUND POLE	5
40' STEEL	2	50FT GAL STEEL ROUND POLE	2
45’ WOOD	3	50FT GAL STEEL ROUND POLE	3

Feeder 9703-01 Scope

Remove	Quantity	Replace With	Quantity
25' WOOD	1	50FT GAL STEEL ROUND POLE	1
35' WOOD	1	50FT GAL STEEL ROUND POLE	1
40' WOOD	22	50FT GAL STEEL ROUND POLE	22
40' CONCRETE	1	50FT GAL STEEL ROUND POLE	1

Feeder 9703-02 Scope

Remove	Quantity	Replace With	Quantity

35' WOOD	1	50FT GAL STEEL ROUND POLE	1

Feeder 9703-03 Scope

Remove	Quantity	Replace With	Quantity
33’ WOOD	1	50FT GAL STEEL ROUND POLE	1
35' WOOD	19	50FT GAL STEEL ROUND POLE	19
40' WOOD	51	50FT GAL STEEL ROUND POLE	51
40' CONCRETE	5	50FT GAL STEEL ROUND POLE	5

The pole replacement work includes the following actions:

1. Remove existing poles, including hardware, and install new poles, including hardware. Columns C and D of the “LPCE” tab of Appendix B lists each pole that is proposed as a §428 replacement and §406 replacement, respectively. Column E of the “LPCE” tab of Appendix B lists each pole that is to be removed, with Column F describing each pole’s hardware scenario, and scenarios are in turn described in the “Hardware Scenarios” tab of Appendix B. That tab is correlated with cost information.

2. New guy wire/anchors are to be installed within 3 feet of the existing anchor location in compliance with the LUMA Overhead Electrical Distribution System Manual. The maximum distance an anchor will be installed for a 50-foot pole is 25 feet from the base of the pole, within the easement.

3. All work for this program will be performed within the current electrical easement.

9.2 CODES & STANDARDS

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

1. Distribution Construction Standards (Concrete Base Standard), available in Grants Portal

- Applicant Event Profiles.

2. LUMA Overhead Electrical Distribution System Manual, version 4.0, available in Grants

Portal. - Applicant Event Profiles.

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

4. 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.

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

6. 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 (Dec. 20, 2019).

SECTION 406 HAZARD MITIGATION PROPOSAL

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

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

PROPOSED § 406 HAZARD MITIGATION SCOPE OF WORK

The Distribution Pole and Conductor Repair in Caguas Group 6 will replace damaged poles with higher-rated poles, as referenced in **Appendix B—Detailed Cost Estimate**, in compliance with Appendix J of the Public Assistance Program and Policy Guide ver. 3.1 (2018). Design standards have increased from FEMA consensus-based standards (145 mph rating) to the new LUMA standard (160 mph rating). Replacing the damaged poles with higher rated poles rated to withstand winds of 160mph will directly reduce the long-term risk of physical damage to the poles as well as the potential of future, similar negative consequences to people that would result from extended blackouts like those that occurred after Hurricane Maria.

406 SCOPE OF WORK

The work includes the following actions:

Utilize 406 Hazard Mitigation Pole below in place of 428 Identified Pole	Quanti
45ft Galvanized Steel S-5.7 12-Sided pole(s)	257
50ft Galvanized Steel S8.5 12-Sided pole(s)	14
TOTAL	271

Feeder 3007-03 Scope

Proposed 428 Public Assistance	Quantity	Replace With	Quantity
50FT GAL STEEL ROUND POLE	95	45FT S5.7 GALV STEEL 12-SIDED	95
50FT GAL STEEL ROUND POLE	6	50FT S8.5 GALV STEEL 12-SIDED	6

Feeder 3010-01 Scope

Proposed 428 Public Assistance	Quantity	Replace With	Quantity
50FT GAL STEEL ROUND POLE	20	45FT S5.7 GALV STEEL 12-SIDED	20

50FT GAL STEEL ROUND POLE	1	50FT S8.5 GALV STEEL 12-SIDED	1

Feeder 3015-05 Scope

Proposed 428 Public Assistance	Quantity	Replace With	Quantity
50FT GAL STEEL ROUND POLE	45	45FT S5.7 GALV STEEL 12-SIDED	45
50FT GAL STEEL ROUND POLE	2	50FT S8.5 GALV STEEL 12-SIDED	2

Feeder 9703-01 Scope

Proposed 428 Public Assistance	Quantity	Replace With	Quantity
50FT GAL STEEL ROUND POLE	24	45FT S5.7 GALV STEEL 12-SIDED	24
50FT GAL STEEL ROUND POLE	1	50FT S8.5 GALV STEEL 12-SIDED	1

Feeder 9703-02 Scope

Proposed 428 Public Assistance	Quantity	Replace With	Quantity
50FT GAL STEEL ROUND POLE	1	45FT S5.7 GALV STEEL 12-SIDED	1

Feeder 9703-03 Scope

Proposed 428 Public Assistance	Quantity	Replace With	Quantity
50FT GAL STEEL ROUND POLE	72	45FT S5.7 GALV STEEL 12-SIDED	72
50FT GAL STEEL ROUND POLE	4	50FT S8.5 GALV STEEL 12-SIDED	4

COMMON EHP INFORMATION

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

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

• Remove existing poles, including hardware, and install new poles, including hardware. No ground disturbance will occur outside the footprint.

• All pole installations are to replace existing pole locations; no new locations are included in this scope of work. For the depths of the poles to be installed, refer to **APPENDIX C — Project Considerations**, column C (Soil area and depth impact).

• The existing foundation will be removed and replaced with a new concrete foundation base as per Distribution Construction Standards (Concrete Base Standard). The maximum auger width to be used is 42" and the maximum depth to be drilled is 15ft. Refer to APPENDIX C – Project Considerations column I (Concrete Foundation) for specific locations where this work applies.

• New guy wires/anchors are to be installed within 3 feet of the existing anchor in compliance with the LUMA Overhead Electrical Distribution System Manual. The maximum distance an anchor will be installed for a 50-foot pole is 25 feet from the base of the pole, within the easement.

• The following equipment will 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.

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

___**Relocation of utilities**. If checked, include a description of the relocation including the type

of utility, relocation coordinates, and the extent and depth of associated ground disturbance.

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

Vegetation clearance will be performed solely to the extent that it allows crews to conduct work and will be limited to 10-foot radius surrounding the surface of the pole, but not to exceed the width of the right-of-way. This is for the exclusive purpose of gaining access to the pole to conduct repairs. The costs related to Vegetation clearance procedures are covered in project [727694] FAASt [Region 4 - Caguas Group C] (Vegetation), [750066] FAASt [Region 4 - Caguas Group A Low Density] (Vegetation) and [727692] FAASt [Region 4 - Caguas Group A] High Density (Vegetation). The vegetation removal process will be managed according to federal and state regulations.

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

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.

• 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.

• Transformers will be contained and returned to LUMA in compliance with applicable regulations. Removing the transformer will require testing the existing oil for PCB levels. Per environmental regulations, the oil will be drained and delivered to the authorized waste disposal site.

• GPS location of temporary debris storage sites, final debris disposal locations, and final debris disposal methods are not yet available.

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

• All work for this program will be performed within the current electrical easement.

• Poles are close to the roads and are site accessible with existing access points at the established locations. **The construction of access roads is not required for this scope of work**. Refer to **APPENDIX C—Project Considerations** in column G, "Site Accessible."

All materials are stored and dispatched from the Caguas Regional Warehouse located at Carretera #1 Esquina Jose Mercado, Caguas [redacted].

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

• Fill, gravel, and sand materials will be obtained from an approved supplier as referenced in the LUMA Vendor Directory List in Grants Portal - Applicant Event Profiles. LUMA will retain and

___**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. make available for review the documentation provided by material suppliers.

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. For a more detailed cost estimate refer to **Appendix B - Detailed Cost Estimate**.

COST ESTIMATE			
Cost Element	**428**	**406**	**PROJECT TOTAL**
PLANNING	**$ 660,189.19**	**$ 19,727.43**	**$ 679,916.62**
(A&E) Permitting and Assessments	$ 31,437.58	$ 939.40	$ 32,376.98
(A&E) Environmental Documentation & Management	$ 139,722.58	$ 4,175.12	$ 143,897.70
(A&E) Engineering Services & Design	$ 489,029.03	$ 14,612.91	$ 503,641.94
MANAGEMENT	**$ 251,500.64**	**$ 7,515.22**	**$ 259,015.86**
(A&E) Design Development Project Management A&E	$ 8,383.35	$ 250.51	$ 8,633.86
(A&E) - Design Lodging & Per Diem A&E	$ -	$ -	$ -
Project Management	$ 47,505.68	$ 1,419.54	$ 48,925.22
Construction Management	$ 69,861.29	$ 2,087.56	$ 71,948.85
Contracting, Procurement & Contract Administration	$ 83,833.55	$ 2,505.07	$ 86,338.62
Projects Controls (Scheduling, Estimating, Support, Cost Control, Risk, Document Control & Reporting)	$ 41,916.77	$ 1,252.54	$ 43,169.31
Caguas Group 6 - Phase 2	**$ 7,805,398.50**	**$ 233,236.89**	**$ 8,038,635.39**
material, labor and equipment	$ 6,070,284.42	$ 208,755.90	$ 6,279,040.32
Lodging & Per Diem & Travel	$ 915,844.50	$ -	$ 915,844.50
Construction Contingency	$ 609,685.72	$ 18,218.31	$ 627,904.03
Escalation	$ 209,583.86	$ 6,262.68	$ 215,846.54
COST TOTALS	**$ 8,717,088.33**	**$ 260,479.54**	**$ 8,977,567.87**
DEDUCTIONS	**OTAL INSURANCE PROCEEDS RECEIVED**		**$ -**
	E-OBLIGATION TO FAASt IF APPLICABLE		**$ -**
FAASt ALLOCATIONS	FAAST PROJECT # 1066738 - 428		$ 7,539,064.69
	FAAST PROJECT # 1066738 - 406 HM		$ 260,479.54
	FAAST PROJECT # 1066738 TOTAL:		**$ 7,799,544.23**
	FAASt A&E # 335168 - 428		$ 668,572.54
	FAASt A&E # 335168 - 406 HM		$ 19,977.94
	FAASt A&E # 335168 TOTAL		**$ 688,550.48**
	FAASt E&M #673691 - 428		$ 509,451.10
	FAASt E&M #673691 - 406 HM		$ 208,755.90
	FAASt E&M #673691 TOTAL		**$ 718,207.00**

Project Cost Summary, 428 Version 0:

Work to be Completed (WTBC): $8,717,088.33

A&E Deduction (Global A&E FAASt 335168): -$668,572.54

E&M Deduction (Global E&M FAASt 673691): -$509,451.10

Project Total: $7,539,064.69

Project Cost Estimate Notes:

1. Refer to detailed SOW provided in document labeled: *"1066738-DR4339PR-Detailed SOW Caguas Group 6 - Phase 2 Rev0 .pdf".*

2. Refer to detailed Cost Estimate provided in document labeled: *"1066738-DR4339PR-Appendix B - Detailed Cost Estimate - Caguas Group 6 - Phase 2 REV0(1).xlsx".*

3. A&E cost included in this project will be reduced from this project and obligated under the FAASt Project #335168, A&E, as 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.

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

5. Attachments:

   A. Appendix A - Structure Coordinates, 1066738-DR4339PR-Appendix A - Structure Coordinates - Caguas Group 6 - Phase 2 Rev0.xlsx.

   B. Appendix B - Detailed Cost Estimate, 1066738-DR4339PR-Appendix B - Detailed Cost Estimate - Caguas Group 6 - Phase 2 REV0.xlsx.

   C. Appendix C - Project Considerations, 1066738-DR4339PR-Appendix C - Project Considerations Caguas Group 6 - Phase 2 Rev0.xlsx.

   D. Appendix D - Caguas Group 6 - Phase 2 -Boundaries of construction - 1066738-DR4339PR-Appendix D - Caguas Group 6 - Phase 2 -Boundaries of construction - SATELLITE VIEW.pdf.

406 HMP Scope

Project number: 1066738 **Damage # 1415612:** FAASt [Pole and Conductor Repair -

Caguas Group 6 - Phase 2] (Distribution)

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

Location: Caguas, PR

Start GPS Latitude/Longitude: [redacted]

End GPS Latitude/Longitude: [redacted]

Hazard Mitigation Proposal (HMP) Scope of Work:

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

Mitigation Measures *(Replacement)*

1. To avoid damage in a future event, the Applicant is proposing as a mitigation measure, increase the strength of the poles by increasing the wind tolerance of all materials to +160mph. The FAASt MOR included the PREPA distribution standards and specifications that were based on a 145mph sustained winds. However, the new PREPA Standard 2021 updates the design-criteria to a 160mph sustained winds resistant. The above mitigation measures will protect and make the affected infrastructure more resistant, stronger, and resilient to similar hazards. Refer to Appendix J: Section VI.D.1 of the PAPPG V3.1.

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

1. Feeder 3007-03 Scope:
   - Replace ninety-five (95) 50' Galvanized Steel Round Poles by ninety-five (95) 45' Galvanized Steel S5.7 12-sided poles.
   - Replace six (6) 50' Galvanized Steel Round Poles by six (6) 50' Galvanized Steel S8.5 12-sided Poles.
2. Feeder 3010-01 Scope:

- Replace twenty (20) 50’ Galvanized Steel Round Poles by twenty (20) 45’ Galvanized Steel S5.7 12-sided poles.
- Replace one (1) 50’ Galvanized Steel Round Pole by one (1) 50’ Galvanized Steel S8.5 12-sided Pole.

3. Feeder 3015-05 Scope:
    - Replace forty-five (45) 50’ Galvanized Steel Round Poles by forty-five (45) 45’ Galvanized Steel S5.7 12-sided poles.
    - Replace two (2) 50’ Galvanized Steel Round Poles by two (2) 50’ Galvanized Steel S8.5 12-sided Poles.

-

4. Feeder 9703-01 Scope:
    - Replace twenty-four (24) 50’ Galvanized Steel Round Poles by twenty-four (24) 45’ Galvanized Steel S5.7 12-sided poles.
    - Replace one (1) 50’ Galvanized Steel Round Pole with one (1) 50’ Galvanized Steel S8.5 12-sided Pole.

5. Feeder 9703-02 Scope:
    - Replace one (1) 50’ Galvanized Steel Round Pole by one (1) 45’ Galvanized Steel S5.7 12-sided pole.

6. Feeder 9703-03 Scope:
    - Replace seventy-two (72) 50’ Galvanized Steel Round Poles by seventy-two (72) 45’ Galvanized Steel S5.7 12-sided poles.
    - Replace four (4) 50’ Galvanized Steel Round Poles by four (4) 50’ Galvanized Steel S8.5 12-sided Poles.

-

Hazard Mitigation Proposal (HMP) Cost

Total Net Hazard Mitigation Cost (Base Cost) =	**$208,755.90**
+ HM (Applicant A&E, Management & General Conditions) =	**$ 51,723.64**
Hazard Mitigation Total Cost =	**$260,479.54**

Hazard Mitigation Proposal (HMP) Cost Distribution:

Equipment and Materials (E&M) =	**$208,755.90**
Architecture and Engineering (A&E) =	**$ 19,977.94**
Construction Cost =	**$ 31,745.70**
Hazard Mitigation Total Cost =	**$260,479.54**

-

HMP Cost-Effectiveness Calculations

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

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

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

The cost of the Hazard Mitigation Proposal (HMP) described herein is **$260,479.54 (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.

Cost

Code	Quantity	Unit	Total Cost	Section
9001	1	Lump Sum	$8,717,088.33	Uncompleted
9001	1	Lump Sum	($509,451.10)	Uncompleted
3510	1	Lump Sum	($668,572.54)	Uncompleted

CRC Gross Cost	$7,539,064.69
Total 406 HMP Cost	$0.00
Total Insurance Reductions	$0.00
CRC Net Cost	$7,539,064.69
Federal Share (90.00%)	$6,785,158.23
Non-Federal Share (10.00%)	$753,906.46

Subgrant Conditions

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

Insurance

Additional Information

7/24/2026

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.

Olga Renta, PA Insurance Specialist
CRC Atlantic, Guaynabo, PR

5/29/2026

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.

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

O&M Requirements

There are no Obtain and Maintain Requirements on **FAASt [Pole and Conductor Repair- Caguas Group 6 Phase 2] / Former project 806935 (Distribution)**.

406 Mitigation

There is no additional mitigation information on **FAASt [Pole and Conductor Repair- Caguas Group 6 Phase 2] / Former project 806935 (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 per-form vegetation management, including vegetation clearing to re-establish a right-of-way, for particular transmission and distribution facilities in the Territory as specified in the Order. The Order required PREPA to identify certain parameters by which the directed work would be performed, and required that all work be performed, to the maximum extent practicable, in a manner consistent with all applicable Federal, State, or local environmental laws or regulations and minimize any adverse environmental impacts. However, pursuant to Section 202(c)(3) of the FPA, to the extent any omission or action taken by PREPA that was necessary to comply with the Order, including any omission or action taken to voluntarily comply with the Order, caused PREPA to not comply with any Federal, State, or local environmental law or regulation, including any environmental conditions in this REC's "Standard Conditions," such omission or action shall not be considered a violation of such environmental law or regulation, or subject PREPA to any requirement, civil or criminal liability, or citizen suit under such environmental law or regulation. On August 15, 2025, DOE reissued the Order to direct PREPA to also perform asset management, including component refurbishment and replacement. To renew/reissue the Order, DOE was required to consult with the primary Federal agency with expertise in the environmental interest protected by such law or regulation and include in the Order conditions necessary to minimize any adverse environmental impacts to the extent practicable. Pursuant to Section 202(c)(4)(B) of the FPA, DOE provided the relevant agencies the opportunity to submit conditions for worked performed under the Order, to be included in the Order. According to DOE, no conditions were submitted by the agencies for inclusion in the Order. On November 12, 2025, DOE reissued the Order to direct PREPA to also perform asset management, including component refurbishment and replacement. DOE and FEMA have agreed that DOE is the lead agency for activities that fall under the prior and any future DOE 202(c) orders issued under the Federal Power Act to resolve the current and related emergencies in Puerto Rico. FEMA has requested that DOE provide FEMA with all documentation relating to their EHP compliance. FEMA will review and incorporate all available information and data for this project pertaining to applicable environmental laws and regulations into this REC when it is received from DOE. On February 10, 2026, and again on May 7, 2026, DOE reissued the Order to direct PREPA to perform vegetation management, including vegetation clearing to re-establish the right-of-way, and asset management, including component refurbishment and replacement, to ensure operational availability of the transmission and distribution facilities.
- ***Previous comment applies*** On August 07, 2026, DOE reissued the Order to direct PREPA to perform vegetation management, including vegetation clearing to re-establish the right-of-way, and asset management, including component refurbishment and replacement, to ensure operational availability of the transmission and distribution facilities.

EHP Additional Info

There is no additional environmental historical preservation on **FAASt [Pole and Conductor Repair- Caguas Group 6 Phase 2] / Former project 806935 (Distribution)**.

Final Reviews

Final Review

Reviewed By LEFRANC-GARCIA, CARLOS L. **Reviewed On** 09/11/2026 9:30 PM PDT

Review Comments

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

Recipient Review

Reviewed By Mulero, Noel **Reviewed On** 09/16/2026 1:11 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	9/25/2026	$6,785,158.23	90%	Accepted	4339DRPRP01082481

Department of Homeland Security
Federal Emergency Management Agency

v0

General Info

Project #	1068648 **P/W #** 108272	**Project Type**	Specialized
Project Category	F - Utilities	**Applicant**	PR Electric Power Authority (000-UA2QU-00)
Project Title	FAASt [Region 5 Mayaguez 38Kv – Non-Sensitive]/ Former project 740411 (vegetation)	**Event**	4339DR-PR (4339DR)
		Declaration Date	9/20/2017
Project Size	Small	**Incident Start Date**	9/17/2017
Activity Completion Date	9/20/2027	**Incident End Date**	11/15/2017
Process Step	Obligated		

Damage Description and Dimensions

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

Damage #1366677; FAASt [Region 5-Mayaguez Group B] (Vegetation)

General Facility Information:

- **Facility Type:** Power generation, transmission, and distribution facilities
- **Facility:** Region 5-Mayaguez 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

1366677 **FAASt [Region 5-Mayaguez 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 ofer 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 Staford Act may be made available for the execution of a one-time, island-wide vegetation clearing and removal operation intended to mitigate the threat to the existing vegetation, if untended to, poses to Puerto Rico's electric T&D system. See FEMA's letter to COR3, document Signed Vegetation Management March 24 2023.pdf. The Subrecipient's actual recovery solution seeks a one-time

Island-wide vegetation clearance and removal operation intended to mitigate the threat to the existing vegetation, if untended to, poses to Puerto Rico's electric T&D system. The actual recovery solution seeks to mitigate Puerto Rico's electric T&D system, including areas without infrastructure repairs.

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

This project captures a portion of the Island-wide actual recovery solution, specifically the onetime vegetation clearance and removal operation intended to mitigate the Region 5 Mayaguez (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 $21,886.83.

DI#	PA Vegetation Clearance Overlap per mile	Total miles	WTBC - PA Cost with Subrecipient Management & General Conditions	A&E - PA	Total - PA
1366677	$15,433.57	1.43	$22,070.01	$(183.18)	$21,886.83

Work to be completed total: $22,070.01

A&E Deduction (Global A&E FAASt 335168): $(183.18)

Project Total: $21,886.83

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 1068648 - FAASt [Region 5 Mayaguez 38Kv – Non-Sensitive] Former project 740411 (Vegetation) DSOW Rev1.pdf

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

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

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

406 HMP Scope

Project number: FAASt [Region 5 Mayaguez 38Kv – Non-Sensitive]/ Former project 740411 (vegetation)

Damage #: 1366677

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

Location: Mayaguez, Puerto Rico

GPS Latitude/Longitude: From: [redacted]

Introduction:

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

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

Hazard Mitigation Narrative:

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

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

The global project was divided into the following regions:

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

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

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

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

FAASt [Region 5 Mayaguez 38Kv – Non-Sensitive]/ Former project 740411 (vegetation)

This is a project for 38kV transmission lines in Region 5 Mayagüez. 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 Mayagüez (if left untended to), poses Puerto Rico's electric grid.

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

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

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

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

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

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

Clearance - The minimum distance between two conductors, between conductors and their support or other objects, or between conductors and the ground. The National Electrical Safety Code (NESC) and PREPA's Technical Communication (See 12-02 attached) determine the minimum requirements regarding distances (vertical and horizontal) between an energized conductor or device and a structure, building or surface. Vegetation Clearing will be limited to clearing any vegetation affecting these clearances. This term is not

synonymous with easement. Clearances can be met without being within an easement. Clearance requirements must be complied with either when the Authority builds its facilities, as well as when a third party builds a structure. Clearances, in both cases, must be complied with by regulation, regardless of whether an easement exists. regardless of whether an easement exists.

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

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

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

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

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

FEMA performed an analysis to the PREPA FAASt documents and determined that vegetation clearing on each mile of 38 kV line requiring repair was on average 8.34%% related to the repair (428 PA) and 91.66% related to a mitigation measure (406 HM). The fixed-cost estimate for the PA scope is $15,433.57 per **1.43 mile,** with a total project cost of **$22,070.01.** For further details, refer to the document “FAAStVegetationHMPApproach_38kV Sub-Transmission_05.15.2025.pdf”

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

[1068648] FAASt [Region 5 Mayaguez 38Kv – Non-Sensitive]/ Former project 740411 (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 5 Mayagüez TL of Puerto Rico.

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

Parameters for Performing 406 Hazard Mitigation Vegetation Clearing

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

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

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

Scope of Work Inside Easement – Incompatible Species

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

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

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

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

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

Scope of Work Inside Easement – Compatible Species:

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

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

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

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

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

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

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

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

All Other Incompatible Species within the Recommended Easement Width:

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

Scope of Work Outside Easement – Species Growing into the Easement

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

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

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

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

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

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

FEMA 38kV Assessment & Methodology:

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

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

FEMA Analysis:

The total miles to be addressed in the Hazard Mitigation Proposal (HMP) is **1.62 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 **1.43 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.

	HMP	**Cost Estimate**
Total Project Miles:	7.90	7.90
Vegetation Miles at 100% of Work	1.12	1.12
Vegetation Miles at 50% of Work	0.35	0.17
Total Miles to Clean	1.47	1.30
Buffer Acceptance:	10%	10%
Vegetation Miles at 100% + Buffer	**1.24**	**1.24**
Vegetation Miles at 50% + Buffer	**0.38**	**0.19**
Total Miles to Clean with Buffer	**1.62**	**1.43**
% of Miles to Clean with Buffer	20%	18%

(III) Hazard Mitigation Proposal (HMP) Cost:

[1] Vegetation Clearance Cost per Mile (Base Cost) =	$176,173.47 / mile
Risk Factor approved by the DR4339-PR leadership (5%) =	$8,808.67 / mile
Vegetation Clearance Cost per Mile (w/Soft Cost) =	$184,982.14 /mile
[2] PA Vegetation Clearance Overlap per Mile (Deduction) =	($15,433.57/ mile)
Hazard Mitigation Total Cost per Mile =	**$169,548.57 / mile**
Project Total Miles with Vegetation: Buffer Acceptance:	1.30-miles 10%
Project Total Miles with Vegetation:	1.43 miles
Hazard Mitigation Total Cost =	**$242,454.46**

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) =	$230,909.01
+ HM (Management & General Conditions Factors) =	$11,545.45
Hazard Mitigation Total Cost =	**$242,454.46**

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

Architecture and Engineering (A&E) =	$2,012.37	
Remaining Vegetation Clearance Cost =	$240,442.09	

Hazard Mitigation Total Cost =	**$242,454.46**	

(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 **$242,454.46 (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. "PN1068648-DR4339PR-HMP-IEP-20260729-RGL.pdf"
6. "PN1068648-Mayaguez-38KV.kmz"
7. "PN1068648-DR4339PR-HMCE-IEP-20260729-RGL"

Cost

Code	Quantity	Unit	Total Cost	Section
9001	1	Lump Sum	$22,070.01	Uncompleted
3510	1	Lump Sum	($183.18)	Uncompleted

CRC Gross Cost	$21,886.83
Total 406 HMP Cost	$0.00
Total Insurance Reductions	$0.00
CRC Net Cost	$21,886.83
Federal Share (90.00%)	$19,698.15
Non-Federal Share (10.00%)	$2,188.68

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.
- The Recipient must submit its certification of the subrecipient's completion of all of its small projects and compliance with all environmental and historic preservation requirements within 180 days of the applicant's completion of its last small project, or the latest approved deadline, whichever is sooner.
- 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 Subrecipient provided the estimate for this PW. FEMA validated the estimate and found it to be reasonable for the work to be performed.
- The Applicant certifies the following: IMPARTIAL DELIVERY OF PUBLIC ASSISTANCE: All work claimed was delivered in an impartial manner as required by Title VI of the Civil Rights Act, Section 308 of the Stafford Act, 42 U.S.C. § 5151, and applicable provisions of laws and authorities prohibiting discrimination. DAMAGE: All damage claimed was a direct result of the Presidential emergency and major disaster declaration. The damage did not result from a lack of maintenance. WORK: All work claimed to restore the facility back to its pre-disaster design function and capacity was required as a direct result of the major disaster declaration, is located within the designated area, and is the Applicant's legal responsibility. CODE AND STANDARD COMPLIANCE: All facilities are being restored in accordance with all federal and SLTT code and standard requirements. PROCUREMENT AND CONTRACTING: The Applicant is using the most restrictive of either its own documented policies and procedures for procurement or federal procurement and contracting laws in accordance with 2 C.F.R. Part 200. The Applicant is following Environmental Protection Agency guidelines for procurement of recovered materials; and including all applicable required contract provisions. COST REASONABLENESS: All costs claimed are reasonable and of a type recognized as ordinary and necessary for the type of facility and work as required by 44 C.F.R. § 206.228 and 2 C.F.R. §200.404. TRUE AND CORRECT STATEMENTS: All information provided is true and correct. Upon submittal this project application becomes a legal document.

The False Claims Act (31 U.S.C. §§3729-3733) prohibits the submission of false or fraudulent claims for payment to the federal government. It is a violation of federal law to intentionally make false statements or hide information when applying for Public Assistance. This can carry severe criminal and civil penalties including a fine of up to $250,000, imprisonment, or both (18 U.S.C. §§ 287, 1001, 1040, and 3571). The Applicant acknowledges: NON-DISCRIMINATION IN FEDERALLY ASSISTED PROGRAMS: The Applicant acknowledges it must comply with all federal civil rights laws and authorities prohibiting discrimination, including but not limited to, Section 308 of the Stafford Act, 42 U.S.C. § 5151, which requires the impartial delivery of disaster services and activities without discrimination. INSURANCE: When FEMA provides assistance for permanent work to repair or restore a facility, Stafford Act § 311 requires the applicant to ensure the facility and contents with the types and extent of insurance that is reasonably available, adequate, and necessary to protect the facility against future loss. FEMA refers to this as the requirement to “obtain and maintain” insurance requirement. If the Applicant does not comply with this insurance requirement, FEMA will deny or deobligate PA funding for that facility and the facility is ineligible for PA funding in any subsequent disaster. DOCUMENTATION REQUIREMENTS: The Applicant acknowledges it must continue to retain all source documentation, including project eligibility records and financial records, for three years after the date the Recipient submits to FEMA certification of completion of the last Small Project. SLTT government laws may require longer retention periods. Real property and equipment disposition, audits, and litigation may also require longer retention periods. If requested, Applicants must provide documentation to FEMA. Recipients may require documentation not otherwise required by FEMA (such as actual cost documentation for Small Projects). In such cases, the Applicant must provide the documentation to the Recipient.

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 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.

Gregory Berrios Torres, PA Insurance Specialist
CRC Atlantic, Guaynabo, PR

O&M Requirements

There are no Obtain and Maintain Requirements on **FAASt [Region 5 Mayaguez 38Kv – Non-Sensitive]/ Former project 740411 (vegetation)**.

406 Mitigation

There is no additional mitigation information on **FAASt [Region 5 Mayaguez 38Kv – Non-Sensitive]/ Former project 740411 (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 5 Mayaguez 38Kv – Non-Sensitive]/ Former project 740411 (vegetation)**.

Final Reviews

Final Review

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

Review Comments

he PA Scope of Work is limited to incidental vegetation clearance associated with 1.43 miles of 38kV transmission lines in Region 5–Mayagüez; no permanent infrastructure repairs are included. The WTBC cost is $22,070.01, based on $15,433.57 per mile. The final PA project cost is $21,886.83.

Recipient Review

Reviewed By Mulero, Noel **Reviewed On** 09/21/2026 6:50 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	9/25/2026	$19,698.15	90%	Accepted	4339DRPRP01082721

Department of Homeland Security
Federal Emergency Management Agency

v0

General Info

Project #	1068662 **P/W #** 108274	**Project Type**	Specialized
Project Category	F - Utilities	**Applicant**	PR Electric Power Authority (000-UA2QU-00)
Project Title	FAASt [Aguas Buenas Streetlighting] / Former project 724941 (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 #1336178; FAASt-Distribution Streetlighting - Aguas Buenas

General Facility Information:

- **Facility Type:** Power generation, transmission, and distribution facilities
- **Facility:** Distribution Streetlighting - Aguas Buenas
- **Facility Description:** The Aguas Buenas municipality has a total of 3976 luminaires of which damage was estimated for 70% of these luminaires. Additional descriptions of typical components of a streetlight system are described below: • Pole – This can be either a standalone structure intended to house a streetlight, or a utility pole shared with other overhead utilities • Arm – A piece of hardware affixed to a pole to which a luminaire is mounted. The arm serves to position the streetlight over the street for optimal lighting • Luminaire/Light Bulb – The light emitting part of a streetlight • Light controller (e.g., photocell) – A hardware device affixed to the luminaire which controls the operating mode • Communication network – A wired or wireless system that allows the smart streetlight to communicate with other devices and the control system • Technology control system – A software platform that allows a remote operator to set the operating parameters for the smart streetlight or manually override the parameter if needed.
- **Approx. Year Built:** 1970
- **GPS Latitude/Longitude:** [redacted]

Final Scope

1336178 **FAASt-Distribution Streetlighting - Aguas Buenas**

INTRODUCTION

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

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

programmatic reviews. Therefore, in those cases, subrecipients must ensure to submit all the information described [in the SOP] and not limit the submission to a drawing set. Refer to Part C - II. Recipient/Subrecipient Checklist for Submissions as a guide to review completeness."

This document contains the detailed SOW for FEMA PA Project 1068662 FAASt [Aguas Buenas Streetlighting] / Former project 724941 (Distribution) under DR-4339-PR Public Assistance. The document provides a detailed description of the project, scope of PA construction activities to be completed, common EHP review information, proposed hazard mitigation measures, and project cost estimates. LUMA is seeking approval from COR3 and FEMA for PA funding for the scope described in this document.

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

PROJECT DESCRIPTION

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

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

FACILITIES

FACILITIES LIST – BUILDINGS AND SUBSTATIONS

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

- None

FACILITIES LIST

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

Name	Damage Number	GPS Location
Aguas Buenas Municipality	1336178	Please refer to Appendix B for a list of all G locations to be impacted by this project.

Existing Lighting Components:

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

Existing Streetlight Poles:

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

PROJECT AREA MAP WITH BOUNDARIES OF CONSTRUCTION

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

§ 428 SCOPE OF WORK

The proposed type of work for this project:
[X] Standard Project: Restores the facility/facilities to pre-disaster design and function to locally-adopted codes/standards and/or FEMA-approved industry standards.

[ ] Improved Project: Restores the pre-disaster function of the facilities and incorporates improvements or changes to its pre-disaster design not required by codes or standards.
[ ] Subrecipient's request letter included, see Appendix .
[ ] Recipient's approval letter included, see Appendix .

[ ] Alternate Project: Does not restore the pre-disaster function of the damage facility. The Subrecipient, through the Recipients, must obtain approval from FEMA.
[ ] Subrecipient's request letter included, see Appendix .
[ ] Recipient's approval letter included, see Appendix .

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

Work Description	**Number of Points**
Components only, does not require pole replacement, installation, removal	
Secondary pole replacement, installation, removal, with third party attachments	
Secondary pole replacement, installation, removal, without third party attachments	
Secondary pole, removal, with third party attachments, Luminaire Location Change (LLC)	
Secondary pole, removal, without third party attachments, Luminaire Location Change (LLC)	
Streetlight pole replacement, installation, removal	
Streetlight pole replacement, installation, removal, Double Side Pole	
Grand Total	

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

Pole Replacement
• Remove and replace existing streetlight poles, including lighting components. Quantities for these replacements are provided in the table above.

The locations of the poles and description of work on each pole are described in Appendix D – Project Considerations Aguas Buenas Municipality.
• Brush vegetation, as identified, to gain access to the pole and conduct repairs.
• Remove existing foundations in identified points and replace them with concrete
foundations, following design criteria.
• All work for this program will be performed within the municipality's existing electrical easement.

CODES & STANDARDS
Per FEMA's SOP, the locally adopted codes/standards and/or FEMA-approved industry standards used for this project are provided below:
• LUMA Distribution Design Manual (See Applicant Profile)
• LUMA Streetlighting Construction Standards (See Applicant Profile)

For § 406 HAZARD MITIGATION PROPOSAL see document labeled: "1068662-DR4339PR-Aguas Buenas Streetlight-Detailed Scope of Work-Rev.5".

COMMON EHP REVIEW INFORMATION

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

[X] Ground disturbance outside of existing footprint. If checked, provide a description of the ground disturbing activities including the extent, location, and depth of the disturbance.
• All work for this program will be performed within the existing electrical easement of the municipality. Poles are near the roads and are site accessible.
• Streetlights Poles: Appendix C and Appendix D contain coordinates for streetlight poles where ground disturbance is required. The replacement of poles has a standard diameter for ground disturbance of 18 inches. The depth of the poles to be installed is stated in Appendix D (see "Soil area and depth impact" column).
• Equipment to be used includes Skid Steer, Excavator, Dump trucks, Man lifts, 120-ton Motor Crane, Boom Trucks, 45-ton Crane, Zoom Boom, Air compressor, Truck Digger, Water truck, Pump Truck, Concrete Vibrator, Filtering Machine, and Flatbed platform.

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

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

[X] Vegetative Removal. If checked, describe the removal work to be performed, its location, and its extent.
• Vegetation clearance will be performed solely to the extent that it allows crews to conduct work and will be limited to a 10 ft radius surrounding the surface of the pole, but not to exceed the width of the right-of-way. This is for the exclusive purpose of gaining access to the pole to conduct repairs. The costs related to vegetation clearance procedures are covered in 750065 FAASt [Region 3 - Bayamon Group A] Low Density (Vegetation), 750066 FAASt [Region 4 - Caguas Group A] Low Density (Vegetation), 727692 FAASt [Region 4 - Caguas Group A] High Density (Vegetation), 727694 FAASt [Region 4 - Caguas Group C] (Vegetation), 740409 FAASt [Region 4 - Caguas Group B] (Vegetation), 727522 FAASt [Region 3 Bayamon TL - 115kV] (Vegetation). The vegetation removal process will be managed in accordance with federal and state regulations.

[X] Demolition. If checked, include a description of what will be removed and the extent and depth of any ground disturbing activities. Additionally, include a description of (1) demolition debris type (construction debris, white goods, hazardous materials, etc.); (2) GPS location of temporary debris storage sites; (3) final debris disposal location; and (4) final debris disposal method.
• Construction Debris: The debris that will be produced during removal is luminaires, polearms, photocells, metal scrap, wiring, concrete, steel, and wood poles. The debris will be separated and taken to an authorized waste disposal facility.
• Luminaires are considered universal waste and will be disposed of by the contractor in authorized facilities.
• The Project does not include removal and/or disposal of transformers because they are secondary voltage facilities, and transformer removal pertains to primary voltage facilities.
• GPS location of temporary debris storage sites, final debris disposal location, and final debris disposal method have not been identified yet.

[X] Staging areas, landing area for air transport, and access roads. If checked, provide GPS location of staging areas, and access roads. Include a description of the extent of any related vegetative removal, ground disturbance, or stabilization measures required (such as gabion walls, retaining walls, paving, etc.).
• Staging Areas: Staging areas within the work site have not been identified at this moment. The contractor must provide the information on the staging areas as soon as available. Staging areas are confined to previously disturbed or hardened surfaces.
o All materials are stored and dispatched from the assigned LUMA Regional Warehouse. The location assigned for this project is the Caguas Warehouse, [redacted]
• Access Roads: The construction of access roads is not required for this scope of work. (Refer to Appendix D in the "Site Accessible" column.).

[X] Fill material. If the project includes the use of fill material, provide the source of the fill material including the provider's name and address (if known).
• Fill, gravel, and sand materials will be obtained from a preferred vendor as referenced in the Approved Supplier List Directory PR (see Applicant Profile).

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

PROJECT COST ESTIMATE (PCE)
The estimated costs (compliant with Class 3 Accuracy +/-30%) to complete the project are summarized in the table(s) below. The cost estimate(s) was developed utilizing preliminary Architectural and Engineering design information. For a more detailed cost estimate refer to Appendix C – Cost Estimate.

Distribution Streetlights Estimate Summary - Aguas Buenas					
Cost Element	**Total Cost Estimate**	**Cost Factor**	**FAASt Project 1068662 (428 Cost Estimate)**	**FAASt Project 1068662 (406 Cost Estimate)**	**A&E FAASt Project 335168 (428)**
Planning, Permits and Applications (A&E)	$102,513.33	1.00%	$ 0.00	$4,922.06	$97,591.27
Environmental Management (A&E)	$307,540.00	3.00%	$ 0.00	$14,766.18	$292,773.82
Project Management (A&E)	$102,513.33	1.00%	$ 0.00	$4,922.06	$97,591.27
Engineering - A&E Estimate	$703,983.50	6.87%	$ 0.00	$33,800.97	$670,182.53
Engineering - Owners Engineering (A&E)	$512,566.67	5.00%	$ 0.00	$24,610.31	$487,956.36
Construction - Labour & Materials	$10,251,333.41	100.00%	$9,759,127.27	$492,206.14	$ 0.00
Construction – Project Management	$410,053.34	4.00%	$390,365.09	$19,688.25	$ 0.00
Construction - Site Management	$512,566.67	5.00%	$487,956.36	$24,610.31	$ 0.00
Construction - Quality Inspections	$307,540.00	3.00%	$292,773.82	$14,766.18	$ 0.00
Construction - Contingency	$717,593.34	7.00%	$683,138.91	$34,454.43	$ 0.00
TOTAL PROJECT COST ESTIMATE	**$13,928,203.59**		**$11,613,361.45**	**$668,746.89**	**$1,646,095.25**

Refer to Appendix C – Cost Estimate.

Work to be Completed (WTBC): $11,613,361.45

A&E Deduction (Global A&E FAASt 335168): -$0.00 (See project note 3)

E&M Deduction (Global E&M FAASt 673691): -$0.00 (See project note 3)

Project Total: $11,613,361.45

Project Notes:

1. Refer to detailed SOW provided in document labeled:"1068662-DR4339PR-Aguas Buenas Streetlight-Detailed Scope of Work-Rev.5.pdf".

2. Refer to detailed Cost Estimate provided in document labeled: "1068662-DR4339PR-Aguas Buenas Streetlight-Appendix C - Cost Estimate Aguas Buenas Municipality Rev. 3.xlsx"

3. Regarding the Equipment and Materials(E&M) and A&E cost in this project see the PDMG clarification in the document labeled: "1068662-

DR4339PR-Clarification.pdf"

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

5. Attachments
   a. Appendix A - Aguas Buenas Work Zones Map
   b. Appendix B – Aguas Buenas Municipality Work Zones FIDs SIDs and Coordinates
   c. Appendix C – Cost Estimate Aguas Buenas Municipality
   d. Appendix D – Project Considerations Aguas Buenas Municipality
   e. Appendix E - FEMA 406 Justification: Streetlight Program

406 HMP Scope

Project number: 1068662; FAASt [Aguas Buenas Streetlighting] / Former project 724941 (Distribution)

Damage #1336178; FAASt-Distribution Streetlighting - Aguas Buenas

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

Location: Aguas Buenas, Puerto Rico

GPS Latitude/Longitude: [redacted]

Hazard Mitigation Narrative

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

In the Aguas Buenas Municipality, PREPA has a total of 3,592 streetlights luminaries. The Method of Repair (MOR) includes the replacement of damage lighting components including photocells, luminaires, arms, and associated hardware. Also include the replacement of the damage distribution and streetlight poles (wood, concrete, galvanized & aluminum), the replacement of the aerial secondary wiring connections, and the construction of new concrete base for the aluminum streetlight poles. According to the information provided by the Applicant, due to the high velocity hurricane winds, wind-blown debris, and prolonged heavy rain, were the main cause of the damages of the facilities.

In order to minimize the damages in a future event, the Applicant is proposing as a mitigation measure, increase the strength of the poles, aluminum poles breakaway bases, and foundations (concrete bases) by increasing the wind tolerance of all materials to 160mph. **Note:** The FEMA Accelerated Award Strategy (FAASt) MOR included the PREPA distribution standards and specifications that were based on a 90mph sustained winds for all materials. Although in PREPA Technical Communication #13-02 (August 22, 2013) a design-criteria of 145mph winds were published, the specifications for streetlighting material were never revised, and in the specification documents, the 90mph winds stayed as the requirement for procurement purposes of all streetlighting materials. The 160mph wind tolerance mitigation measure will protect and make the affected infrastructure more resistant, stronger, and resilient to similar hazards.

Hazard Mitigation Proposal (HMP) Scope of Work:

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

Mitigation Measures *(Replacement)*

1. To avoid damage in a future event, the Applicant is proposing as a mitigation measure, increase the strength of aluminum and concrete poles, breakaway bases, and foundations (concrete bases) by increasing the wind tolerance of all materials to 160mph. The FAASt MOR used PREPA distribution standards and specifications that were based on a 90mph sustained winds for all materials. Although in PREPA Technical Communication #13-02 (August 22, 2013) a design-criteria of 145mph winds were published, the specifications for streetlighting material were never revised, and in the specification documents, the 90mph winds stayed as the requirement for procurement purposes of all streetlighting materials. These mitigation measures will protect and make the affected infrastructure more resistant, stronger, and resilient to similar hazards. Refer to Appendix J: Section VI.D.1 of the PAPPG V3.1.

406 Mitigation Scope of Work:

- Replace (9ea) 33ft octagonal concrete poles by (9ea) 35ft octagonal concrete poles.
- Replace (1,036ea) 35ft galvanized poles by (1,036ea) 35ft S3.5 galvanized poles.
- Replace (7ea) 30ft aluminum poles by (7ea) 40ft aluminum poles.
- Replace (7ea) 30ft aluminum poles breakaway bases by (7ea) 40ft aluminum poles breakaway bases.

- Replace (7ea) 30ft aluminum poles concrete bases [2.5ft(D) x 5.5ft(H)] by (7ea) 40ft aluminum poles concrete bases [3ft(D) x 10ft(H)].

Hazard Mitigation Proposal (HMP) Cost

Total Net Hazard Mitigation Cost (Base Cost) =	$ 492,206.14
+ HM (Applicant A&E, Management & General Conditions) =	$ 176,540.75
Hazard Mitigation Total Cost =	**$ 668,746.89**

Hazard Mitigation Proposal (HMP) Cost Distribution:

Equipment and Materials (E&M) =	$ 0.00
Architecture and Engineering (A&E) =	$ 83,021.58
Construction Cost=	$ 585,725.31
Hazard Mitigation Total Cost =	**$ 668,746.89**

(V) HMP Cost-Effectiveness Calculations

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

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

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

The cost of the Hazard Mitigation Proposal (HMP) described herein is $668,746.89 (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	$11,613,361.45	Uncompleted

CRC Gross Cost	$11,613,361.45
Total 406 HMP Cost	$0.00
Total Insurance Reductions	$0.00
CRC Net Cost	$11,613,361.45
Federal Share (90.00%)	$10,452,025.31
Non-Federal Share (10.00%)	$1,161,336.14

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

8/13/2026

No adjustments to be made to the previous insurance coverage determination, no revisions to narrative needed, updated applicant tracker if

needed, providing administrative function and forwarding project for completion.

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

7/22/2026

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 [Aguas Buenas Streetlighting] / Former project 724941 (Distribution)** .

406 Mitigation

There is no additional mitigation information on **FAASt [Aguas Buenas Streetlighting] / Former project 724941 (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.
- For Chilabothrus inornatus (Puerto Rican boa): a. Inform all project personnel about the potential presence of the PR boa in areas where the proposed work will be conducted. A pre-construction meeting should be conducted to inform all project personnel about

the need to avoid harming the species as well as penalties for harassing or harming PR boas. An educational poster or sign with photo or illustration of the species should be displayed at the project site. b. Prior to any construction activity, including removal of vegetation and earth movements, the boundaries of the project and areas to be excluded and protected should be clearly marked in the project plan and in the field in order to avoid further habitat degradation into forested and conservation areas. c. Once areas are clearly marked, and prior to the use of heavy machinery and any construction activity (including removal of vegetation and earth movement), a biologist or project personnel with experience on this species should survey the areas to be cleared to verify the presence of any PR boa within the work area. d. If a PR boa is found within any of the working or construction areas, activities should stop at that area and information recorded (see #e). Do not capture the boa. If boas need to be moved out of harm's way, designated personnel shall immediately contact the Puerto Rico Department of Natural and Environmental Resources (PRDNER) Rangers for safe capture and relocation of the animal: (787) 999-2200 ext. 2911. If immediate relocation is not an option, project-related activities at that area must stop until the boa moves out of harm's way on its own. Activities at other work sites, where no boas have been found after surveying the area, may continue. e. For all boa sightings (dead or alive), record the time and date of the sighting and the specific location where it was found. PR boa data should also include a photo of the animal (dead or alive), site GPS coordinates, the time and date, and comments on how the animal was detected and its behavior. f. If a PR boa is captured by PRDNER personnel, record the name of that person and information on where the PR boa will be taken. This information should be reported to the Service. g. Measures should be taken to avoid and minimize PR boa casualties by heavy machinery or motor vehicles being used on site. Any heavy machinery left on site (staging) or near potential PR boa habitat (within 50 meters of potential boa habitat), needs to be thoroughly inspected each morning before work starts to ensure that no boas have sheltered within engine compartments or other areas of the equipment. If PR boas are found within vehicles or equipment, do not capture the animal, and let it move on its own or call PRDNER Rangers for safe capture and relocation of the animal (see #d). If not possible, the animal should be left alone until it leaves the vehicle on its own. h. PR boas may seek shelter in debris piles. Measures should be taken to avoid and minimize boa casualties associated with sheltering in debris piles as a result of project activities. Debris piles should be placed far away from forested areas. Prior to moving, disposing or shredding, debris piles should be carefully inspected for the presence of boas. If debris piles will be left on site, we recommend they be placed in areas that will not be disturbed in the future. i. If a dead PR boa is found, immediately cease all work in that area and record the information accordingly (see #e). If the PR boa was accidentally killed as part of the project actions, please include information on what conservation measures had been implemented and what actions will be taken to avoid further killings. A dead boa report should be sent by email to the Service at Caribbean_es@fws.gov, within 48 hours of the event. j. Projects must comply with all state laws and regulations. Please contact the PRDNER for further guidance.

- For Patagioenas inornata wetmorei (Puerto Rican plain pigeon): All personnel will be advised that there are civil and criminal penalties for harming, harassing, or killing species protected under the ESA. During breeding seasons (see below), nest surveys shall be conducted if a project occurs within the range of any of the species listed above and if habitat for those species will be impacted by the proposed actions. Nest searches must be conducted by qualified personnel with the appropriate permits from the Puerto Rico Department of Natural and Environmental Resources (PRDNER) prior to start of work. If nesting activity is detected, all construction activities or human disturbance must be avoided within a 50-meter buffer around any nest(s) found within the project area. This avoidance strategy must be kept until fledglings successfully leave the nest(s) permanently. Outside breeding season no nest surveys are required. However, some bird species may nest year-round, therefore, if a nest is encountered while the project is being conducted, all construction activities or human disturbance must be avoided within a 50-meter buffer around that nest(s). This avoidance strategy must be kept until fledglings successfully leave the nest(s) permanently. Furthermore, if any of the species indicated above is observed (e.g., foraging, resting) within the project area, avoid any disturbance to the individual(s) and do not flush the bird until it leaves on its own. Nesting seasons: Puerto Rican plain pigeon: April-September. For all nest sightings, the Applicant must record the time and date of the sighting and the specific location where it was found. All sightings and incidental lethal take reports should be sent to the USFWS Caribbean Ecological Services Field Office at Caribbean_es@fws.gov. Office phone: 786-244-0081.
- The Subrecipient and/or Subrecipient's contractor must follow the Low Impact Debris Removal Stipulations (LIDRS) outlined in Appendix E of the Project-Specific Programmatic Agreement Among FEMA, the SHPO, ACHP, COR3, and PREPA (PSPA), executed on August 2, 2022.
- Pursuant to Stipulation III.B of the PSPA, if, in the course of implementing this Individual Undertaking(s), previously unidentified structures, sites, buildings, objects, districts, or archaeological deposits, that may be eligible for listing in the National Register, or human remains are uncovered, or if it appears that an Individual Undertaking has affected or will affect a previously identified historic property in an unanticipated manner, the contractor must notify Subrecipient who will immediately notify the Recipient. Work must stop in the vicinity of the discovery and measures must be taken to protect the discovery and avoid additional harm.
- Additional staging areas and/or work pads within work site area haven't been identified yet. The Recipient/Subrecipient and/or private operator must provide the information of any additional staging areas or work pads for EHP evaluation as soon as available specially if any construction activity will be necessary to prepare the site(s). Information for staging areas and/or work pads confined to hardened surfaces can be provided at closeout.
- All borrow or fill material must come from pre-existing stockpiles, material reclaimed from maintained roadside ditches (provided the designed width or depth of the ditch is not increased), or commercially procured material from a source existing prior to the event. For any FEMA-funded project requiring the use of a non-commercial source or a commercial source that was not permitted to operate prior to the event (e.g. a new pit, agricultural fields, road ROWs, etc.) in Recipient prior to extracting material. FEMA must review the source for compliance with all applicable federal environmental planning and historic preservation laws and execute orders prior to a subrecipient or their contractor commencing borrow extraction. Consultation and regulatory permitting may be required. Non-compliance with this requirement may jeopardize receipt of federal funding. Documentation of borrow

sources utilized is required at closeout.

- Applicant must obtain any required permits from the Puerto Rico Permits Management Office (OGPe) prior to initiating work and comply with any conditions of the permit established by the Planning Board (JP) for constructions in floodplains. All coordination (emails, letters, documented phone calls) pertaining to these activities and compliance must be provided and maintained in the Applicant's permanent files.
- The Applicant shall ensure best management practices are implemented to prevent erosion and sedimentation to surrounding, nearby or adjacent wetlands. To ensure that wetlands are not adversely impacted, per the Clean Water Act and Executive Order 11990, equipment storage and staging of construction materials and machinery must be in a location that would prevent erosion and sedimentation.
- The Applicant shall handle, manage, and dispose of all types of hazardous waste in accordance with requirements of local, state, and federal laws, regulations, and ordinances. In addition, the Applicant shall ensure that all debris is separated and disposed of in a manner consistent with the PR DNER guidelines at a permitted site or landfill. The contractor/applicant will be responsible for the proper disposition of construction debris in authorized landfills providing the name, location, coordinates and permits of the facility to the corresponding authorities. Unusable equipment, debris, white goods, scrap metal any other material shall be disposed in approved manner and location. In the event significant items are discovered during the implementation or development of the project the Applicant shall handle, manage, and dispose petroleum products, hazardous materials, and toxic waste in accordance with the requirements of the local and federal agencies. Noncompliance with these requirements may jeopardize receipt of federal funds.
- Additional staging areas and/or work pads within work site area haven't been identified yet. The Recipient/Subrecipient and/or private operator must provide the information of any additional staging areas or work pads for EHP evaluation as soon as available specially if any construction activity will be necessary to prepare the site(s). Information for staging areas and/or work pads confined to hardened surfaces can be provided at close-out.
- If ground disturbing activities occur during construction, the applicant will monitor ground disturbance, and if any previously unidentified historic properties, including archeological resources, are discovered, the applicant will immediately cease construction in that area and notify the Recipient (if applicable) and FEMA. Should any unanticipated effects to previously identified historic properties, including archaeological resources, be identified during construction activities, the applicant will immediately cease construction in that area and notify the Recipient (if applicable) and FEMA.

EHP Additional Info

There is no additional environmental historical preservation on **FAASt [Aguas Buenas Streetlighting] / Former project 724941 (Distribution)** .

Final Reviews

Final Review

Reviewed By LEFRANC-GARCIA, CARLOS L. **Reviewed On** 09/11/2026 9:32 PM PDT

Review Comments

Project 1068662 proposed restoration includes the repair of eligible disaster damage up to required codes and standards and the request to upgrade undamaged infrastructure that must be addressed to fully effectuate the restoration of disaster-damaged components to restore the system's function to an approved industry standard. Aguas Buenas Streetlighting Detailed Scope of Work consists of the repair, removal, replacement, and addition of the following infrastructure to restore this facility to codes and standards. A. Lighting Components Replacement and B. Pole Replacement. V0 only includes 428 costs for a total of $10,452,025.31 federal share (90%).

Recipient Review

Reviewed By Mulero, Noel **Reviewed On** 09/21/2026 3:11 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 does not apply to the Department of Energy's executive order. This means that FEMA is the lead agency for environmental matters. Project is ready for applicant review.

Project Signatures

Reviewed By Unsigned **Reviewed On** Unsigned

Award Information

EMMIE Imported Version Information

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

Drawdown History

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

Obligation History

Version #	Date Obligated	Obligated Cost	Cost Share	IFMIS Status	IFMIS Obligation #
0	9/25/2026	$10,452,025.31	90%	Accepted	4339DRPRP01082741

Department of Homeland Security
Federal Emergency Management Agency

v0

General Info

Project #	1068666 **P/W #** 108277	**Project Type**	Specialized
Project Category	F - Utilities	**Applicant**	PR Electric Power Authority (000-UA2QU-00)
Project Title	FAASt [Lares Streetlighting] / Former project 713795 (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 #1314506; FAASt [Distribution Streetlighting - Lares]

General Facility Information:

- **Facility Type:** Power generation, transmission, and distribution facilities
- **Facility:** Distribution Streetlighting - Lares
- **Facility Description:** The Lares municipality has a total of 2936 luminaires of which damage was estimated for 70% of these luminaires. Additional descriptions of typical components of a streetlight system are described below: • Pole – This can be either a standalone structure intended to house a streetlight, or a utility pole shared with other overhead utilities • Arm – A piece of hardware affixed to a pole to which a luminaire is mounted. The arm serves to position the streetlight over the street for optimal lighting • Luminaire/Light Bulb – The light emitting part of a streetlight • Light controller (e.g., photocell) – A hardware device affixed to the luminaire which controls the operating mode • Communication network – A wired or wireless system that allows the smart streetlight to communicate with other devices and the control system • Technology control system – A software platform that allows a remote operator to set the operating parameters for the smart streetlight or manually override the parameter if needed
- **Approx. Year Built:** 1970
- **GPS Latitude/Longitude:** [redacted]

Final Scope

1314506 **FAASt [Distribution Streetlighting - Lares]**

Introduction

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

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

This document contains the detailed SOW for FEMA PA Project 1068666 FAASt [Lares Streetlighting] / Former project 713795 (Distribution) under DR-4339-PR Public Assistance. The document provides a detailed description of the project, scope of PA construction activities to be completed, common EHP review information, proposed hazard mitigation measures, and project cost estimates. LUMA is seeking approval from COR3 and FEMA for PA funding for the scope described in this document.

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

Project Description

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

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

Facilities

FACILITIES LIST – BUILDINGS AND SUBSTATIONS

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

None

FACILITIES LIST

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

Name	Damage Number	GPS Location
Lares Municipality	1314506	Please refer to Appendix B for a list of all GPS locations to be impacted by this project.

Existing Lighting Components:

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

Existing Streetlight Poles:

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

PROJECT AREA MAP WITH BOUNDARIES OF CONSTRUCTION

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

§ 428 SCOPE OF WORK

The proposed type of work for this project:

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

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

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

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

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

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

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

DESCRIPTION OF PROPOSED WORK TO BE PERFORMED

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

Work Description	**Number points**
Components only, does not require pole replacement, installation, removal	

Secondary pole removal only, with third party attachments. Luminaire Location Change (LLC).	
Secondary pole removal only, without third party attachments. Luminaire Location Change (LLC).	
Secondary pole replacement, installation, removal, with third party attachments	
Secondary pole replacement, installation, removal, without third party attachments	
Streetlight pole replacement, installation, removal.	
Grand Total	

Lighting Components Replaced

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

Pole Replacement

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

CODES & STANDARDS

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

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

§ 406 HAZARD MITIGATION PROPOSAL

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

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

§ 406 HAZARD MITIGATION OPPORTUNITY

To avoid damage in a future event, the Applicant is proposing, as a mitigation measure, to increase the strength of the poles, aluminum poles, breakaway bases, and foundations (concrete bases) by increasing the wind tolerance of all materials to 160 mph. These mitigation measures will protect and make the affected infrastructure more resistant, stronger, and resilient to similar hazards.

§ 406 SCOPE OF WORK

The measures/items below are developed to standards that exceed FEMA consensus-based codes and standards, as explained in the "Justification/Benefit" column of the table below:

Material Item	**Consensus-Based Codes and Standards**	**Hazard Mitigation Design**	**Justification/ Benefit**
Octagonal concrete poles	• 33ft high and installed to a depth of 5ft • Wind resistance 90 mph	• 35ft high and installed to a depth of 6ft • Wind resistance 160 mph	Increasing pole strength to withs extreme weather events and av pole tilting.
Aluminum poles	• 30ft high • Wind resistance 90 mph	• 40ft high • Wind resistance 160 mph	Increasing pole strength to withs extreme weather events.
Wood/Steel Secondary poles	Secondary wood poles and 35ft steel poles (35ft Galv.@52 kips-ft)	Secondary 35ft-S3.5 Galv. Poles (35ft-S3.5 Galv. @96 kips-ft)	Increasing pole ultimate force to withstand extreme weather eve

Breakaway base	90 mph	160 mph	Increasing base strength to withstand extreme weather events.
Concrete precast base	5ft-6in long and 2ft diameter	10ft long and 3ft diameter	Increasing the installation depth improve the resistance to pole tilting during extreme weather events.

COMMON EHP REVIEW INFORMATION

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

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

- All work for this program will be performed within the existing electrical easement of the municipality. Poles are near the roads and are site accessible.
- **Streetlights Poles**: Appendix C and Appendix D contain coordinates for streetlight poles where ground disturbance is required. The replacement of poles has a standard diameter for ground disturbance of 18 inches. The depth of the poles to be installed is stated in Appendix D (see "Soil area and depth impact" column).

- **Concrete Pole Base**: The poles that will require replacement of the existing foundations can be found in Appendix C of the "Labor & Materials" tab, column named "Concrete Pole Base (40 feet)," filter by values equal to 1. This represents the same information as Appendix D, column N ("Concrete Foundation"), filtered by values equal to YES. Furthermore, the dimensions for the foundations are 10 feet deep by 3 feet in diameter. Thedepth of the foundation can be found in Appendix D, column D ("Soil area and depth impact").

- Equipment to be used includes Skid Steer, Excavator, Dump trucks, Man lifts, 120-ton Motor Crane, Boom Trucks, 45-ton Crane, Zoom Boom, Air compressor, Truck Digger, Water truck, Pump Truck, Concrete Vibrator, Filtering Machine, and Flatbed platform.

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

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

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

- Vegetation clearance will be performed solely to the extent that it allows crews to conduct work and will be limited to a 10 ft radius surrounding the surface of the pole, but not to exceed the width of the right-of-way. This is for the exclusive purpose of gaining access to the pole to conduct repairs. The costs related to vegetation clearance

procedures are covered in **727540- FAASt [Region 2 -Arecibo Group C] (Vegetation), 727562 - FAASt [Region 5 -Mayaguez Group C] (Vegetation), 728832-FAASt [Region 5 -Mayaguez GroupA] High Density (Vegetation), and 750068-FAASt [Region 5 -Mayaguez Group A] Low Density (Vegetation)** The vegetation removal process will be managed in accordance with federal and state regulations.

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

- **Construction Debris**: The **debris** that will be produced during removal is luminaires, polearms, photocells, metal scrap, wiring, concrete, steel, and wood poles. The debris will be separated and taken to an authorized waste disposal facility.
- Luminaires are considered universal waste and will be disposed of by the contractor in authorized facilities.
- The Project does not include removal and/or disposal of transformers because they are secondary voltage facilities, and transformer removal pertains to primary voltage facilities.
- GPS location of temporary debris storage sites, final debris disposal location, and ?nal debris disposal method have not been identified yet.

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

- **Staging Areas**: Staging areas within the work site have not been identified at this moment. The contractor must provide the information on the staging areas as soon as available. Staging areas are confined to previously disturbed or hardened surfaces.
  - All materials are stored and dispatched from the assigned LUMA Regional Warehouse. The location assigned for this project is the Mayaguez Warehouse, [redacted]
- **Access Roads**: The construction of access roads is not required for this scope of work. (Refer to **Appendix D** in the "Site Accessible" column.).

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

- Fill, gravel, and sand materials will be obtained from a preferred vendor as referenced in the *Approved Supplier List Directory PR* (see Applicant Profile).

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

PROJECT COST ESTIMATE (PCE)

The estimated costs (compliant with **Class 3 Accuracy +/-30%**) to complete the project are summarized in the table(s) below. The cost estimate(s) was developed utilizing preliminary Architectural and Engineering design information. For a more detailed cost estimate refer to **Appendix C – Cost Estimate**.

Distribution Streetlights Estimate Summary - Lares					
Cost Element	**Total Cost Estimate**	**Cost Factor**	**FAASt Project 1068666 (428 Cost Estimate)**	**FAASt Project 1068666 (406 Cost Estimate)**	**A&E FAASt Project 335168 (428)**
Planning, Permits and Applications (A&E)	$108,087.77	1.00%	$ 0.00	$5,305.22	$102,782.55

Environmental Management (A&E)	$324,263.32	3.00%	$ 0.00	$15,915.65	$308,347.67
Project Management (A&E)	$108,087.77	1.00%	$ 0.00	$5,305.22	$102,782.55
Engineering - A&E Estimate	$563,318.00	5.21%	$ 0.00	$27,649.05	$535,668.95
Engineering - Owners Engineering (A&E)	$540,438.87	5.00%	$ 0.00	$26,526.08	$513,912.79
Construction - Labor & Materials	$10,808,777.42	100.00%	$10,278,255.74	$530,521.68	$ 0.00
Construction – Project Management	$432,351.10	4.00%	$411,130.23	$21,220.87	$ 0.00
Construction - Site Management	$540,438.87	5.00%	$513,912.79	$26,526.08	$ 0.00
Construction - Quality Inspections	$324,263.32	3.00%	$308,347.67	$15,915.65	$ 0.00
Construction - Contingency	$756,614.42	7.00%	$719,477.90	$37,136.52	$ 0.00
TOTAL PROJECT COST ESTIMATE	**$14,506,640.86**		**$12,231,124.33**	**$712,022.02**	**$1,563,494.51**

Refer to **Appendix C – Cost Estimate.**

428 Project Summary, Version 0:

Work to Be Completed (WTBC): $12,231,124.33

E&M Deduction (#673691) 428: $0.00 (See Project Note #5)

A&E Deduction (Global A&E FAASt 335168): $0.00 (See Project Note #5)

Project Total Cost: $12,231,124.33

Project Cost Estimate Notes:

1. Refer to detailed SOW provided in document: *"1068666-DR4339PR-Lares Streetlight-Detailed Scope of Work- Rev. 2.pdf"*

2. As confirmed by PDMG the cost estimate to be used is the one in the DSOW document: "*1068666-DR4339PR-Lares Streetlight-Appendix C – Cost Estimate Lares Municipality Rev1.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. See PDMG clarification in the document labeled: *"1068666 Material Cost Clarification email.pdf"*

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

5. Regarding the Equipment and Materials(E&M) cost in this project see PDMG clarification in the document labeled: *"1068666 Material Cost Clarification email.pdf".*

ATTACHMENTS/APPENDICES

The following attachments and appendices are provided with this DSOW:

Item	Document Description or Filename
A	Lares Work Zones Map
B	Lares Municipality Work Zones FIDs SIDs and Coordinates

C	Cost Estimate Lares Municipality
D	Project Considerations Lares Municipality
E	FEMA 406 Justification: Streetlight Program

406 HMP Scope

Project number: 1068666; FAASt [Lares Streetlighting] / Former project 713795 (Distribution)

Damage # 1314506; FAASt [Distribution Streetlighting - Lares]

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

Location: Lares, Puerto Rico

GPS Latitude/Longitude: [redacted]

Hazard Mitigation Narrative

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

In the Lares Municipality, PREPA has a total of 2,274 ea. streetlights luminaries. The Method of Repair (MOR) include the replacement of the damage lighting components including photocells, luminaires, arms, and associated hardware. Also include the replacement of the damage distribution and streetlight poles (wood, concrete, galvanized & aluminum), the replacement of the aerial secondary wiring connections, the construction of new concrete base for the aluminum streetlight poles. According to the information provided by the Applicant, due to the high velocity hurricane winds, wind-blown debris, and prolonged heavy rain, were the main cause of the damages of the facilities.

In order to minimize the damages in a future event, the Applicant is proposing as a mitigation measure, increase the strength of the poles, arms, aluminum poles breakaway bases, and foundations (concrete bases) by increasing the wind tolerance of all materials to 160mph. Note: The FEMA Accelerated Award Strategy (FAASt) MOR included the PREPA distribution standards and specifications that were based on a 90mph sustained winds for all materials. Although in PREPA Technical Communication #13-02 (August 22, 2013) a design-criteria of 145mph winds were published, the specifications for streetlighting material were never revised, and in the specification documents, the 90mph winds stayed as the requirement for procurement purposes of all streetlighting materials. The 160mph wind tolerance mitigation measure, will protect and make the affected infrastructure more resistant, stronger, and resilient to similar hazards.

Hazard Mitigation Proposal (HMP) Scope of Work:

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

Mitigation Measures *(Replacement)*

1. To avoid damage in a future event, the Applicant is proposing as a mitigation measure, increase the strength of the poles, arms, aluminum poles breakaway bases, and foundations (concrete bases) by increasing the wind tolerance of all materials to 160mph. The FAASt MOR used PREPA distribution standards and specifications that were based on a 90mph sustained winds for all materials. Although in PREPA Technical Communication #13-02 (August 22, 2013) a design-criteria of 145mph winds were published, the specifications for streetlighting material were never revised, and in the specification documents, the 90mph winds stayed as the requirement for procurement purposes of all streetlighting materials. The above mitigation measures will protect and make the affected infrastructure more resistant, stronger, and resilient to similar hazards. Refer to Appendix J: Section VI.D.1 of the PAPPG V3.1.

406 Mitigation Scope of Work:

- Replace (14 ea.) 33ft octagonal concrete poles by (14 ea.) 35ft octagonal concrete poles.
- Replace (1,097 ea.) 35ft galvanized poles by (1,097 ea.) 35ft S3.5 galvanized poles.
- Replace (10 ea.) 30ft aluminum poles by (10 ea.) 40ft aluminum poles.

- Replace (6 ea.) 30ft aluminum poles breakaway bases by (6 ea.) 40ft aluminum poles breakaway bases.
- Replace (10 ea.) 30ft aluminum poles concrete bases [2.5ft(D) x 5.5ft(H)] by (10 ea.) 40ft aluminum poles concrete bases [3ft(D) x 10ft(H)].

Hazard Mitigation Proposal (HMP) Cost:

Total Net Hazard Mitigation Cost (Base Cost) =	$ 530,521.68
+ HM (Applicant A&E, Management & General Conditions) =	$ 181,500.34
Hazard Mitigation Total Cost =	**$ 712,022.02**

Hazard Mitigation Proposal (HMP) Cost Distribution:

Architecture and Engineering (A&E) =	$ 80,701.22
Construction Cost =	$ 631,320.80
Hazard Mitigation Total Cost =	**$ 712,022.02**

-

HMP Cost-Effectiveness Calculations:

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

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

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

The cost of the Hazard Mitigation Proposal (HMP) described herein is **$712,022.02 (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	$12,231,124.33	Uncompleted

CRC Gross Cost	$12,231,124.33
Total 406 HMP Cost	$0.00
Total Insurance Reductions	$0.00
CRC Net Cost	$12,231,124.33
Federal Share (90.00%)	$11,008,011.90
Non-Federal Share (10.00%)	$1,223,112.43

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

8/19/2026

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 [Lares Streetlighting] / Former project 713795 (Distribution)**.

406 Mitigation

There is no additional mitigation information on **FAASt [Lares Streetlighting] / Former project 713795 (Distribution)**.

Environmental Historical Preservation

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

EHP Conditions

- Any change to the approved scope of work will require re-evaluation for compliance with NEPA and other Laws and Executive Orders.
- This review does not address all federal, state and local requirements. Acceptance of federal funding requires recipient to comply with all federal, state and local laws. Failure to obtain all appropriate federal, state and local environmental permits and clearances may jeopardize funding.
- If ground disturbing activities occur during construction, applicant will monitor ground disturbance and if any potential archaeological resources are discovered, will immediately cease construction in that area and notify the State and FEMA.
- The Subrecipient and/or Subrecipient's contractor must follow the Low Impact Debris Removal Stipulations (LIDRS) outlined in Appendix E of the Project-Specific Programmatic Agreement Among FEMA, the SHPO, ACHP, COR3, and PREPA (PSPA), executed on August 2, 2022.
- Pursuant to Stipulation III.B of the PSPA, if, in the course of implementing this Individual Undertaking(s), previously unidentified structures, sites, buildings, objects, districts, or archaeological deposits, that may be eligible for listing in the National Register, or human remains are uncovered, or if it appears that an Individual Undertaking has affected or will affect a previously identified historic property in an unanticipated manner, the contractor must notify Subrecipient who will immediately notify the Recipient. Work must stop in the vicinity of the discovery and measures must be taken to protect the discovery and avoid additional harm.
- Additional staging areas and/or work pads within work site area haven't been identified yet. The Recipient/Subrecipient and/or private operator must provide the information of any additional staging areas or work pads for EHP evaluation as soon as

available specially if any construction activity will be necessary to prepare the site(s). Information for staging areas and/or work pads confined to hardened surfaces can be provided at closeout.

- All borrow or fill material must come from pre-existing stockpiles, material reclaimed from maintained roadside ditches (provided the designed width or depth of the ditch is not increased), or commercially procured material from a source existing prior to the event. For any FEMA-funded project requiring the use of a non-commercial source or a commercial source that was not permitted to operate prior to the event (e.g. a new pit, agricultural fields, road ROWs, etc.) in Recipient prior to extracting material. FEMA must review the source for compliance with all applicable federal environmental planning and historic preservation laws and execute orders prior to a subrecipient or their contractor commencing borrow extraction. Consultation and regulatory permitting may be required. Non-compliance with this requirement may jeopardize receipt of federal funding. Documentation of borrow sources utilized is required at closeout.
- The Sub-recipient must provide documentation at close-out that proves completion of required Conservation Measures.
- Conditions for Chilabothrus Inornatus (Puerto Rican Boa) a. Inform all project personnel about the potential presence of the PR boa in areas where the proposed work will be conducted. A pre-construction meeting should be conducted to inform all project personnel about the need to avoid harming the species as well as penalties for harassing or harming PR boas. An educational poster or sign with photo or illustration of the species should be displayed at the project site. b. Prior to any construction activity, including removal of vegetation and earth movements, the boundaries of the project and areas to be excluded and protected should be clearly marked in the project plan and in the field in order to avoid further habitat degradation into forested and conservation areas. c. Once areas are clearly marked, and prior to the use of heavy machinery and any construction activity (including removal of vegetation and earth movement), a biologist or project personnel with experience on this species should survey the areas to be cleared to verify the presence of any PR boa within the work area. d. If a PR boa is found within any of the working or construction areas, activities should stop at that area and information recorded (see #e). Do not capture the boa. If boas need to be moved out of harm's way, designated personnel shall immediately contact the Puerto Rico Department of Natural and Environmental Resources (PRDNER) Rangers for safe capture and relocation of the animal: (787) 999-2200 ext. 2911. If immediate relocation is not an option, project-related activities at that area must stop until the boa moves out of harm's way on its own. Activities at other work sites, where no boas have been found after surveying the area, may continue.
- e. For all boa sightings (dead or alive), record the time and date of the sighting and the specific location where it was found. PR boa data should also include a photo of the animal (dead or alive), site GPS coordinates, the time and date, and comments on how the animal was detected and its behavior. f. If a PR boa is captured by PRDNER personnel, record the name of that person and information on where the PR boa will be taken. This information should be reported to the Service. g. Measures should be taken to avoid and minimize PR boa casualties by heavy machinery or motor vehicles being used on site. Any heavy machinery left on site (staging) or near potential PR boa habitat (within 50 meters of potential boa habitat), needs to be thoroughly inspected each morning before work starts to ensure that no boas have sheltered within engine compartments or other areas of the equipment. If PR boas are found within vehicles or equipment, do not capture the animal, and let it move on its own or call PRDNER Rangers for safe capture and relocation of the animal (see #d). If not possible, the animal should be left alone until it leaves the vehicle on its own. h. PR boas may seek shelter in debris piles. Measures should be taken to avoid and minimize boa casualties associated with sheltering in debris piles as a result of project activities. Debris piles should be placed far away from forested areas. Prior to moving, disposing or shredding, debris piles should be carefully inspected for the presence of boas. If debris piles will be left on site, we recommend they be placed in areas that will not be disturbed in the future. i. If a dead PR boa is found, immediately cease all work in that area and record the information accordingly (see #e). If the PR boa was accidentally killed as part of the project actions, please include information on what conservation measures had been implemented and what actions will be taken to avoid further killings. A dead boa report should be sent by email to the Service at Caribbean_es@fws.gov, within 48 hours of the event. j. Projects must comply with all state laws and regulations. Please contact the PRDNER for further guidance.
- The below conservation measures apply to the following species: Puerto Rican parrot (Amazona vittata), Puerto Rican plain pigeon (Patagioenas inornata wetmorei), Puerto Rican broad-winged hawk (Buteo platypterus brunnescens) and Puerto Rican sharp-shinned hawk (Accipiter striatus venator). a. All personnel will be advised that there are civil and criminal penalties for harming, harassing, or killing species protected under the ESA. During breeding seasons (see below), nest surveys shall be conducted if a project occurs within the range of any of the species listed above and if habitat for those species will be impacted by the proposed actions. Nest searches must be conducted by qualified personnel with the appropriate permits from the Puerto Rico Department of Natural and Environmental Resources (PRDNER) prior to start of work. If nesting activity is detected, all construction activities or human disturbance must be avoided within a 50-meter buffer around any nest(s) found within the project area. This avoidance strategy must be kept until fledglings successfully leave the nest(s) permanently. Outside breeding season no nest surveys are required. However, some bird species may nest year-round, therefore, if a nest is encountered while the project is being conducted, all construction activities or human disturbance must be avoided within a 50-meter buffer around that nest(s). This avoidance strategy must be kept until fledglings successfully leave the nest(s) permanently. Furthermore, if any of the species indicated above is observed (e.g., foraging, resting) within the project area, avoid any disturbance to the individual(s) and do not flush the bird until it leaves on its own. Nesting seasons: *. Puerto Rican parrot: February-June. *. Puerto Rican broad-winged hawk: December-June. *. Puerto Rican sharp-shinned hawk: December-June. For all nest sightings, the Applicant must record the time and date of the sighting and the specific location where it was found. All sightings and incidental lethal take reports should be sent to the USFWS Caribbean Ecological Services Field Office at Caribbean_es@fws.gov. Office phone: 786-244-0081.
- Conditions for Auerodendron pauciflorum, Cordia bellonis, Cornutia obovata, Ottoschulzia rhodoxylon, Tectaria estremerana, Thelypteris verecunda all endangered and threatened plants: Before initiating any work within the range of listed plant species and

in areas with suitable habitat, applicants must conduct plant surveys. In the event that listed species are discovered at the project site, the Service must be notified through the Office Direct Line: 786-244-0081. Email: caribbean_es@fws.gov When listed species are discovered at the project site, the conservation measures below apply to each species. a. Where threatened and endangered plants are identified, flag individuals and avoid to the extent feasible. If the plants cannot be avoided, they should be salvaged and replanted as close to the impact area as possible. b. If space allows, leave a 5-foot buffer around individuals and/or clusters c. For trees and palm trees, if space allows, leave a 15-foot buffer around the tree d. When pruning, prune dead branches. If pruning live branches do not prune more than 10%. Please contact the USFWS Field Office if additional pruning is necessary for a listed plant species: Office Direct Line: 786-244-0081. Email: caribbean_es@fws.gov

- The Puerto Rican harlequin butterfly (Atlantea tulita) is endemic to Puerto Rico, occurring in the western portion of the island, in the northern karst region, and in the west-central volcanic-serpentine region. The following measures apply to the Puerto Rican harlequin butterfly through its current range: a. The contractor must inform all personnel about the potential presence of the Puerto Rican harlequin butterfly and its host plant, prickly bush (Oplonia spinosa), in the project areas. A pre-work meeting should inform all project personnel about the need to avoid harming this butterfly and its occupied host plant. All personnel will be advised that there are civil and criminal penalties for harming, harassing, or killing species protected under the ESA. Educational material (e.g., posters, flyers, or signs with photos or illustrations of all the life stages of the Puerto Rican harlequin butterfly (i.e., eggs, caterpillar, chrysalids, and adult, and its host plant) should be prepared and available to all personnel for reference. b. Before starting any project activity, including removal of vegetation and earth movement, the contractor must clearly delineate the boundaries of the working area in the field to avoid unnecessary habitat impacts. Once the project areas are clearly marked, and before any work activity, including site preparation, personnel with knowledge and ability to identify the Puerto Rican harlequin butterfly (all life stages) and the prickly bush must survey the areas where the work will be performed for the presence of the species and its host plant. It is important to note that the Puerto Rican harlequin butterfly can be observed year-round in all life stages; thus, oviposition (egg-laying) may occur at any time during the year. c. If the prickly bush is present on the project site, try to avoid cutting the plant, even if no eggs, caterpillars, or chrysalids are present.
- d. If there is no prickly bush within the project area, but the butterfly is observed flying within the project area, do not harass, harm, pursue, wound, kill, trap, capture, collect, or attempt to engage in any such conduct, the species. e. Adult butterflies are often observed flying near the host plant as part of their mating behavior and for laying eggs. Project-related activities must stop if the prickle bush is found in the project area and the Puerto Rican harlequin butterfly is observed flying in that same area. A temporary 5-meter (16 feet) buffer zone of no activity or human disturbance should be established and clearly marked around that prickly bush until the butterfly moves out on its own. f. Once the Puerto Rican harlequin butterfly has moved away, within a period of 24 to 36 hours, a search of the prickly bush that has been buffered should be conducted to determine the presence of any eggs, caterpillars, or chrysalids of the butterfly on the plant. The contractor or the Applicant should send a report of the observation and its findings to caribbean_es@fws.gov after the 36-hour search is concluded.
- g. If, after the initial search or after the 24 to 36-hour search, any life stage of the Puerto Rican harlequin butterfly is found in the prickly bush, take the following actions: *. Clearly mark the host plant with flagging tape. *. Establish a 5-meter (16-foot) buffer zone around the bush for its protection. *. Eggs are typically found on the prickly bush's newly grown, tender branches. Once the egg hatch, the caterpillar moves and feeds throughout the bush. Therefore, avoid cutting off the prickly bush within the project site even if no eggs, caterpillars, or chrysalids are present. *. Work within the 10-meter buffered area may resume when no signs of any live life stage of the butterfly are detected, which usually takes approximately 60 to 120 days. h. For all Puerto Rican harlequin butterfly sightings (all life stages), the time and date of the sighting and the specific location where the butterfly was found must be recorded. Data should also include a photo of the butterfly (if possible) and the habitat where it was observed, site GPS coordinates, and comments on how the butterfly was detected and its behavior. All Puerto Rican harlequin butterfly sighting reports should be sent to the Service's Caribbean Ecological Service Field Office at caribbean_es@fws.gov.
- The Applicant shall handle, manage, and dispose of all types of hazardous waste in accordance with requirements of local, state, and federal laws, regulations, and ordinances. In addition, the Applicant shall ensure that all debris is separated and disposed of in a manner consistent with the PR DNER guidelines at a permitted site or landfill. The contractor/applicant will be responsible for the proper disposition of construction debris in authorized landfills providing the name, location, coordinates and permits of the facility to the corresponding authorities. Unusable equipment, debris, white goods, scrap metal any other material shall be disposed in approved manner and location. In the event significant items are discovered during the implementation or development of the project the Applicant shall handle, manage, and dispose petroleum products, hazardous materials, and toxic waste in accordance with the requirements of the local and federal agencies. Noncompliance with these requirements may jeopardize receipt of federal funds.
- Applicant must obtain any required permits from the Puerto Rico Permits Management Office (OGPe) prior to initiating work and comply with any conditions of the permit established by the Planning Board (JP) for constructions in floodplains. All coordination (emails, letters, documented phone calls) pertaining to these activities and compliance must be provided and maintained in the Applicant's permanent files.
- The Applicant shall ensure best management practices are implemented to prevent erosion and sedimentation to surrounding, nearby or adjacent wetlands. To ensure that wetlands are not adversely impacted, per the Clean Water Act and Executive Order 11990, equipment storage and staging of construction materials and machinery must be in a location that would prevent erosion and sedimentation
- Additional staging areas and/or work pads within work site area haven't been identified yet. The Recipient/Subrecipient and/or private operator must provide the information of any additional staging areas or work pads for EHP evaluation as soon as available specially if any construction activity will be necessary to prepare the site(s). Information for staging areas and/or work pads confined to previously disturbed or hardened surfaces can be provided at close-out.

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

EHP Additional Info

There is no additional environmental historical preservation on **FAASt [Lares Streetlighting] / Former project 713795 (Distribution)**.

Final Reviews

Final Review

Reviewed By LEFRANC-GARCIA, CARLOS L. **Reviewed On** 09/11/2026 9:36 PM PDT

Review Comments

Project 1068666 proposed restoration includes the repair of eligible disaster damage up to required codes and standards and the request to upgrade undamaged infrastructure that must be addressed to fully effectuate the restoration of disaster-damaged components to restore the system's function to an approved industry standard. Lares Streetlighting Detailed Scope of Work consists of the repair, removal, replacement, and addition of the following infrastructure to restore this facility to codes and standards. A. Lighting Components Replacement and B. Pole Replacement. V0 PA (428 Funds) $11,008,011.90 Federal Share, V1 will include HMP (406 funds).

Recipient Review

Reviewed By Mulero, Noel **Reviewed On** 09/21/2026 1:23 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 does not apply to the Department of Energy's executive order. This means that FEMA is the lead agency for environmental matters. Project is ready for applicant review.

Project Signatures

Reviewed By Unsigned **Reviewed On** Unsigned

Award Information

EMMIE Imported Version Information

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

Drawdown History

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

Obligation History

Version #	Date Obligated	Obligated Cost	Cost Share	IFMIS Status	IFMIS Obligation #
0	9/25/2026	$11,008,011.90	90%	Accepted	4339DRPRP01082771

Department of Homeland Security
Federal Emergency Management Agency

v0

General Info

Project #	1068667 **P/W #** 108278	**Project Type**	Specialized
Project Category	F - Utilities	**Applicant**	PR Electric Power Authority (000-UA2QU-00)
Project Title	FAASt [Moca Streetlighting] / Former project 704741 (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 #425152; FAASt Moca Streetlight (Distribution)

General Facility Information:

- **Facility Type:** Power generation, transmission, and distribution facilities
- **Facility:** Moca Distribution Streetlighting
- **Facility Description:** The Moca municipality has a total of 5888 luminaires of which damage was estimated for 70% of these luminaires. Additional descriptions of typical components of a streetlight system are described below: • Pole – This can be either a standalone structure intended to house a streetlight, or a utility pole shared with other overhead utilities • Arm – A piece of hardware affixed to a pole to which a luminaire is mounted. The arm serves to position the streetlight over the street for optimal lighting • Luminaire/Light Bulb – The light emitting part of a streetlight • Light controller (e.g., photocell) – A hardware device affixed to the luminaire which controls the operating mode • Communication network – A wired or wireless system that allows the smart streetlight to communicate with other devices and the control system • Technology control system – A software platform that allows a remote operator to set the operating parameters for the smart streetlight or manually override the parameter if needed.
- **Approx. Year Built:** 1970
- **GPS Latitude/Longitude:** [redacted]

Final Scope

425152 **FAASt Moca Streetlight (Distribution)**

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 defines the activities that will be performed using Public Assistance ("PA") funding and may include § 406 hazard mitigation proposals ("HMPs"). The SOW defines the activities that will be performed using Public Assistance ("PA") funding.

According to the SOP, FEMA "anticipates that [SOW] submissions might include preliminary designs, including drawings and cost estimates.

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

This document contains the detailed SOW for FEMA PA Project 1068667 FAASt [Moca Streetlighting] / Former project 704741 (Distribution) under DR-4339-PR Public Assistance. The document provides a detailed description of the project, scope of PA construction activities to be completed, common EHP review information, proposed hazard mitigation measures, and project cost estimates. LUMA is seeking approval from COR3 and FEMA for PA funding for the scope described in this document.

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

6.0 PROJECT DESCRIPTION

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

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

7.0 FACILITIES

FACILITIES LIST – BUILDINGS AND SUBSTATIONS

The following list includes the name, year of construction, and GPS coordinates of each building or substation included in this project: None

FACILITIES LIST

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

Name	Damage Number	GPS Location
Moca Municipality	425152	Please refer to Appendix B for a list of all GPS locations to be impacted by this project.

Existing Lighting Components:

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

Existing Streetlight Poles:

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

8.0 PROJECT AREA MAP WITH BOUNDARIES OF CONSTRUCTION

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

The proposed type of work for this project:

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

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

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

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

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

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

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

DESCRIPTION OF PROPOSED WORK TO BE PERFORMED

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

Work Description	**Number of Points**
Components only, does not require pole replacement, installation, removal	2969
Secondary pole replacement, installation, removal, with third party attachments	1396
Secondary pole replacement, installation, removal, without third party attachments	383
Secondary pole, removal, with third party attachments, Luminaire Location Change (LLC)	55
Secondary pole, removal, without third party attachments, Luminaire Location Change (LLC)	20
Streetlight pole replacement, installation, removal	13
Streetlight pole, removal without underground repair, Luminaire Location Change (LLC)	1
Grand Total	**4837**

Lighting Components Replaced

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

Pole Replacement

- Remove and replace existing streetlight poles, including lighting components. Quantities for these replacements are provided in the table above. The locations of the poles and description of work on each pole are described in **Appendix D – Project Considerations Moca Municipality.**

- Brush vegetation, as identified, to gain access to the pole and conduct repairs.

- Remove existing foundations in identified points and replace them with concrete foundations, following design criteria.

- All work for this program will be performed within the municipality's existing electrical easement.

9.2 CODES & STANDARDS

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

- LUMA Distribution Design Manual (See Applicant Profile)

- LUMA Streetlighting Construction Standards (See Applicant Profile)

For 10.0 § 406 HAZARD MITIGATION PROPOSAL, see document: 1068667-DR4339PR-Moca Streetlight-Detailed Scope of Work- Rev.5.pdf

11.0 COMMON EHP REVIEW INFORMATION

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

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

- All work for this program will be performed within the existing electrical easement of the municipality. Poles are near the roads and are site accessible.
- Streetlights Poles: Appendix C and Appendix D contain coordinates for streetlight poles where ground disturbance is required. The replacement of poles has a standard diameter for ground disturbance of 18 inches. The depth of the poles to be installed is stated in Appendix D (see "Soil area and depth impact" column).
- Concrete Pole Base: The poles that will require replacement of the existing foundations can be found in Appendix C of the "Labor & Materials" tab, column named "Concrete Pole Base (40 feet)," filter by values equal to 1. This represents the same information as Appendix D, column N ("Concrete Foundation"), filtered by values equal to YES. Furthermore, the dimensions for the foundations are 10 feet deep by 3 feet in diameter. The depth of the foundation can be found in Appendix D, column D ("Soil area and depth impact").
- Equipment to be used includes Skid Steer, Excavator, Dump trucks, Man lifts, 120-ton Motor Crane, Boom Trucks, 45-ton Crane, Zoom Boom, Air compressor, Truck Digger, Water truck, Pump Truck, Concrete Vibrator, Filtering Machine, and Flatbed platform.

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

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

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

- Vegetation clearance will be performed solely to the extent that it allows crews to conduct work and will be limited to a 10 ft radius surrounding the surface of the pole, but not to exceed the width of the right-of-way. This is for the exclusive purpose of gaining access to the pole to conduct repairs. The costs related to vegetation clearance procedures are covered in 727540 FAASt [Region 2 - Arecibo Group C] (Vegetation), 727562 FAASt [Region 5 - Mayaguez Group C] (Vegetation), 728832 FAASt [Region 5 - Mayaguez Group A] High Density (Vegetation) and 750068 FAASt [Region 5 - Mayaguez Group A] Low Density (Vegetation). The vegetation removal process will be managed in accordance with federal and state regulations.

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

- Construction Debris: The debris that will be produced during removal is luminaires, polearms, photocells, metal scrap, wiring, concrete, steel, and wood poles. The debris will be separated and taken to an authorized waste disposal facility.
- Luminaires are considered universal waste and will be disposed of by the contractor in authorized facilities.
- The Project does not include removal and/or disposal of transformers because they are secondary voltage facilities, and transformer removal pertains to primary voltage facilities.
- GPS location of temporary debris storage sites, final debris disposal location, and final debris disposal method have not been identified yet.

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

- Staging Areas: Staging areas within the work site have not been identified at this moment. The contractor must provide the information on the staging areas as soon as available. Staging areas are confined to previously disturbed or hardened surfaces. o All materials are stored and dispatched from the assigned LUMA Regional Warehouse. The location assigned for this project is the Mayaguez Warehouse, [redacted]
- Access Roads: The construction of access roads is not required for this scope of work. (Refer to Appendix D in the "Site Accessible" column.).

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

- Fill, gravel, and sand materials will be obtained from a preferred vendor as referenced in the Approved Supplier List Directory PR (see Applicant Profile).

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

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 design information. For a more detailed cost estimate refer to Appendix C – Cost Estimate.

Distribution Streetlights Estimate Summary - Moca					
Cost Element	**Total Cost Estimate**	**Cost Factor**	**FAASt Project 1068667 (428 Cost Estimate)**	**FAASt Project 1068667 (406 Cost Estimate)**	**A&E FAASt Project 335168 (428)**
Planning, Permits and Applications (A&E)	$162,928.69	1.00%	$ 0.00	$8,205.53	$154,723.16
Environmental Management (A&E)	$488,786.06	3.00%	$ 0.00	$24,616.59	$464,169.47
Project Management (A&E)	$162,928.69	1.00%	$ 0.00	$8,205.53	$154,723.16
Engineering - A&E Estimate	$1,038,687.50	6.38%	$ 0.00	$52,311.12	$986,376.38
Engineering - Owners Engineering (A&E)	$814,643.43	5.00%	$ 0.00	$41,027.66	$773,615.77
Construction - Labor & Materials	$16,292,868.50	100.00%	$15,472,315.39	$820,553.11	$ 0.00
Construction – Project Management	$651,714.74	4.00%	$618,892.62	$32,822.12	$ 0.00

Construction - Site Management	$814,643.43	5.00%	$773,615.77	$41,027.66	$ 0.00
Construction - Quality Inspections	$488,786.06	3.00%	$464,169.47	$24,616.59	$ 0.00
Construction - Contingency	$1,140,500.80	7.00%	$1,083,062.08	$57,438.72	$ 0.00
TOTAL PROJECT COST ESTIMATE	**$22,056,487.90**		**$18,412,055.33**	**$1,110,824.63**	**$2,533,607.94**

Work to be Completed (WTBC): $18,412,055.33

A&E Deduction (Global A&E FAASt 335168): -$0.00 (See project note 3)

E&M Deduction (Global E&M FAASt 673691): -$0.00 (See project note 3)

Project Total: $18,412,055.33

Project Cost Estimate Notes:

1. Refer to detailed SOW provided in document labeled: "1068667-DR4339PR-Moca Streetlight-Detailed Scope of Work-Rev.5.pdf"

2. Refer to detailed Cost Estimate provided in document labeled: "1068667-DR4339PR-Moca Streetlight-Appendix C - Cost Estimate Moca Municipality Rev. 1.xlsx"

3. Regarding the Equipment and Materials(E&M) and A&E cost in this project see the PDMG clarification in the document labeled: "1068667-DR4339PR-Clarification.pdf"

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

5. Attachments

   a. Appendix A - Moca Work Zones Map

   b. Appendix B – Moca Municipality Work Zones FIDs SIDs and Coordinates

   c. Appendix C – Cost Estimate Moca Municipality

   d. Appendix D – Project Considerations Moca Municipality

   e. Appendix E - FEMA 406 Justification: Streetlight Program

406 HMP Scope

Project number: [1068667] FAASt [Moca Streetlighting] / Former project 704741 (Distribution)

Damage # 425152; FAASt Moca Streetlight (Distribution)

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

Location: Moca, Puerto Rico

GPS Latitude/Longitude: [redacted]

Hazard Mitigation Narrative

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

In the Lares Municipality, PREPA has a total of 4,837 ea. streetlights luminaries. The Method of Repair (MOR) includes the replacement of the damage lighting components including photocells, luminaires, arms, and associated hardware. Also include the replacement of the damage distribution and streetlight poles (wood, concrete, galvanized & aluminum), the replacement of the aerial secondary wiring connections **and** the construction of new concrete base for the aluminum streetlight poles. According to the information provided by the Applicant, due to the high velocity hurricane winds, wind-blown debris, and prolonged heavy rain, were the main cause of the damages of the facilities.

In order to minimize the damages in a future event, the Applicant is proposing as a mitigation measure, increase the strength of the poles, arms, aluminum poles breakaway bases, and foundations (concrete bases) by increasing the wind tolerance of all materials to 160mph. Note: The FEMA Accelerated Award Strategy (FAASt) MOR included the PREPA distribution standards and specifications that were based on a 90mph sustained winds for all materials. Although in PREPA Technical Communication #13-02 (August 22, 2013) a design-criteria of 145mph winds were published, the specifications for streetlighting material were never revised, and in the specification documents, the 90mph winds stayed as the requirement for procurement purposes of all streetlighting materials. The 160mph wind tolerance mitigation measure will protect and make the affected infrastructure more resistant, stronger, and resilient to similar hazards.

Hazard Mitigation Proposal (HMP) Scope of Work:

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

Mitigation Measures *(Replacement)*

1. To avoid damage in a future event, the Applicant is proposing as a mitigation measure, increase the strength of the poles, arms, aluminum poles breakaway bases, and foundations (concrete bases) by increasing the wind tolerance of all materials to 160mph. The FAASt MOR used PREPA distribution standards and specifications that were based on a 90mph sustained winds for all materials. Although in PREPA Technical Communication #13-02 (August 22, 2013) a design-criteria of 145mph winds were published, the specifications for streetlighting material were never revised, and in the specification documents, the 90mph winds stayed as the requirement for procurement purposes of all streetlighting materials. The above mitigation measures will protect and make the affected infrastructure more resistant, stronger, and resilient to similar hazards. Refer to Appendix J: Section VI.D.1 of the PAPPG V3.1.

406 Mitigation Scope of Work:

- Replace (8 ea) 33ft octagonal concrete poles by (8 ea) 35ft octagonal concrete poles.
- Replace (1,779 ea) 35ft galvanized poles by (1,779 ea) 35ft S3.5 galvanized poles.
- Replace (5 ea) 30ft aluminum poles by (5 ea) 40ft aluminum poles.
- Replace (1 ea) 30ft aluminum poles breakaway bases by (1 ea) 40ft aluminum poles breakaway bases.
- Replace (5 ea) 30ft aluminum poles concrete bases [2.5ft(D) x 5.5ft(H)] by (5 ea) 40ft aluminum poles concrete bases [3ft(D) x 10ft(H)].

Hazard Mitigation Proposal (HMP) Cost

Total Net Hazard Mitigation Cost (Base Cost) =	$820,553.11
+ HM (Applicant A&E, Management & General Conditions) =	$290,271.52
Hazard Mitigation Total Cost =	**$1,110,824.63**

Hazard Mitigation Proposal (HMP) Cost Distribution:

Architecture and Engineering (A&E) =	$134,366.43
Construction Cost =	$976,458.20
Hazard Mitigation Total Cost =	**$1,110,824.63**

HMP Cost-Effectiveness Calculations:

FEMA's Benefit-Cost Analysis (BCA), methodology evaluates expected risk reduction benefits of a hazard mitigation project and compares those benefits to the cost of the mitigation project. FEMA Public Assistance Program and Policy Guide (PAPPG) Chapter 2. Section VII. C. defines cost effective mitigation as: The

Hazard Mitigation Measure is cost effective through an acceptable Benefit Cost Analysis (BCA) with a resulting Benefit Cost Ratio equal to or greater than (1).

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

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

The cost of the Hazard Mitigation Proposal (HMP) described herein is **$1,110,824.63 (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	$18,412,055.33	Uncompleted

CRC Gross Cost	$18,412,055.33
Total 406 HMP Cost	$0.00
Total Insurance Reductions	$0.00
CRC Net Cost	$18,412,055.33
Federal Share (90.00%)	$16,570,849.80
Non-Federal Share (10.00%)	$1,841,205.53

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

8/13/2026

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

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

7/22/2026

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 [Moca Streetlighting] / Former project 704741 (Distribution)**.

406 Mitigation

There is no additional mitigation information on **FAASt [Moca Streetlighting] / Former project 704741 (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.

EHP Additional Info

There is no additional environmental historical preservation on **FAASt [Moca Streetlighting] / Former project 704741 (Distribution)**.

Final Reviews

Final Review

Reviewed By LEFRANC-GARCIA, CARLOS L. **Reviewed On** 09/11/2026 9:36 PM PDT

Review Comments

Project 1068667 proposed restoration includes the repair of eligible disaster damage up to required codes and standards and the request to upgrade undamaged infrastructure that must be addressed to fully effectuate the restoration of disaster-damaged components to restore the system's function to an approved industry standard. Moca Streetlighting Detailed Scope of Work consists of the repair, removal, replacement, and addition of the following infrastructure to restore this facility to codes and standards. A. Lighting Components Replacement and B. Pole Replacement. V0 includes PA (428 funds) for a total of $16,570,849.80 (federal share), V1 will include HM (406 funds).

Recipient Review

Reviewed By Mulero, Noel **Reviewed On** 09/21/2026 2:20 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 does not apply to the Department of Energy's executive order. This means that FEMA is the lead agency for environmental matters. Project is ready for applicant review.

Project Signatures

Reviewed By Unsigned **Reviewed On** Unsigned

Award Information

EMMIE Imported Version Information

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

Drawdown History

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

Obligation History

Version #	Date Obligated	Obligated Cost	Cost Share	IFMIS Status	IFMIS Obligation #
0	9/25/2026	$16,570,849.80	90%	Accepted	4339DRPRP01082781