

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

NEPR

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IN RE:

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

CASE NO. NEPR-MI-2021-0002

**SUBJECT: Motion Submitting Amended Scope of
Work and Request for Confidentiality and
Supporting Memorandum of Law**

**MOTION SUBMITTING AMENDED SCOPE OF WORK AND REQUEST FOR
CONFIDENTIALITY AND SUPPORTING MEMORANDUM OF LAW**

TO THE PUERTO RICO ENERGY BUREAU:

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

I. Amended Scope of Work and Request for Confidentiality

1. On March 26, 2021, this Puerto Rico Energy Bureau (“Energy Bureau”) issued a Resolution and Order in the instant proceeding (the “March 26 Order”), ordering—in pertinent part—that the Puerto Rico Electric Power Authority (“PREPA”) submit to the Energy Bureau the specific 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. *See* March 26 Order on pages 18-19. The Energy Bureau thereafter determined that this directive should be applied to both PREPA and LUMA. *See* Resolution and Order of August 20, 2021 (“August 20 Order”) on page 3.

2. Consequently, LUMA has submitted several Transmission and Distribution projects (“T&D Projects”) to this Energy Bureau for a total of 265 SOWs. The Energy Bureau has approved all the T&D Project SOWs submitted by LUMA as of January 21, 2025.

3. 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* whereby, among other things, LUMA submitted as *Exhibit 2* twenty-nine (29) SOWs for T&D Projects for the Energy Bureau's review and approval before submitting them to COR3 and FEMA ("August 30th Motion"). Among the SOWs submitted to this Energy Bureau on this date was the "Fiber Optic Replacement" T&D Project.

4. On September 22, 2021, the Energy Bureau entered a Resolution and Order in which, among other considerations, it approved twenty-one (21) of the T&D projects submitted by LUMA in the August 30th Motion, including the "Fiber Optic Replacement" T&D Project, and determined it necessary to improve the system's reliability ("September 22nd Order"). *See* September 22nd Order on page 5. Further, the Energy Bureau ordered LUMA to seek the Energy Bureau's approval immediately should the scope of the approved project change. *Id.*, on page 3.

5. LUMA has since identified the need to submit an amended "Fiber Optic Replacement" T&D Project, which is renamed as the "Island-Wide Fiber Optic Repair & Replacement" T&D Project ("Amended SOW"). The Amended SOW's overall scope strategy has changed from the original SOW since it has: (1) added Network resiliency scope; (2) used different mileage breakdowns for OPGW, non-OPGW, and Network Resiliency; (3) added Fiber Management Database in scope; and (4) removed the Fiber Optical Assessment scope. LUMA hereby submits, as *Exhibit 1* to this Motion, the "Island-Wide Fiber Optic Repair & Replacement" T&D SOW.

6. LUMA requests that the Energy Bureau replace the previously approved SOW, as detailed in this Motion, and substitute it with the one submitted as *Exhibit 1* to this Motion. LUMA

also requests that this Energy Bureau approve the Amended SOW submitted with this Motion, to wit, the “Island-Wide Fiber Optic Repair & Replacement” T&D SOW.

II. Request for Confidentiality and Supporting Memorandum of Law

7. LUMA hereby requests that *Exhibit 1* be maintained confidential. LUMA is submitting a redacted version for public disclosure, and an unredacted non-public version under seal of confidentiality.

8. LUMA submits a Memorandum of Law stating the legal basis for which the unredacted version of *Exhibit 1* should be filed under seal of confidentiality. As will be explained below, the unredacted version of the SOW in *Exhibit 1* should be protected from public disclosure as these documents contain confidential information associated with Critical Energy Infrastructure Information (“CEII”) as defined in federal regulations, 18 C.F.R. §388.113; 6 U.S.C. §§ 671-674, and per the Energy Bureau’s Policy on Management of Confidential Information (the “SOW with CEII”). *See* Energy Bureau’s Policy on Management of Confidential Information, CEPR-MI-2016-0009 (“Policy on Management of Confidential Information”), issued on August 31, 2016, as amended by the Resolution dated September 20, 2016.

9. In addition, the Amended SOW includes personal identifying information of individuals who are LUMA staff or contractors protected under Puerto Rico’s legal framework on privacy emanating from the Puerto Rico Constitution and should also be protected pursuant to the Energy Bureau’s Policy on Management of Confidential Information.

III. Memorandum of Law in Support of Request for Confidentiality

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

10. 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 (2024). 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).

11. 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).

12. 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 Puerto Rico Rules of Evidence.

13. 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.

14. The Energy Bureau’s Policy on Management of Confidential Information states the following with regard to access to 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).

15. Furthermore, Energy Bureau 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.”

B. Discussion in Support of Request for Confidential Treatment

16. 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.

17. Generally, CEII or critical infrastructure information is exempted from public disclosure because it involves assets and information which pose public security, economic, health, and safety risks. Federal Regulations on CEII, particularly 18 C.F.R. § 388.113(c)(2), states 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.

18. 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.*

19. 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”).¹ 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).²

¹ 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.

² 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;

20. The Amended SOW included in *Exhibit I* contains CEII that, under relevant federal law and regulations, is protected from public disclosure. LUMA stresses that the unredacted version of the Amended SOW warrant confidential treatment to protect critical infrastructure from threats that could undermine the system and negatively affect electric power services to the detriment of the interests of the public, customers, and citizens of Puerto Rico. In several proceedings, this Energy Bureau has considered and granted requests by PREPA to submit CEII under seal of confidentiality.³ In at least two proceedings on Data Security⁴ and Physical Security,⁵ this Energy Bureau, *motu proprio*, has conducted proceedings confidentially, thereby recognizing the need to protect CEII from public disclosure.

21. The Amended SOW contains a diagram that qualifies as CEII because it contains information on the engineering and design of critical infrastructure, as existing and proposed, relating to the transmission of electricity, which is provided in sufficient detail that could potentially be helpful to a person planning an attack on this or other energy infrastructure facilities

(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.

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

⁴ *In re Review of the Puerto Rico Electric Power Authority Data Security Plan*, NEPR-MI-2020-0017.

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

interconnected with or served by this facility and equipment. In addition, the Amended SOW qualifies as CEII because it contains the express coordinates of transmission and non-transmission fiber cables as well as power transmission and non-transmission structures (18 C.F.R. § 388.113(c)(2)(iv)). These specific coordinates could potentially be helpful to a person planning an attack on the energy facilities listed in the SOWs. The pages that contain the CEII are identified within the table in Part C of this motion, which summarizes the hallmark requests for confidentiality for the Amended SOW. The information identified as confidential in the table 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 SOW with CEII in *Exhibit 1* from disclosure, given the nature and scope of the details included in those portions of the Exhibit.

22. This Energy Bureau has granted requests by LUMA to protect CEII in connection with LUMA's submissions of ISOWs in the present docket. *See e.g.* Resolution and Order of July 24, 2024, table 1 on page 4 (four (4) ISOWs); Resolution and Order of June 28, 2024, table 2 on page 3 (one (1) ISOW); Resolution and Order of June 28, 2024, table 1 on page 3 (one (1) Amended ISOW); Resolution and Order of May 7, 2024, table 2 on pages 4-5 (one (1) Amended ISOW and eleven (11) ISOWs). Relatedly, The Energy Bureau has also granted LUMA's requests to protect CEII in connection with LUMA's System Operation Principles. *See* Resolution and Order of May 3, 2021, table 2 on page 4, Case No. NEPR-MI-2021-0001 (granting protection to CEII included in LUMA's Responses to Requests for Information).

23. LUMA respectfully submits that the designation of portions of the SOW as CEII is a reasonable and necessary measure to protect the specific location and other engineering and design information of the energy facilities listed or discussed in *Exhibit 1*. Given the importance

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

24. In addition, a portion of the Amended SOW contains the name, signature, and role of individuals who are LUMA employees or contractors who reviewed the Amended SOW as part of LUMA's internal review and approval of the document. LUMA respectfully requests that information on the names, signatures, and roles of these individuals be maintained confidentially in the context that these reveal details of their employment duties and that their protection is in the public interest and aligned with Puerto Rico's legal framework on privacy which protects from the disclosure of personal information. *See e.g.*, Const. ELA, Art. II, Sections 8 and 10, which protect the right to control personal information and distinctive traits, which applies *ex proprio vigore* and against private parties. *See also e.g. Vigoreaux v. Quiznos*, 173 DPR 254, 262 (2008); *Bonilla Medina v. P.N.P.*, 140 DPR 294, 310-11 (1996), *Pueblo v. Torres Albertorio*, 115 DPR 128, 133-34 (1984). *See also* Act 122-2019, Article 4(vi) (which provides, as an exception to the rule on public disclosure, information the disclosure of which could invade the privacy of third parties or affect their fundamental rights). It is respectfully submitted that the redaction of the aforementioned information does not affect the public's or the Energy Bureau's review of the Amended SOW nor interfere with processes before this Energy Bureau. Therefore, on balance, the public interest to protect privacy weighs in favor of protecting the relevant portion of the Amended SOW.

25. Relatedly, the Energy Bureau has also granted requests by LUMA to protect individual's personal information in connection with LUMA's submissions of ISOWs in the present docket. *See e.g.* Resolution and Order of July 24, 2024, table 1 on page 4 (four (4) ISOWs);

Resolution and Order of June 28, 2024, table 2 on page 3 (one (1) ISOW); Resolution and Order of June 28, 2024, table 1 on page 3 (one (1) Amended ISOW); Resolution and Order of May 7, 2024, table 2 on pages 4-5 (one (1) Amended ISOW and eleven (11) ISOWs).

C. Identification of Confidential Information

26. In compliance with the Energy Bureau's Policy on Management of Confidential Information, CEPR-MI-2016-0009, below, find a table summarizing the hallmarks of this request for confidential treatment.

Document	Name	Pages in which Confidential Information is Found, if applicable	Summary of Legal Basis for Confidentiality Protection, if applicable	Date Filed
Exhibit 1	Island-Wide Fiber Optic Repair & Replacement	Page 1	Right to privacy (<i>see e.g.</i> , Const. ELA, Art. II, Sections 8 and 10)	March 14, 2025
Exhibit 1	Island-Wide Fiber Optic Repair & Replacement	Page 5	Critical Energy Infrastructure Information, 18 C.F.R. § 388.113; 6 U.S.C. §§ 671-674.	March 14, 2025

WHEREFORE, LUMA respectfully requests that the Energy Bureau **take notice** of the aforementioned; **accept** the Amended SOW for T&D Project submitted as *Exhibit 1* to this Motion; and **grant** the request for confidential treatment of *Exhibit 1*.

RESPECTFULLY SUBMITTED.

In San Juan, Puerto Rico, this 14th day of March 2025.

I hereby certify that I filed this Motion using the electronic filing system of this Energy Bureau and that I will send an electronic copy of this Motion to counsel for PREPA Alexis Rivera, arivera@gmlex.net, and to Genera PR LLC, through its counsel of record, Jorge Fernández-Reboredo, jfr@sbglaw.com and Alejandro López Rodríguez, alopez@sbglaw.com.



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Exhibit 1

Redacted Version (Unredacted Version Submitted under Seal of Confidentiality)





	Document Title: Island-Wide Fiber Optic Repair & Replacement FEMA Project Scope of Work (Initial)	Project ID: TBD
		DR-4339-PR Public Assistance

FEMA Project Scope of Work (Initial)

Project Name:
Island-Wide Fiber Optic Repair & Replacement
Revision: 1

APPROVALS

The signatures below formally approve the FEMA Project Scope of Work.

Program Brief Management Leadership (PBML)		
Program Brief Owner	Signature	Date
		02/26/2025
Grants Manager	Signature	Date
		02/27/2025

DOCUMENT REVISION HISTORY

This table contains the history of the revisions made to this FEMA Project Scope of Work.

Rev.	Effective Date	Description of Change
0	08/20/2021	Issued for Use
1	02/06/2025	Revised Scope of Work


	Document Title: Island-Wide Fiber Optic Repair & Replacement FEMA Project Scope of Work (Initial)	Project ID: TBD
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1.0 OVERVIEW


Project Name:	Fiber Optics Repair/Replacement & Expansion
Project type:	Improved Project: Restores the pre-disaster function of the facility(s) and incorporates improvements
Region:	All Regions
Program Brief Owner:	██████████
Project Sponsor:	██████████
Damage Number:	N/A
Damaged Inventory/Asset Category:	Island Wide Telecommunication System
FEMA Project Number:	TBD

2.0 INTRODUCTION

The purpose of this document is to present and update an Initial Scope of Work (“ISOW”) with Cost Estimates to be submitted to the Central Office for Recovery, Reconstruction and Resilience for Puerto Rico (“COR3”) and the Federal Emergency Management Agency (“FEMA”) for projects under DR-4339-PR Public Assistance. The completed document will be reviewed by COR3 and FEMA to create and version a specific project worksheet and post fixed-cost estimates to repair, restore, or replace eligible facilities including Section 406 hazard mitigation for a specific project.

This document provides a description of the project including an initial scope of work, cost estimates as well as Environmental & Historical Preservation (“EHP”) relevant information and proposed 406 hazard mitigation work.

LUMA Energy provides the Operation and Maintenance of the Puerto Rico Transmission and Distribution System “T&D System”). The Puerto Rico Power Electric Authority (“PREPA”) is the government agency that owns the facilities, sites, and systems identified in this Scope of Work that are eligible as critical services facilities as defined in the PAAP (Section 428) and BBA 2018 guidance documents

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3.0 FACILITIES

1.1 Facilities Description

The specific facilities included in this project are transmission fiber optic cables and non-transmission (including distribution) fiber optics cables and fiber termination facilities (within substations and other PREPA facilities). In addition, structures supporting the fiber optic cables along these paths that are not compliant with current industry standards will be repaired or replaced.


The transmission fiber optic network consists of Optical Ground Wire (“OPGW”) fiber optic cable installed on the Transmission 115 kV and 230 kV overhead power lines. Two main functions of the OPGW are (1) to provide a medium of communication for the IT/OT Transport Network and (2) for the electrical grid to provide ground and protection of the high-voltage lines from electrical discharge.

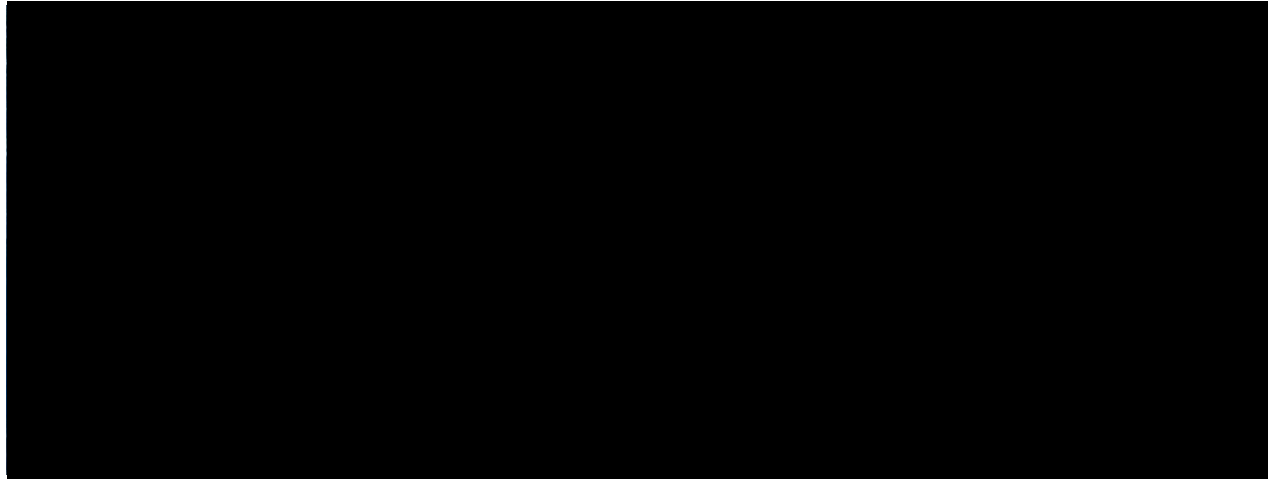
The non-transmission fiber optic network consists of a fiber optic cable lashed underbuilt running along 80% of sub-transmission lines (38 kV lines), along various distribution lines, and between various PREPA facilities via utility poles and underground conduit independent of the Transmission and Distribution (“T&D”) network lines. T&D structures (towers and poles) that support fiber optic cable form part of the facilities list for this program.

Fiber is the physical component of the optical system that supports electronic hardware/software equipment based on industry protocols for actual data transport, such as Synchronous Optical Networking (“SONET”), Dense Wavelength Division Multiplexing (“DWDM”), and Multi-Protocol Label Switching (“MPLS”) which transmit large amounts of data over relatively large distances. Fiber is also used as a medium to provide relay tele-protection between substations and other T&D facilities. With the use of SONET, DWDM, or MPLS over this fiber, multiple digital data streams are transferred at the same time over the same optical fiber strands. This allows remote monitoring and operation of breakers located in substations, remote billing metering, and telephone communication. This is achieved using remote terminal units (“RTU”) and supervisory control and data acquisition (“SCADA”).

1.2 Facilities List

Below is a representation of the OPGW fiber optic network on the island, based on available Geographic Information System (“GIS”) data.

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Name	Number	GPS Start	GPS End	Voltage (kV)
Transmission Fiber Cable (OPGW)	Multiple segments island wide	See Note	See Note	N/A
Non-Transmission Fiber Cable (Non-OPGW)	Multiple segments island wide	See Note	See Note	N/A
Transmission Structures	Multiple locations island wide	See Note	See Note	N/A
Non-Transmission Structures	Multiple locations island wide	See Note	See Note	N/A


Note: GPS coordinates will be confirmed after the initial field assessment and at the detailed scope of work phase

4.0 PROJECT SCOPE OF WORK

Puerto Rico's telecommunication system sustained several damages during the major hurricanes. The current operational communication routes are congested due to data traffic being routed away from the damaged fiber paths. The main goal of this project is to repair or replace damaged fiber optic cables needed for the future Transport Network system, increase the system's resiliency for future growth, and build additional fiber paths to provide diverse alternate routes in case of disaster or unforeseen telecommunication system failures.

Replacement, repair, and new installation of fiber cables and structures include the following scope:

- 1) 295 linear miles of transmission overhead OPGW will be repaired or replaced in kind on 230 kV and 115 kV transmission lines. Structures along the fiber routes will be repaired or rebuilt to meet current industry standards to support the fiber optic cables, as they are not included in other program plans.

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- 2) 400 linear miles of non-transmission fiber optic cables will be repaired and/or replaced in kind on 38 kV lines and other lines and segments. Structures along the fiber routes will be repaired or rebuilt to meet current industry standards to support the fiber optic cables, as they are not included in other program plans.
- 3) 85 linear miles of new non-transmission fiber optic cables (underbuilds and/or underground) will be installed for building a resilient fiber network. Structures along the fiber routes will be repaired or rebuilt to meet current industry standards to support the fiber optic cables, as they are not included in other program plans.
- 4) 360 linear miles of non-transmission fiber optic cables will be repaired up to codes and standards to increase the overall resiliency of the existing system for future growth. Structures along the fiber routes will be repaired or rebuilt to meet current industry standards to support the fiber optic cables if they are not included in other programs' plans.

This program includes all engineering, construction, labor, and materials to accomplish the above scope. Fiber installation and related structural rebuilds will be performed in coordination with the transmission and distribution departments to determine scope interdependencies and avoid duplicity of work. Fiber planning will be in coordination with other projects, such as the transmission and distribution lines, substations, IT, and the telecommunications Transport Network, which is dependent on the availability of fiber for its implementation.

The LUMA engineering and environmental teams will perform field assessments of all fiber routes and related structures to determine their status, accurate locations, and conditions. This will verify and document damaged assets to be repaired or replaced. The results of these assessments will be used to define a detailed scope of restoration to industry standards.

There is very limited information on the outside plant ("OSP") fiber network and all its associated components at this time. The definition of outside plant OSP refers to all the physical cabling and supporting telecommunications infrastructure (such as conduit, cabinets, splice boxes, poles, manholes, splicing boxes, handholes, and cabinets) located between a demarcation point in a substation or facility and a demarcation point in another facility.


Therefore, further elements of this ISOW include the following:

- 5) Field assessment of existing outside plant OSP fiber cables, splice boxes, termination points, and other fiber-specific equipment and associated replacement requirements.
- 6) Procurement and deployment of a Fiber Management Database to document existing and future fiber OSP and develop the related processes for managing the database and telecommunications physical and logical capacity planning.

The project scope will be broken down into multiple detailed scopes of work ("DSOWs") along with associated cost estimates.

5.0 TYPE OF PROJECT

1. **Restoration to Codes/Standards:** Restores the facility(s) to pre-disaster function and to approved codes/standards.
2. **Improved Project:** Restores the pre-disaster function of the facility(s) and incorporates improvements including any:
 - a. Other improvements, not required by codes and standards.

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b. Changes in facility size, capacity, dimension, or footprint.

3. **Alternate Project:** Does not restore the pre-disaster function of the damaged facility(s).

Choose One (Restoration, Improved or Alternate)
Improved Project: Restores the pre-disaster function of the facility(s) and incorporates improvements
This work will follow FEMA (Public Assistance Alternative Procedures (Section 428) Guide for Permanent Work FEMA-4339-DR-PR February 2020).

Note: If preliminary Architecture & Engineering (“A&E”) work has not been completed, the type of work designation is considered initial and is based on currently available information. The type of work designation may be revised based on the results of the completed preliminary A&E work.

6.0 PRELIMINARY ENGINEERING

Is architectural and engineering (“A&E”) funding required to help define the intended scope of work?


Yes, architectural and engineering funding required to help define the intended scope of work

This ISOW is based on a high-level engineering analysis done using the Hurricane Maria damage report that PREPA submitted to FEMA and the fiber optic assessment data collected under the Transport Network project. Only 50% of the optical assessments are complete. Therefore, the data was extrapolated across the entire distribution and transmission system to determine the initial scope of this project. Detailed network engineering and architecture analysis will be performed under the Transport Network project to understand the exact fiber paths required for deploying the optical network.

7.0 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 (“BBA”) through the Public Assistance Program.
3. FEMA Recovery Interim Policy FP-104-009-11 Version 2.1, Consensus-Based Codes, Specifications, and Standards for Public Assistance.
4. LUMA's latest Design Criteria Document (“DCD”) which aggregates the design considerations of the consensus-based codes, specifications, and standards listed in FEMA Recovery Interim Policy 104-009-11 Version 2.1 (December 20, 2019).

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Codes, Specifications, and Standards

Yes, applicable codes and standards will be identified and incorporated into the plans and specifications.

Industry Standards

Yes: applicable industry standards will be identified and incorporated into the plans and specifications.

8.0 ESTIMATE

Cost estimates to complete the work have been generated at a class 5 level, which is between -50% and +100% of the final project cost. The estimate includes and is not limited to materials, construction labor and equipment, engineering, management, and contingencies.

Estimated Budget for Architectural & Engineering Design:	\$33.3M
Estimated Budget for Procurement & Construction:	\$214.7M
Estimated Overall Budget for the Project:	\$248M

9.0 406 HAZARD MITIGATION PROPOSAL

1.3 406 Mitigation Opportunity Scope of Work


The Hazard and Mitigation proposals will be submitted for 406 funding in future DSOWs.

1.4 406 Mitigation Opportunity Cost Estimate

Estimated Budget for Architectural & Engineering to Design:	\$0
Estimated Budget for Procurement & Construction:	\$0
Estimated Overall Budget for the Project:	\$0

Note: If available, detailed engineering cost estimates will be included as an attachment.

10.0 ENVIRONMENTAL & HISTORIC PRESERVATION REQUIREMENTS

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Environmental and Historic Preservation (“EHP”) considerations will be identified and evaluated during the preliminary design phase and submitted to FEMA for review. Requirements will be incorporated into the final design and construction documents, which must be approved by FEMA prior to construction activities.

11.0 ATTACHMENTS

Attachments will be provided upon completion of field assessments and the initial design phase.

Document Name	Description
N/A	Project Cost Estimates
N/A	Engineering Studies and Designs
N/A	Location Maps and Site Pictures