

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

<b>NEPR</b>  <b>Received:</b>  <b>Sep 19, 2024</b>  <b>9:18 PM</b>
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**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 to Inform Obligation of  
BESS Installation SOW at Generation Sites and  
to Further Supplement the September 11, 2024  
Submittal

**MOTION TO INFORM OBLIGATION OF BESS INSTALLATION SOW AT  
GENERATION SITES AND TO FURTHER SUPPLEMENT THE SEPTEMBER 11, 2024  
SUBMITTAL**

**TO THE HONORABLE PUERTO RICO ENERGY BUREAU:**

**COMES NOW GENERA PR LLC** (“Genera”), as agent of the Puerto Rico Electric Power Authority (“PREPA”),<sup>1</sup> through its counsels of record, and respectfully submits and prays as follows:

1. On September 10, 2024, Genera submitted a document titled *Motion to Submit Monthly BESS Progress Report and Response to Resolution and Order Dated September 4, 2024* (“September 10<sup>th</sup> Motion”). In the September 10<sup>th</sup> Motion, Genera included, as Exhibit A, the Monthly Progress Report for the BESS Project for the month of August. This latest report outlined key operational updates regarding the System Impact Study being coordinated with LUMA to determine decommissioning steps for units at Dagua, Palo Seco, Jobos, and Yabucoa. Additionally, to ensure eighty percent (80%) energy retention over twenty (20) years, Genera

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<sup>1</sup> Pursuant to the *Puerto Rico Thermal Generation Facilities Operation and Maintenance Agreement* (“LGA OMA”), dated January 24, 2023, executed by and among PREPA, the Puerto Rico Public-Private Partnerships Authority and Genera, Genera is the sole operator and administrator of the Legacy Generation Assets (defined in the LGA OMA) the sole entity authorized to represent PREPA before the Energy Bureau with respect to any matter related to the performance of any of the O&M Services provided by Genera under the LGA OMA.

detailed its plan to increase storage capacity and adjust megawatt distribution by installing additional MW upfront.

2. On September 11, 2024, Genera submitted a document titled *Motion to Submit a Supplement to the Monthly BESS Progress Report Submitted on September 10, 2024* (“September 11<sup>th</sup> Motion”) which provided the Energy Bureau with supplemental information to the Monthly BESS Report submission for the month of August. The September 11<sup>th</sup> Motion highlighted the essential factors reflecting substantial progress in the planning, engineering, and environmental stages of the BESS project. Genera emphasized the extensive efforts undertaken, including site selection, grid support studies, and the preparation of interconnection applications for new facilities, which were coordinated with the Transmission and Distribution Operator. These activities have led the project to achieve several key engineering milestones, such as the completion of technical procurement specifications, site designs, and decommissioning plans.

3. Furthermore, and of particular relevance to this Motion, in the September 11<sup>th</sup> Motion, Genera explicitly drew the Energy Bureau’s attention to the potential implications of any modifications to the established locations of the BESS project. It was noted that such changes could necessitate extensive revisions across various project phases and might impact FEMA funding, potentially leading to significant delays in the project’s timeline. This point was raised to ensure the Energy Bureau considers these potential complications when reviewing the strategic direction and ongoing progress of the BESS project.

4. On September 18, 2024, Genera received notification regarding the obligation to proceed with the BESS installation Scope of Work (SOW). The approval document, attached as Exhibit A and referred to herein as the “FEMA Report,” details this obligation. Section III of the FEMA Report, titled “Project Description,” specifies the Generation Sites (defined in the LGA

OMA) where the BESS equipment will be installed. The obligation is contingent upon installing the equipment at these designated sites.

5. This additional documentation is intended to provide the Energy Bureau with a comprehensive understanding of the location strategy, aiming to reinforce the importance of maintaining the established sites to avoid potential delays and to prevent jeopardizing FEMA funding, mainly for a project that is now obligated.

**WHEREFORE**, Genera respectfully requests that the Energy Bureau **take notice of the above** for all relevant purposes and **accept** Genera's supplement to the September 11<sup>th</sup> Motion, submitted as *Exhibit A* to this Motion.

**RESPECTFULLY SUBMITTED.**

In San Juan, Puerto Rico, this 19<sup>th</sup> day of September 2024.

**ECIJA SBGB**  
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## CERTIFICATE OF SERVICE

We hereby certify that a true and accurate copy of this motion was filed with the Office of the Clerk of the Energy Bureau using its Electronic Filing System and that we will send an electronic copy of this motion to the PREPA's counsel, Mirelis Valle Cancel, at [mvalle@gmlex.net](mailto:mvalle@gmlex.net), and Alexis Rivera, at [arivera@gmlex.net](mailto:arivera@gmlex.net); and to LUMA's counsel, Margarita Mercado, at [margarita.mercado@us.dlapiper.com](mailto:margarita.mercado@us.dlapiper.com), and Yahaira De La Rosa, at [yahaira.delarosa@us.dlapiper.com](mailto:yahaira.delarosa@us.dlapiper.com).

In San Juan, Puerto Rico, this 19<sup>th</sup> day of September 2024.

*/s/ Alejandro López-Rodríguez*  
Alejandro López-Rodríguez

**Exhibit A**

## Department of Homeland Security Federal Emergency Management Agency

### General Info

<b>Project #</b>	164988	<b>P/W #</b>	11855	<b>Project Type</b>	Specialized
<b>Project Category</b>	F - Utilities			<b>Applicant</b>	PR Electric Power Authority (000-UA2QU-00)
<b>Project Title</b>	FAASt Generation Fleet Project (Generation)			<b>Event</b>	4339DR-PR (4339DR)
<b>Project Size</b>	Large			<b>Declaration Date</b>	9/20/2017
<b>Activity Completion Date</b>	9/20/2027			<b>Incident Start Date</b>	9/17/2017
<b>Process Step</b>	Obligated			<b>Incident End Date</b>	11/15/2017

### Damage Description and Dimensions

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

#### Damage #424905; FAASt New Black Start System at Costa Sur

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:** Black Start System at Costa Sur
- **Facility Description:** The existing black start system consists of two Frame 5 gas turbine units that suffered damage during Hurricane Maria. As a result, the units were not able to start after the storm. The capacity of the two black start units is 20 MW each one.
- **Approx. Year Built:** 1968
- **GPS Latitude/Longitude:** 18.00079, -66.75273

#### General Damage Information:

- **Date Damaged:** 9/20/2017
- **Cause of Damage:** High winds & wind driven rain, caused by Cat 4 Hurricane Maria

### Final Scope

424905 **FAASt Generation Fleet Project (Generation)**

**In Re: Generation Fleet Project Detailed SOW – General Vi.**      [Overview](#)

Project Name:                    Generation Fleet Project

Project Type:                    428 Detailed SOW

Project Location:                Vega Baja / Arecibo / Salinas / Yabucoa /Costa Sur & Palo Seco

GPS Latitude / Longitude: 18.446230, -66.392561 (Vega Baja) / 18.470985, -66.699693 (Cambalache) and 17.951690, -66.229675 (Aguirre) / 18.106216, -65.823685 (Yabucoa) / 18.000463, -66.753480 (Costa Sur) and 18.455569, -66.148590 (Palo Seco)

## II. Introduction

PREPA is a public corporation of the Government of Puerto Rico created pursuant to Act No. 83 of May 2, 1941, as amended. PREPA owns and operates the power plants for electric generation, transmission, and distribution facilities serving all of Puerto Rico. As the sole electric utility in Puerto Rico, PREPA provides electricity to approximately 1.5 million customers. Since 2017, PREPA has performed damage assessments, studies, and evaluations to identify areas of repair and improvement. These include transmission and distribution lines, electrical substations, generation plants, mitigation, and other improvements.

On September 6, 2017, Puerto Rico's northern coastline was struck by Hurricane Irma, a Category 4 storm. Two weeks later, on September 17, Hurricane Maria tore through the island as a Category 5 storm. Subjected to 150+ mph winds and more than 25 inches of rain, the whole island experienced lost power and a great deal of infrastructure, including critical facilities, was damaged. In particular, the electrical infrastructure suffered catastrophic impacts.

In the aftermath, diligent recovery and reconstruction efforts have been undertaken, not only to restore the electrical infrastructure to pre-storm function and capacity but also to take the opportunity to bring it in compliance with current standards and technology. This transformative moment in the history of Puerto Rico is an opportunity not just to rebuild the system, but also to transform it into a smarter, more resilient, and cleaner one. Puerto Rico's generation system must meet customer demand and have adequate additional capacity to comply with the reserve required by the system operating principles of LUMA Energy, LLC, the T&D System Operator. In terms of service continuity, the system must be reliable so that service interruptions are within the margins established in the electrical industry.

Unfortunately, the generation system presents critical performance metrics with a deficiency in capacity to meet the energy demand and the minimum reserve requirements. The forced outage percentage of the units is increasing while the generation capacity decreases. This combination of factors puts the continuity of the service at high risk, adversely affecting the quality of life of those who live in Puerto Rico. Pursuant to the Puerto Rico Thermal Generation Facilities Operation and Maintenance Agreement ("LGA OMA"), dated January 24, 2023, executed by and among PREPA, Genera and the Puerto Rico Public-Private Partnerships Authority ("P3 Authority"), Genera is the sole operator and administrator of the Legacy Generation Assets (as defined in the LGA OMA) and the sole entity authorized to represent PREPA before the Energy Bureau with respect to any matter related to the performance of any of the O&M Services provided by Genera under the LGA OMA. The current fleet condition presents poor performance due to the impact of hurricanes María and Fiona. Generation capacity has been reduced to 46% of installed capacity. In addition, of the generation units in operation, about 32% (640 MW) of the units administered by Genera are disconnected monthly, causing thousands of customers to suffer interruptions in their service.

Following Presidential Disaster Declarations 4337-DR-PR (Hurricane Irma) and 4339-DR-PR (Hurricane Maria), the Federal Emergency Management Agency ("FEMA") has been working with PREPA to assist in recovery and repair efforts. In October 2020, FEMA approved Project #136271 Puerto Rico Electrical Power Authority Island Wide FEMA Accelerated Award Strategy ("FAAST") in the amount of \$9.98 billion. This award is intended to allow funding for PREPA to repair and restore the Puerto Rico electric power infrastructure to industry standards, without regard to pre-disaster condition, and to restore components not damaged by the disaster when necessary to fully effectuate restoration of the disaster-damaged components, resulting in restoration of the function of the facility or system to industry standards, as authorized by Section 20601 of the Bipartisan Budget Act of 2018 and described in FEMA Recovery Policy FP-104-009-5 Version 2 (Implementing Section 20601 of the 2018 Bipartisan Budget Act through the Public Assistance Program, September 11, 2019). The facilities provide a critical service as defined in Stafford Act Section 406. The list of specific projects that will be undertaken using the FAASt funding remains under development. To improve the system's reliability, Genera proposes to submit to COR3 and FEMA, for their respective approval, the Detailed Scope of Work ("SOW") for the project # 164988 under the DR-4339-PR Public Assistance Program ("PA"). This document provides a description of the project, including scope, schedule, and cost estimates, as well as Environmental & Historical Preservation ("EHP") requirements and proposed 406 hazard mitigation work.

On October 16, 2020, Hazard Mitigation Grants Program approved phase 1 of the project 4339-0010 PREPA Simple Cycle Gas Turbines (Peaker & Blackstart units). On November 11th, 2022, the Puerto Rico Energy Board (PREB), approved this project. Then FEMA approved an amendment to align the project scope of work to the PREB conditional approval.

## III. Project Description (Vega Baja, Cambalache, Aguirre, Yabucoa, Costa Sur and Palo Seco)

Genera PR proposes to use existing Points of Interconnections (POI) in PREPA's Vega Baja Aguirre, Cambalache, generation facility to install utility-scale batteries. The intention is to co-locate the Battery Energy Storage System (BESS) to maximize the electrical injection capacity available without overloading the existing grid capabilities.

Vega Baja Plant consists of two simple-cycle combustion turbines (Unit 1-1 and Unit 1-2) with a combined total nameplate capacity of 42 MW. The plant began commercial service in 1971.

Cambalache consists of three simple-cycle Alstom (now General Electric [GE] Power) gas turbines (GT), each with a nameplate capacity of 82.5 MW; it began operation between 1997 and 1998.

Aguirre has two 450-MW thermal steam power generation units, two 296-MW combined cycle (CC) power generation units that can also operate in simple-cycle mode, and two 21-MW black-start capable gas turbines (GTs). The nameplate capacity of the Plant is 1534 MW.

Genera is proposing to install the BESS in the existing peaking units' site to inject 52 MW in Vega Baja, 58 MW in Cambalache, and 156 MW in Aguirre of active power at the interconnection point for 4 hours to cover temporary generation deficits caused by a disaster event or start up (black start) fast-generating units. Genera PR will maximize the use of the existing footprint for the installation. BESS will be monitored and controlled locally and remotely from Genera's control room.

The Yabucoa gas turbine is situated on the eastern coast of Puerto Rico, adjacent to the town of Yabucoa. The facility comprises two oil-fired gas turbines and two oil tanks. Yabucoa gas turbine power block received its operating permit on July 22, 2003, and the permit was effective until July 22, 2008.

Costa Sur is located on the southern coast of Puerto Rico in Guayanilla and is owned by PREPA and operated by Genera. The Plant has two operational steam power generation units with a combined nameplate generation capacity of 820 megawatts (MW). There are four non-operational steam units that are no longer in service. Finally, there are two 21-MW black start capable gas turbine (GT) generators on site: GT #1.1 and GT #1.2.

Palo Seco is located on the northern coast of Puerto Rico in the Cataño municipality near San Juan. The Plant consists of four thermal steam units, six Hitachi-GE gas turbines (GTs), and three Pratt & Whitney Power Systems (PWPS) FT8 MOBILEPAC GTs with a total nameplate capacity of 809 MW. Palo Seco has been a major generator in the PREPA fleet and continues to serve on a limited basis as current power distribution challenges face the island.

Genera is proposing to install the BESS in the existing peaking units' site to inject 40 MW in Yabucoa, 40 MW in Costa Sur, and 84 MW in Palo Seco of active power at the interconnection point for 4 hours to cover temporary generation deficits caused by a disaster event or start up (black start) fast-generating units. Genera PR will maximize the use of the existing footprint for the installation. BESS will be monitored and controlled locally and remotely from Genera's control room.

Figure 1: Project Location ( See Document DR4339 164988-FASSt-Generation Fleet- Vega Baja Cambalache Aguirre Yabucoa Costa Sur Palo Seco- Final 6-21-24.zip)

#### IV. Code and Standards

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

- Consensus-based codes, per FEMA (Public Assistance Alternative Procedures (Section 428) Guide for Permanent Work FEMA-4339-DRPR, February 2020).
- 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.
- FEMA Recovery Interim Policy FP-104-009-11 Version 2.1, Consensus- Based Codes, Specifications, and Standards for Public Assistance.
- Rus 1730B- The referenced standards, as defined and as per their requirements, state every system is required to have an Emergency Restoration Plan (ERP) in the event of a major failure or storm event.
- LUMA Operation Reserve Standard- LUMA, as the T&D System Operator, is responsible for ensuring that the system has enough generation resources to function properly. This is also known as resource adequacy. To fulfill this responsibility, LUMA has set a standard for Operational Reserve Capacity. The formula used to determine this capacity is detailed below, with Genera's input in the second column. LUMA may choose to modify the formula or inputs used, such as averages, without input from Genera.

Table 1

Formula	Translation of Formula
Average Maximum Unit Output MW	380MW
+ 300MW Generation Dispatch Reserve	+ 300MW
= Operational Reserve Capacity	= 680MW <sup>2</sup>

Table 2

Generation Source	Total Forecast for 2026 (MW)	Total Forecast for 2030 (MW)
PREPA Base Units	2483	2483

AES	484	484
EcoElectrica	550	550
Reserve Units	627	627
New Black start Units <sup>3</sup>	131	131
<a href="#">Mitigation Peaker Units<sup>1</sup></a>		199
Total Energy Capacity	4275	4474
Average Peak Demand Forecast	-2800	-2800
Forced and Unplanned Outages	-506	-506
<b>Available Energy Reserve</b>	<b>969<sup>3</sup></b>	<b>1168</b>

#### V. Mechanism for allocation of FAAsT 428 (Donor) Funds

Material and Equipment purchased using PA obligated project 673691. Due to exigent circumstances, to avoid long lead times and increase the efficiency of recovery, PREPA/Genera used FAAsT 428 funds to purchase equipment that is clearly intended for the mitigation purposes described in the BESS initiative. Each piece of equipment is earmarked for a specific site (see Table 2 above). Upon submittal of each BESS Scope of Work to FEMA, an amendment shall be created to return the 428 funds used for equipment to 136271 – Puerto Rico Electrical Power Authority Island Wide FAAsT project.

<sup>1</sup> Mitigation Peaker units will provide 199 MW and synchronous condenser capabilities to the grid, will be installed in existing Points of Interconnections (POI).

<sup>2</sup> This will be the Generation Reserve once all schedule repairs have been successfully completed by the end of 2026.

<sup>3</sup> Units will provide synchronous condenser capabilities to the grid, will be installed in existing Points of Interconnections (POI).

#### VI. 428 Version 0 - Vega Baja Site

**Location:** Marginal Carretera #2 Industrial Park Vega Baja, PR 00693.

**Latitude / Longitude:** 18.446230, -66.392561

##### A. Site Description:

Vega Baja Plant is located on the central northern coast of Puerto Rico in the town of Vega Baja. It consists of two simple-cycle combustion turbines (Unit 1-1 and Unit 1-2) with a combined total nameplate capacity of 42 MW and is in a 1.13 acres lot (54,149 ft<sup>2</sup>). The plant began commercial service in 1971.

The combustion turbines in the Plant are both based on the GE Frame 5 design and are fired using No.2 fuel oil (Diesel). The Plant primarily consists

of the respective combustion turbines and their associated balance-of-plant mechanical and electrical systems. Each generator is rated for 27,400 kVA, and each unit is rated 21 MW.

The No. 2 fuel oil for the units is trucked to site and unloaded into the site's lone storage tank with a capacity of approximately 276,400 gallons. Redundant AC fuel forwarding pumps draw suction from this tank and fuel the units during operation. The units are connected to the PREPA transmission and distribution (T&D) system through a shared main power transformer (MPT) to the 38-kV switchyard. These units connect to the nearby switchyard via overhead cable.

Based by PREPA (archives), approximately 10 feet deep below the surface has been previously disturbed for construction of the existing Generation units, the new construction has 6ft depth on the previously disturbed, means no disturbance on the construction is necessary.

For Vega Baja, Genera is accounting for the worst-case scenario, considering the entire marked footprint impacted and underground interconnection. Please refer to the attached General Arrangement. The site is currently under design, and Genera will provide detailed information at the final design stage.

**B. Boring**

**Geotech Studies SOW**

**1. Vega Baja**

Boring will be doing after demolition and before any ground disturbance in the area previously disturbed.

Boring #	Latitude	Longitude	Diameter(in)	Depth (ft)	Volume (Ft³)
B-1	18.44625	-66.39287	4	40	3.49
B-2	18.4461	-66.39287	4	70	6.11
B-3	18.44606	-66.3927	4	100	8.73
B-4	18.44625	-66.3927	4	70	6.11
B-5	18.44624	-66.39237	4	40	3.49
B-6	18.44607	-66.39231	4	40	3.49
B-7	18.44614	-66.3923	4	70	6.11

a. Equipment:

- ✓ drill rig for subsurface drilling in accordance with ASTM D6151.

b. Access Roads: All boring have access through PR-2.

c. Vegetation Removal will not be required.

Figure 2 (Boring location red dot) (See DR4339 164988-FASSt-Generation Fleet- Vega Baja Cambalache Aguirre Yabucoa Costa Sur Palo Seco- Final 6-21 24.zip)

1. Boring's location coordinates, equipment to be utilized and access roads submitted. See supporting document:
  - Appendix A - BORING ACCESS STAGING AREA PLAN - Vega Baja.xls

### C. Recovery Solution – 428

1. Demolition Works – Project requires the demolition of the following:
  - a. Demolish two steel Gas Turbines frame 5 and 21 MW each.
  - b. Two Generating units control room
  - c. Demolish one steel diesel fuel tank.
  - d. Demolish one fuel tank concrete dike.
  - e. Demolish two fuel pumps and piping.
  - f. Demolish ancillary electrical equipment.
  - g. Demolish office and miscellaneous structures.
  - h. Demolish Balance of Plant (BOP) equipment.

#### BEES Vega Baja Construction

➤ **Permits:** Environmental Permit, Lead & Asbestos Permits, Construction Permits, and necessary permits for demolition and material disposal activities.

➤ **General:**

- Site Specific Safety Program and task specific job hazard analysis.
- Full-time, on-site dedicated safety persons.
- Preparation of laydown areas, staging areas, subassembly areas, craft break room, tool room, indoor storage, and office space.
- Daily site clean-up includes segregating construction debris into all necessary areas or containers, carts, and dumpsters for handling and transporting.
- Maintaining proper storage and containment for chemicals and equipment containing oil and spills.
- Removal of unused materials and chemicals at the completion of the project.

➤ **Pre-Demolition Activities:**

- For management & disposal plan see section VII EHP and Material Disposal Scope.
- De-energization and verification of de-energization of all utilities prior to the start of demolition work.
- Provide and install Protection measures, personnel barriers, concrete barriers, fire blankets, construction fencing, construction cones, wire rope, and debris.
- Provide and install temporary shoring, scaffolding, and rigging for performance of the work.
- Install Protection to stormwater drains near the work against debris, rust, sediment, and erosion caused by the demolition activities.
- Empty liquid fuel contents of Fuel Oil Storage Tanks.
- Remove and clean surfaces of remaining liquid fuel and sludge of Fuel Oil Storage Tanks.
- Empty lube oil contents of Fuel Oil Storage Tanks.
- Remove and clean surfaces of remaining liquid level and solids of Lube Oil Storage Tanks.
- Empty Gas Turbine and Generator Systems of liquid and gases.
- Remove and clean surfaces of remaining liquid level and solids of Gas Turbine and Generator Systems.
- Remove liquid fuels, lubricating oils, and other chemicals (if applicable) for all exposed surfaces to remains.

- Remove Combustion and Power Turbines.
- Provide and install Physical protection (wood barrier) of existing MPT from any damage during demolition.
- Perform Lead and asbestos study.
- Provide and install temporary guardhouse buildings and connect utilities.
- Perform GPR survey to identify and map existing underground utilities.

➤ **Demolition-Mechanical Scope of Work:**

- Uninstall and dismantle GT and Generator 1-1 and 1-2 components and transfer to the identified staging area at site.
- Uninstall and remove above ground piping inside the GT and Generator enclosures.
- Remove underground piping.
- Demolish one Fuel Oil Storage Tanks.

➤ **Demolition-Structural Scope of Work:**

- Uninstall structural steel frames surrounding GT 1-1 and 1-2.
- Uninstall/demolish two GT and Generator enclosures.
- Demolish one Fuel Oil Storage Tanks containment to floor level.
- Demolition and disposal of electrical/control room.
- Demolition and disposal of plant battery room.
- Demolition and disposal of existing guardhouse/security building.

➤ **Demolition-Electrical Scope of Work:**

- Demolition and disposal of 15kV electrical switchgear (approx. 15ft) and disposal of any associated underground feeders/wiring (approx. 15ft).
- Removal of 13.2kV/480V Pad mounted transformer and disposed of any associated underground feeders/wiring.
- Demolition and disposal of electrical/control room components and disposal of any associated underground feeders/wiring.
- Demolition and disposal of plant battery room (approx. 15 ft x 6ft) components and disposal of any associated aboveground and underground feeders/wiring.
- Demolition and disposal of 15kV electrical bus duct (approx. 20 ft) between generators and 15kV switchgear.
- Disconnect and uninstall one (1) of emergency diesel generator.

➤ **Post-Demolition Scope of Work:**

- Activities to leave the site in a clean, safe, and usable state that allows for proper drainage and access.
- Develop as-built drawings of plant site showing remaining aboveground and underground utilities after demolition activities have been completed.

➤ **Material Disposal Scope of Work:**

- Removal and segregation of non-regulated waste materials at the designated staging area prior to transporting offsite for disposal.
- Transportation of non-regulated waste materials to an approved offsite disposal facility.

- Removal and segregation of regulated waste material to an approved offsite disposal facility.
- Transportation of regulated waste material to an approved offsite disposal facility.
- Maintain records of all material transported offsite.
- Information of final disposal landfill will be provided at close out.

➤ **Construction Utilities non-permanent:**

- Provide and install 120V, 240V 3-Phase construction power source and install step down and distribution of 480V construction power Transformer.
- Provide and install Drums, buckets, or roll-off containers for waste generated by the project – labeling of containers by GWC.
- Provide and install temporary facilities, such as bathrooms, hand washing stations, breakrooms.
- Provide and install temporary lighting, office space, internet connection and security access for construction personnel.

➤ **Construction – Permits:**

- Obtain Environmental permit, Utilities interconnection permits, Waste disposal permit, State Construction permit.

➤ **Construction – Civil Works permanent:**

- Preparation of site to accommodate construction equipment.
- Provide and install erosion control system.
- Perform excavation and backfilling.
- Perform grading of site for concrete foundations construction.
- Perform compacting and testing of equipment and road footprint.
- Construction of drainage system and interconnection.

➤ **Construction – Structural Scope of Work permanent:**

- Provide and install **foundation construction**. Site preparation and concrete pad construction requires 105,000 CU. FT. of excavation (Ground disturbance information at EHP Section).
  - Install BESS containers **concrete foundations** (preparation and setting) 54,149 ft<sup>2</sup> ground disturbance.
  - Install main power transformer and ancillary equipment **foundations** (preparation and setting).
  - Reinforcing steel installation.
  - Elevated structures for equipment installation as required by design.
  - Provide and Install fence.

➤ **Construction – Mechanical Scope of Work permanent:**

- Provide and Install fire system.
- Provide and install Interconnection of fire system to existing piping.

➤ **Construction – Electrical Scope of Work permanent:**

- Provide and install high voltage power poles and wiring.

- Provide and install underground conduits. Electrical underground wiring.
- Provide and Installation ground grid and testing.
- Provide and installation of Aux Service Feeder - transformer cable installation, termination, and commissioning.
- Provide and install medium voltage (MV) transformers.
- Provide and install medium voltage cable (Wiring) and testing.
- Install existing transformer transition from bus bar to cable.
- Install temporary connection to existing transformer.
- Provide and install main power transformer and interconnections.
- Provide and Install site lighting system.
- Provide and Install communication cable and testing.
- Provide and install 26 battery pack total 52MW BESS containers, delivery, set, and anchoring.
- Provide and Install BESS containers **ground grid tie-in**.
- Provide and Install HVAC and energize BESS containers.
- Provide and Install substation modifications and interconnection.
- Perform Energization of auxiliary equipment.
- Provide and install electrical interconnection of BESS.

➤ **Construction – Testing and Commissioning (service):**

- Perform Cables and circuits testing.
- Perform Testing of auxiliary.
- Perform Metering and protection systems testing and commissioning.
- Perform BESS equipment testing and commissioning – inverters, batteries, integration equipment.
- Perform System startup.

**D. Cost Estimate:**

Item	Topic	Estimated Costs
1	A&E- 335168-FAASt A&E PREPA <sup>1</sup>	(\$4,180,000.00)
2	52MW BESS Equipment - 673691-FAASt Equipment and Materials <sup>2</sup>	(\$61,553,440.00)
3	Demolition (Excluding Remediation)	\$950,000.00
4	Fencing / Entrance Gates / Security System	\$120,000.00
5	Civil Works (Including Elevated Steel)	\$5,500,000.00
6	Electrical Equipment & BESS Installation	\$10,000,000.00
7	Raceway, Cable Tray, Conduits	\$4,200,000.00
8	Controls & Instrumentation	\$150,000.00
9	Construction & Project Management	\$3,925,000.00
<b>(Equipment and A&amp;E not included) TOTAL</b>		<b>\$24,825,000.00</b>

<sup>1</sup> Cost included in Project 335168- FAAS A&E PREPA

<sup>2</sup> Cost included in Project 673691- FAAS Equipment & Materials.

**E. Environmental & Historic Preservation (“EHP”) Requirement:**

1. Other than design, planning and non-destructive due diligence studies, no construction work will commence prior to the issuance of specific expressed written FEMA approval for the specific Scope of Work. FEMA- required EHP compliance review will precede the execution of each proposed Scope of Work submitted by PREPA, through its agent Genera PR, to FEMA. PREPA, through its agent Genera PR, is aware of its responsibility for coordinating, notifying, obtaining permits, and complying with applicable federal, state, and local laws, regulations, and executive orders and understands that failure to comply with EHP requirements may jeopardize FEMA funding.
2. See the following for general methods of construction and list of equipment to be used:
  - a. Battery Energy Storage System (BESS) Construction Methodology ground disturbance. The work includes the following activities:
    - o Excavate/strip (200,195 ft<sup>3</sup>) salvage, and stockpile topsoil in an appropriate manner to prevent soil contamination. Excavation/stripping limits shall be as shown on design drawings.
    - o Excavate 6ft depth.
    - o Pile, drill for foundations construction.
    - o Suitable subgrade material will be utilized for construction.
    - o Unsuitable material shall be disposed of at an approved location notified to FEMA at close-out.
    - o Scarify, compact subgrade, and complete proctor testing to ensure compaction spec is met.
    - o Condition, place, and compact native common fill material or imported/common fill.
    - o Install specified geosynthetic materials.
    - o Place and compact pit run gravels.
    - o Install ground grid and insulated gravel.
    - o Excavate contour and shape ditches and other drainage features.
    - o Install drainage features.
    - o Place topsoil (from stockpile) and seed.
    - o Install permanent erosion control and protection measures.
    - o Complete activities for the construction of the concrete pads.
  - b. Miscellaneous Civil works. The work includes the following activities:
    - o Isolated repairs or maintenance activities for pads, access roads, drainage systems.
  - c. Concrete Foundations complete all required work related to the installation of concrete foundations. The work includes the following activities:
    - o Cast-in-place shallow and deep foundations.
    - o Prefabricated concrete foundations.
    - o Supply of third-party concrete testing.
  - d. Demolition & Salvage:
    - o Complete testing for any containments or hazardous waste.
    - o All contaminated materials will be delivered to the approved waste disposal as per state and federal laws and regulations.
    - o Multiple bins will be available onsite to sort the debris (i.e., Metal, Wood, General Waste). The equipment to be salvaged, it will be loaded and removed from the site.
    - o All debris will be taken to the approved waste disposal facility site location permits and supporting documentation will be provided at close-out.
    - o While completing all demolition activities, a water source will be onsite to mitigate dust.
    - o Waste bins will be emptied regularly.
3. List of Contractor Equipment to be use are the following:
  - o Excavator
  - o Crawler Crane
  - o Semi-truck with low-bed trailer
  - o Man lift.
  - o Bucket Truck
  - o Dump Truck
4. Source of fill, gravel, sand, aggregates materials.
5. Removal of vegetation:
  - a. Not Applicable.
6. Location of access roads:

a. The existing two entrances to the Power Plant will be used as the only access roads and are located at Road PR #2 and Street A in the Municipality of Vega Baja (Latitude /Longitude:(Primary Entrance) 18.446039, -66.392166 and 18.446402, -66.392648 ). Refer to the following aerial picture (Figure 3) of the conceptual layout for the access road to the Generation Plant:

**Figure 3 (access roads) (See DR4339 164988-FASSt-Generation Fleet- Vega Baja Cambalache Aguirre Yabucoa Costa Sur Palo Seco- Final 6-21-24.zip)**

**Note:** No temporary road will be required for this project.

7. Type of debris:

a. The type of debris that can be found:

- o in the process of demolition are concrete,
- o metal scrap,
- o domestic waste,
- o wood.

a. The debris will be separated and taken to an approved waste disposal facility. Location permits and supporting documentation will be provided at close-out.

8. Description of Staging Area:

a. The staging area will be located inside the premises of Vega Baja Plant and will serve as an assembly point for all the materials to be installed. Area in the northeast part of the property (Figure 4) coordinates (18.446141, -66.392261 ). A new fence will be installed. Additional temporary staging area will be informed and reported accordingly in case to be necessary.

**Figure 4 (Staging Area) (See DR4339 164988-FASSt-Generation Fleet- Vega Baja Cambalache Aguirre Yabucoa Costa Sur Palo Seco- Final 6-21-24.zip)**

9. Hazardous Material:

- a. Describe the activity and the hazardous material involved. Calculate the quantity to be generated or disposed and include the management and disposal plan.
- b. The identified materials that can potentially be found in the Generation Plant are asbestos, PCBs, lead, SF6 gas, oil from the transformer & breakers, diesel, and sealants. These contaminants will be handled and disposed of as per the State and federal laws and regulations.
- c. GENERA will provide actual disposal locations, permits quantities and supporting documentation as a Condition of FEMA Record of Environmental Considerations
- d. These products and their residues will be stored in special covered areas for disposal by an authorized company and provided with temporary spill controls until collected. All paint containers and curing compounds will be tightly sealed and stored when not in use. Excess paint will not be discharged to the storm system, properly disposed, according to the manufacturer's instructions.
- e. Material amounts will be provided by a certified management contractor performing a site evaluation calculation for asbestos, lead paint, and roof material.
- f. Prior to the start of any demolition activities, inspections, and tests for the presence of asbestos will be conducted by a trained and certified laboratory.
- g. All asbestos waste found at the Generation Plant will be disposed of at an approved landfill designated by Puerto Rico's Department of Natural and Environmental Resources (DNER). All asbestos waste generated will be bagged and transported in accordance with all applicable State and Federal regulations. There will be no exceptions.
- h. Any asbestos spills will be cleaned up immediately to prevent the dispersal of fibers. Prudence will be exercised to avoid contamination of laboratory facilities or exposure of personnel to asbestos. Asbestos spills will be cleaned up with wet methods and/ or a High-Efficiency Particulate-Air (HEPA) filtered vacuum.
- i. The project that includes building demolition with asbestos will provide a copy of the DNER approved plan or evidence of plan submission.
- j. In case the presence of asbestos is confirmed in the building to be demolished, GENERA will follow all permits protocols required by law to properly dispose of the hazardous materials from the premises. GENERA will provide evidence of the plan submission as a condition of FEMA Record of Environmental Considerations (REC).
- k. Disposal of damaged transformers or wood poles with creosote, Genera will include the management and disposal plan. The plan must include the final disposition site.
  - o Transformers and pole disposal will be handled as per the Waste Disposal Management Plan. GENERA will provide actual disposal locations and quantities as a Condition of FEMA Record of Environmental Considerations.
  - o The removal of the transformer will require testing of the existing oil for PCB's levels, drain oil, and delivery to the approved waste disposal site as per Environmental Regulations.
  - o Removal of wood poles with creosote treatment will be handled according state and federal regulations.

10. Water Crossings:

- a. Specify if the project will affect a waterway or body of water.
  - o No. See Figure 5
- b. Modification of a body of water or wetland: Does the project require dredging, excavation, disposal of material, adding fill material that might result in any modification of a body of water or wetland designated as "waters of the U.S."?

- Not Applicable.

**Figure 5 (wet land map) (See DR4339 164988-FASSt-Generation Fleet- Vega Baja Cambalache Aguirre Yabucoa Costa Sur Palo Seco- Final 6-21-24.zip)**

- c. Does the project alter a watercourse, water flow patterns, or a drainage way, regardless of its floodplain designation?
  - Not Applicable.
- d. Flood zone: Is the project located in a flood zone, floodway or will it have a negative impact on the flood zone?
  - The Generation Plant is in Flood Zone A according to the ABFE. The project will have no negative impact on the flood zone. (Figures 6).
  - As a mitigation site concrete pad will be elevated 2ft above flood water level.
  - In accordance with the updated version of FEMA Region II Memorandum, dated October 10, 2017, Guidance for the use of Available Flood Hazard Information for the Government of Puerto Rico in complying with FEMA Policy 104-008-2, 44 CFR Part 9, and Executive Order 11986 (Floodplain Management). All hazard mitigation proposals under alternative procedures must be designed using the best available flood hazard data and in compliance with applicable regulations and policy

**Figure 6 (See DR4339 164988-FASSt-Generation Fleet- Vega Baja Cambalache Aguirre Yabucoa Costa Sur Palo Seco- Final 6-21-24.zip)**

**11. Structure Age:**

- j. Provide the construction date of any buildings or structures within the project. Include those near the project.
  - Vega Baja Power Plant was constructed in 1971.
- b. Provide date and information of any prior repairs, remodeling, and/or rehabilitation of the property. Include current and previous use of building or structure.
  - The Generation Plant was used as a Peaker site with two Peaking Units since constructed in 1971.
- c. In the case that building includes both older and newer sections, Genera will confirm which section of the building is being done.
  - Not Applicable
- d. Include plans, drawings, blueprints, any architectural documentation available for new construction or substantial improvements regardless of the age of the building or structure.
  - The proposed new structures plans are included in:
    1. Appendix A BORING ACCESS STAGING AREA PLAN - Vega Baja.
    2. Vega Baja ESK6-0002.pfd

**12. Ground Disturbance:**

- a. Provide a description of the new ground disturbance by giving the dimensions, if any. Include an aerial photo map showing the extent of the disturbance with coordinates.
  - Top-soil stripping will occur within the construction area.
  - See Vega Baja BESS - Boring Schedule in Appendix A BORING ACCESS STAGING AREA PLAN - Vega Baja.
  - Cable trenching will occur within the Generation site up to 10ft deep. The underground will require 64,628.70 CU.FT. of excavation.
  - Ground disturbance will occur at 4 feet deep for the construction of concrete pads of a requiring 113,721.41 CU.FT. of excavation.

Ground Disturbance	Latitude	Longitude	Depth (ft)	Volume (Ft <sup>3</sup> )
BESS EQUIPMENT FOUNDATION	18.44619	-66.39259	4	113,721.41
ELECTRICAL DUCT BANK	18.44619	-66.39259	10	64,628.70

**Figure 7 (See DR4339 164988-FASSt-Generation Fleet- Vega Baja Cambalache Aguirre Yabucoa Costa Sur Palo Seco- Final 6-21-24.zip)**

**Figure 8 (See DR4339 164988-FASSt-Generation Fleet- Vega Baja Cambalache Aguirre Yabucoa Costa Sur Palo Seco- Final 6-21-24.zip)**

- Based by PREPA, about 10 feet deep below the surface has been disturbed for construction of the existing Generation units, fuel piping, fuel tank concrete pad, and ancillary equipment.
- GENERA has reviewed the Archaeological GIS layers provided by the Puerto Rico Planning Board and confirmed no previous features in the project area. Any features discovered during construction will be managed in compliance with Project Specific Programmatic agreement among FEMA, COR 3 and PREPA, 2022.
- b. The project SOW will not affect water or sewer utility services.

- c. Indicate the prior/current use of the area to be impacted:
    - o Not Applicable. Area is an existing Generation Plant. 100% of the work to be completed will be within the existing and already impacted Generation Plant perimeter.
  - d. Explain how materials will be stockpiled and disposed of:
    - o The excess of soil material will be stockpiled temporarily onsite in the staging area or within the Generation Plant. Disposal of soil will be handled following state and federal regulations.
    - o GENERA will provide actual disposal locations, quantities and supporting documents as a Condition of FEMA Record of Environmental Considerations (REC).
  - e. Specify final disposition site:
    - o The disposal of materials will be in an approved facility; location, quantities and supporting documentation will be provided at close-out.
13. Soil Stabilization measures:
- a. Does the project involve any soil stabilization measures?
    - o No.

**VII. Cambalache Scope of work 428 Version 0**

**Location:** Carretera 681 Cambalache Arecibo, PR 00612.

**Latitude / Longitude:** 18.470985, -66.699693

**A. Site Description:**

Cambalache is in the northern part of Puerto Rico in the Arecibo municipality and is owned and operated by PREPA and the lot has 21.2 acres, and the project location has 1.5 acres (62,010 ft<sup>2</sup>). The Plant consists of three simple-cycle Alstom (now General Electric [GE] Power) gas turbines (GT), each with a nameplate capacity of 82.5 MW; it began operation between 1997 and 1998.

Cambalache are arranged in parallel simple cycle units. Each turbine is coupled to a dedicated generator and is rated for 82.5 MW when firing low sulfur distillate oil No. 2. The units were commissioned in 1997–1998 to improve the quality and reliability of PREPA’s electrical system and can operate base loaded or with up to 60% rapid spinning reserve. The GT equipment and facilities are dedicated to support the operation of the simple-cycle plant with redundancy and unit-specific systems for independent operation as required.

The units receive No. 2 diesel fuel oil from three 3,878,000-gallon fuel oil storage tanks that are cross-tied in a combined suction line to three fuel oil forwarding pumps. The forwarding pumps discharge into a combined header that serves the three GT fuel skids and the two diesel day tanks for the 1.5-MW black start diesel generators on site. GT equipment and facilities are dedicated to support the operation of the simple-cycle plant with redundancy and unit-specific systems for independent operation as required.

**For Cambalache, Genera is accounting for the worst-case scenario, considering the entire marked footprint impacted and underground interconnection. Please refer to the attached General Arrangement. The site is currently under design, and Genera will provide detailed information at the final design stage.**

**B. Boring:**

**Geotech Studies SOW**

**1. Cambalache (Figure 9)**

Boring #	Latitude	Longitude	Diameter(in)	Depth (ft)	Volume (Ft <sup>3</sup> )
B-1	18.46920	-66.69847	4	100	8.73

B-2	18.46952	-66.69869	4	50	4.36
B-3	18.46923	-66.69893	4	75	6.54
B-4	18.46951	-66.69903	4	50	4.36

b. Equipment:

- ✓ drill rig for subsurface drilling in accordance with ASTM D6151.

c. Access Roads: All boring have access through road PR-681. PR-681 accessible through main road PR-2.

d. Vegetation Removal will not be required.

Figure 9 (Boring location in red dot) (See DR4339 164988-FASSt-Generation Fleet- Vega Baja Cambalache Aguirre Yabucoa Costa Sur Palo Seco- Final 6-21 24.zip)

1. Boring's location coordinates, equipment to be utilized and access roads submitted. See supporting document:

- Appendix C BORING ACCESS STAGING AREA PLAN – Cambalache.xsl

C. Recovery Solution – 428

**BEES Cambalache Construction**

➤ **Construction Utilities non-permanent:**

- Provide and install 120V, 240V 3-Phase construction power source and install step down and distribution of 480V construction power Transformer.
- Provide and install Drums, buckets, or roll-off containers for waste generated by the project – labeling of containers by GWC.
- Provide and install temporary facilities, such as bathrooms, hand washing stations, breakrooms.
- Provide and install temporary lighting, office space, internet connection and security access for construction personnel.

➤ **Permits:** Environmental Permit, Lead & Asbestos Permits, Construction Permits, and necessary permits for demolition and material disposal activities.

➤ **Construction – Civil Work permanent:**

- Preparation of site to accommodate construction equipment.
- Provide and install erosion control system.
- Perform excavation and backfilling (ground disturbance at EHP section E).
- Perform grading of site for concrete foundations construction.
- Compacting and testing of equipment and road footprint.
- Built site concrete slabs construction and repairs.
- Provide and Install drainage system and interconnection.

➤ **Construction – Structural Scope of Work permanent:**

- Provide and install BESS **concrete foundations** preparation and setting. 62,010 ft<sup>2</sup> area of disturbance.
- Provide and install concrete foundation for Main power transformer and ancillary equipment, preparation, and setting.
- Provide and install reinforcing steel installation.
- Provide and install Foundations construction.
- Provide and install BESS structure.
- Provide and install Main power transformer structure.

➤ **Construction – Mechanical Scope of Work permanent:**

- Provide and Installation of fire system.
- Provide and install Interconnection of fire system to existing piping.

➤ **Construction – Electrical Scope of Work permanent:**

- Provide and install high voltage power poles and wiring.
- Provide and install underground conduits. Electrical underground wiring Requires 154,377.75 CU.FT. of excavation.
- Provide and install ground grid and testing.
- Provide and installation of Aux Service Feeder - transformer cable installation, termination, and commissioning.
- Provide and install medium voltage (MV) transformers.
- Provide and install medium voltage cable (Wiring) and testing.
- Install existing 13.8KV transformer transition from bus bar to cable.
- Provide and install temporary connection to existing transformer.
- Provide and install main power transformer and interconnections.
- Provide and install site lighting system.
- Provide and install communication cable and testing.
- Provide and install 29 battery packs total 58MW BESS containers, delivery, set, and anchoring.
- Provide and install BESS containers **ground** grid tie-in.
- Provide and Install HVAC and energize BESS containers.
- Provide and install substation modifications and interconnection.
- Energization of auxiliary equipment.
- Provide and install electrical interconnection of BESS.
- Provide and install and interconnect the new main power transformer.
- Provide and install overhead and underground wiring for new transformer interconnection.

➤ **Construction – Testing and Commissioning:**

- Perform cable and circuit testing.
- Perform testing of auxiliary
- Perform metering and protection systems testing and commissioning.
- Perform SCADA and communications point to point testing.
- Perform BESS equipment testing and commissioning – inverters, batteries, integration equipment.
- Perform BESS reactive power, charge, and discharge tests.
- Perform system startup.

**D. Cost Estimate:**

Item	Topic	Estimated Costs
1	A&E- 335168-FAASt A&E PREPA <sup>1</sup>	(\$3,877,500.00)
2	58MW BESS Equipment - 673691-FAASt Equipment and Materials <sup>2</sup>	(\$68,655,760.00)
3	Mobilization for civil works	\$8,000.00
4	Fencing/ Security System	\$216,000.00
5	Foundations	\$2,000,000.00
6	Concrete	\$3,160,000.00
7	Steel Elevating Structure	\$2,610,000.00
8	Fire Protection	\$348,000.00
9	Transformer (230KV)	\$1,700,000.00
10	Electrical Equipment & BESS Installation	\$20,000,000.00
11	Raceway, Cable Tray, Conduits	\$1,290,000.00
12	Electrical Interconnection to Switchyard and Tests	\$615,000.00
13	Controls & Instrumentation	\$232,000.00
14	Construction & Project Management	\$4,815,200.00
(Equipment and A&E not included) TO TAL		\$36,994,200.00

<sup>1</sup> Cost included in Project 335168- FAASt A&E PREPA

<sup>2</sup> Cost included in Project 673691- FAASt Equipment & Materials.

**E. Environmental & Historic Preservation (“EHP”) Requirements:**

1. Other than design, planning and non-destructive due diligence studies, no construction work will commence prior to the issuance of specific expressed written FEMA approval for the specific Scope of Work. FEMA- required EHP compliance review will precede the execution of each proposed Scope of Work submitted by PREPA, through its agent Genera PR, to FEMA. PREPA, through its agent Genera PR, is aware of its responsibility for coordinating, notifying, obtaining permits, and complying with applicable federal, state, and local laws, regulations, and executive orders and understands that failure to comply with EHP requirements may jeopardize FEMA funding.

2. See the following for general methods of construction and list of equipment to be used:

- a. Battery Energy Storage System (BESS) Construction Methodology ground disturbance. The work includes the following activities:

- o Excavate/strip, salvage, and stockpile topsoil in an environmentally appropriate manner to prevent soil contamination. Excavation/stripping limits shall be as shown on design drawings.
  - o Excavate to the extents and depths.
  - o Pile, drill for foundations construction.
  - o Suitable subgrade material will be utilized for construction.
  - o Unsuitable material shall be disposed of at an approved location notified to FEMA at close-out.
  - o Scarify, compact subgrade, and complete proctor testing to ensure compaction spec is met.
  - o Install geosynthetic materials.
  - o Place and compact pit run gravels.
  - o Install ground grid and insulated gravel.
  - o Excavate contours, ditches, and drainage.
  - o Place topsoil (from stockpile) and seed.
  - o Install permanent erosion control and protection measures.
  - o Complete activities for the construction of the concrete pads.
- b. Miscellaneous civil works. The work includes the following activities:
- o Isolated repairs or maintenance activities for pads, access roads, drainage systems.
- c. Concrete foundations, complete all required work related to the installation of concrete foundations. The work includes the following activities:
- o Cast-in-place shallow and deep foundations.
  - o Prefabricated concrete foundations.
  - o Supply of third-party concrete testing.
3. List of Contractor Equipment to be use are the following:
- o Excavator
  - o Crawler Crane
  - o Semi-truck with low-bed trailer
  - o Man lift.
  - o Bucket Truck
  - o Dump Truck
4. Source of fill, gravel, sand, aggregates.
5. Removal of vegetation
- a. Not Applicable.
6. Location of access roads:  
Entry point through existing Cambalache power plant main entrance. Main access road is PR-681, accessible thru main road PR-2. Refer to Figure 10.

*ENTRY LOCATION (COORDINATES-5 DECIMAL DEGREES) (Blue Dot)		NEW (Orange Line) EXISTING (Yellow Line)	TEMPORARY / PERMANENT	PAVED / UNPAVED	POTENTIAL IM- PACT AREA (SQ. FT.) (Blue Polygon)
LATITUDE	LONGITUDE				
18.47201	-66.70087	EXISTING	PERMANENT	PAVED	N/A

Figure 10 LOATION OF ACCES TO ACCES ROAD(See DR4339 164988-FASSt-Generation Fleet- Vega Baja Cambalache Aguirre Yabucoa Costa Sur Palo Seco Final 6-21-24.zip)

**Note:** No temporary road will be required for this project.

7. Type of debris:

- j. The type of debris that can be found:
- o in the process of demolition are concrete,
  - o metal scrap,
  - o domestic waste,
  - o wood.
- k. The debris will be separated and taken to an approved waste disposal facility. Location permits and supporting documentation will be provided at close-out.

8. Description of Staging Area:

The staging area will be located inside the premises of the Cambalache Power Plant and will serve as an assembly point for all the materials to be installed (Coordinates 18.469664, -66.699094). A new temporary fence will be installed. No demolition or ground disturbance is required. If an additional temporary staging area is required, it will be informed and reported accordingly. (See figure 11)

**Figure 11 (Staging area) (See DR4339 164988-FASSt-Generation Fleet- Vega Baja Cambalache Aguirre Yabucoa Costa Sur Palo Seco- Final 6-21-24.zip)**

9. Hazardous Material:

- a. Describe the activity and the hazardous material involved. Calculate the quantity to be generated or disposed and include the management and disposal plan.
- l. The identified materials that can potentially be found in the Generation Plant are asbestos, PCBs, lead, SF6 gas, oil from the transformer & breakers, diesel, and sealants. These contaminants will be handled and disposed of as per the State and federal laws and regulations.
- m. GENERA will provide actual disposal locations, permit quantities and supporting documentation as a Condition of FEMA Record of Environmental Considerations.
- n. These products and their residues will be stored in special covered areas for disposal by an authorized company and provided with temporary spill controls until collected. All paint containers and curing compounds will be tightly sealed and stored when not in use. Excess paint will not be discharged to the storm system, properly disposed, according to the manufacturer’s instructions.
- b. In the case of project includes building demolition with asbestos, Genera will provide a copy of the EQB approved plan or evidence of plan submission.
  - o No demolition works will be performed.
- a. In the case of project includes disposal of damaged transformers or wood poles with creosote, include the management and disposal plan. The plan must include the final disposition site.
- l. In the case that project includes disposal of damaged transformers or wood poles with creosote, Genera will include the management and disposal plan. The plan must include the final disposition site.
  - o Transformers and pole disposal will be handled as per the Waste Disposal Management Plan. GENERA will provide actual disposal locations and quantities as a Condition of FEMA Record of Environmental Considerations.
  - o The removal of the transformer will require testing of the existing oil for PCB’s levels, drain oil, and delivery to the approved waste disposal site as per Environmental Regulations.
  - o Removal of wood poles with creosote treatment will be handled according state and federal regulations.

10. Water Crossings:

- a. Specify if the project will affect a waterway or body of water. Refer to Appendix C BORING ACCESS STAGING AREA PLAN - Cambalache.
  - o Not Applicable.
  - o The project site is (shown in red) located adjacent to the Caño Tiburones (shown in blue Figure 12) approximately .02 miles. Ground disturbances will not take place in wetland areas.

**Figure 12 Location of the project footprint in relation to Caño Tiburones(See DR4339 164988-FASSt-Generation Fleet- Vega Baja Cambalache Aguirre Yabucoa Costa Sur Palo Seco- Final 6-21-24.zip)**



Scope of equipment repair/replacement and potential staging areas are outside any wetland zones.

- b. Does the project alter a watercourse, water flow patterns, or a drainage way, regardless of its floodplain designation?
  - o No
  - o Flood zone: Is the project located in a flood zone, floodway or will it have a negative impact on the flood zone? (Figure 13)
  - o As a mitigation site concrete pad will be elevated 2ft above flood water level.
  - o The Generation Plant is in Flood Zone A according to the ABFE.
  - o The project will have no negative impact on the flood zone. An 8-step process may be required.

**Figure 13 (See DR4339 164988-FASSt-Generation Fleet- Vega Baja Cambalache Aguirre Yabucoa Costa Sur Palo Seco- Final 6-21-24.zip)**

- o Memorandum with the updated version of FEMA Region II Memorandum, dated October 10, 2017, Guidance for the use of Available Flood Hazard Information for the Government of Puerto Rico in complying with FEMA Policy 104-008-2, 44 CFR Part 9, and Executive Order 11988 (Floodplain Management). All hazard mitigation proposals under alternative procedures must be designed using the best available

flood hazard data and in compliance with applicable regulations and policy.

11. Structure Age:

- a. Provide the construction date of any buildings or structures within the project. Include those near the project.
  - o Approx. 1997 and no structures are impacted by the project.
- b. Provide date and information of any prior repairs, remodeling, and/or rehabilitation of the property. Include current and previous use of building or structure.
  - o Not Applicable.
- c. If a building includes both older and newer sections, confirm which section of the building the work is being done.
  - o Not Applicable.
- d. Include plans, drawings, blueprints, any architectural documentation available for new construction or substantial improvements regardless of the age of the building or structure.
  - o Refer to Appendix C BORING ACCESS STAGING AREA PLAN - Cambalache.
  - o Refer to Cambalache ESK8-0002-01.pdf and Cambalache ESK8-0002-02.pdf

12. Ground Disturbance:

- a. Provide a description of the new ground disturbance by giving the dimensions if any. Include a map showing the extent of the disturbance with coordinates. (see Attachment - Appendix C BORING ACCESS STAGING AREA PLAN - Cambalache).
  - o Top-soil stripping will occur within the construction area.
  - o Cable trenching will occur within the Generation site up to 6ft deep. The undergrounding will require 154,377.75 CU.FT. of excavation.
  - o Ground disturbance will occur at 4 feet deep for the construction of concrete pads of a requiring 106,983.90 CU.FT. of excavation.

Ground Disturbance	Latitude	Longitude	Depth	Volume (Ft³)
BESS Equipment Pads	18.47120	-66.70002	4	106,983.90
Electrical Duck Bank	18.47120	-66.70002	10	154,377.75

Figure 15 Location of the concrete pads to be built (See DR4339 164988-FASSt-Generation Fleet- Vega Baja Cambalache Aguirre Yabucoa Costa Sur Palo Seco- Final 6-21-24.zip)

- o GENERA has reviewed the Archaeological GIS layers provided by the Puerto Rico Planning Board and confirmed no previous features in the project area. Any features discovered during construction will be managed in accordance with Section 106 Project a Specific Programmatic Agreement among FEMA, SHPO, COR3 and PREPA.
- b. The project SOW will not affect water or sewer utility services.
- c. Indicate the prior/current use of the area to be impacted:
  - o Not Applicable. Area is an existing Generation Plant. 100% of the work to be completed will be within the existing and already impacted Generation Plant perimeter.
- d. Explain how materials will be stockpiled and disposed of:
  - o The excess of soil material will be stockpiled temporarily onsite in the staging area or within the Generation Plant. Disposal of soil will be handled as per the Waste Management Plan.
  - o GENERA will provide actual disposal locations and quantities as a Condition of FEMA Record of Environmental Considerations (REC).
- e. Specify final disposition site:
  - o The disposal site will be in an approved location. according to state and federal laws and regulations in an approved facility. Location, quantities, and documentation will be provided at close out.

13. Soil Stabilization measures:

- a. Does the project involve any soil stabilization measures?
  - o No.

VIII. Aguirre Scope of Work - 428 Version 0

Location: Calle II Caracol Aguirre Salinas, PR 00751

**A. Site Description:**

Aguirre is located on the south coast of Puerto Rico in the Salinas municipality with a lot of approx. 211 acres and is owned and operated by PREPA. The project location has approx. 5 acres lot (262,478sq.ft.). The Plant has two 450-MW thermal steam power generation units, two 296-MW combined cycle (CC) power generation units that can also operate in simple-cycle mode, and two 21-MW black-start capable gas turbines (GTs). The nameplate capacity of the Plant is 1534 MW (gross).

The two 450-MW thermal units, referred to as Units 1 and 2, were commissioned in 1971 and 1972, respectively. A 1991 upgrade to 500 MW on their General Electric (GE) (formerly ABB) steam turbines (STs) is based on 3430-kilopound/hour main steam flow at 2400 psig and 1000°F and hot reheat conditions of 594 psig and 1000°F. Boiler restrictions on steam flow have limited the units to their original 450 MW. The boilers burn heavy fuel oil (HFO) and are tangentially fired models by Combustion Engineering, now GE Power.

The two CC units are referred to as STAG 1 and STAG 2 and were commissioned in 1977, each with four 50-MW GE 7B GTs burning HFO, four single-pressure GE heat recovery steam generators (HRSGs), and one GE 96-MW ST (4x4x1 configuration). In 1994 and 1995, the HRSGs had significant replacements of their pressure parts. Later, from 1997 through 2001, the eight GTs were modified by GE from Model 7B to Model 7EA.

For Aguirre, Genera is considering the worst-case scenario, considering the entire marked footprint impacted and underground interconnection, please refer to the General Arrangement (attached). The site is currently under design, and Genera will provide the information at the final design stage.

**B. Boring:**

**Geotech Studies SOW**

1. Aguirre

Boring #	Latitude	Longitude	Diameter(in)	Depth (ft)	Volume (Ft³)
B-1	17.95187	-66.23213	4	75	6.54
B-2	17.95241	-66.23199	4	50	4.36
B-3	17.95253	-66.23263	4	75	6.54
B-4	17.95270	-66.23354	4	75	6.54

b. Equipment:

- ✓ drill rig for subsurface drilling in accordance with ASTM D6151.

c. Access Roads: All boring have access through the main road Calle Caracol. Enter through Calle 9, connecting road is PR-705.

d. Vegetation Removal will not be required.

Figure 16 (boring location in red) (See DR4339 164988-FASSt-Generation Fleet- Vega Baja Cambalache Aguirre Yabucoa Costa Sur Palo Seco- Final 6-21 24.zip)

2. Boring’s location coordinates, equipment to be utilized and access roads submitted. See supporting document:

- Appendix E BORING ACCESS STAGING AREA PLAN - Aguirre

**C. Recovery Solution – 428**

➤ **Permits:** Environmental Permit, Lead & Asbestos Permits, Construction Permits, and necessary permits for demolition and material disposal activities.

➤ **Construction Temporary Utilities non-permanent:**

- Provide and install 120V, 240V, 208V 3-Phase construction power source.
- Provide and install step down and distribution of 480V construction power.
- Provide and install temporary facilities, such as bathrooms, hand washing stations, breakrooms.
- Provide and install lighting.
- Provide and install office space and internet connection.

➤ **Construction Permits:**

- Categorical Exclusion Permit.
- EHP Review
- Endangered Species Act (ESA) Section 7 Endangered Species Consultation.
- National Historic Preservation Act Consultation (Section 106).
- Rule 141 - Environmental Impact Documentation.
- Permiso Unico Incidental (PUI).
- Utilities interconnection permits.
- Waste disposal permit.
- Construction permit.

➤ **Construction – Civil permanent:**

- Preparation of site to accommodate construction equipment.
- Provide and installation of erosion control system.
- Perform excavation and backfilling.
- Perform grading of site for concrete foundations construction
- Perform compact road footprint and testing of equipment.
- Provide and build site concrete slabs and repairs.
- Provide and build drainage system and interconnection.

➤ **Construction Structural permanent:**

- Provide and install BESS containers **concrete foundations** preparation and setting. Area of disturbance 262,478 ft<sup>2</sup>, see attachment - Appendix E BORING ACCESS STAGING AREA PLAN – Aquirre.
- Provide and install **foundations** preparation and setting of main power transformer and ancillary equipment.
- Provide and install reinforce steel installation and concrete pouring.
- Provide and install foundation construction.
- Provide and install main power transformer structure.
- Provide and install new fence.

➤ **Construction Mechanical permanent:**

- Provide and Installation of fire system.
- Provide and install Interconnection of fire system to existing piping.

➤ **Construction – Electrical Scope of Work permanent:**

- Provide and install high voltage power poles and wiring.
- Provide and install underground conduits. Electrical underground wiring.
- Provide and install ground grid and testing.
- Provide and installation of Aux Service Feeder - transformer cable installation, termination, and commissioning.
- Provide and install medium voltage (MV) transformers.
- Provide and install medium voltage cable (Wiring) and testing.
- Install existing 13.8KV transformer transition from bus bar to cable.
- Provide and install temporary connection to existing transformer.

- Provide and install main power transformer and interconnections.
- Provide and install site lighting system.
- Provide and install communication cable and testing.
- Provide and install 78 battery packs, 156MW total BESS containers, delivery, set, and anchoring.
- Provide and install BESS containers **ground** grid tie-in.
- Provide and Install HVAC and energize BESS containers.
- Provide and install substation modifications and interconnection.
- Energization of auxiliary equipment.
- Provide and install electrical interconnection of BESS.
- Provide and install and interconnect the new main power transformer.
- Provide and install overhead and underground wiring for new transformer interconnection.

➤ **Construction – Testing and Commissioning:**

- Perform cable and circuit testing.
- Perform testing of auxiliary components.
- Perform metering and protection systems testing and commissioning.
- Perform SCADA and communications point to point testing.
- Perform BESS equipment testing and commissioning – inverters, batteries, integration equipment.
- Perform BESS reactive power, charge, and discharge tests.
- Perform system starts up.

**D. Cost Estimate:**

Item	Topic	Estimated Costs
1	A&E- 335168-FAAST A&E PREPA <sup>1</sup>	(\$4295,070.42)
2	156MW BESS Equipment - 673691-FAAST Equipment and Materials <sup>2</sup>	(\$184,660,320.00)
3	Mobilization for civil works	\$8,000.00
4	Fencing / Security System	\$360,000.00
5	Backfill & Site Preparation	\$12,480,000.00
6	Foundations Construction	\$150,000.00
7	Concrete	\$10,120,000.00
8	Stell Elevating Structure	\$2,840,000.00
9	Fire Protection	\$936,000.00
10	Transformers (115KV)	\$4,700,000.00
11	Electrical Equipment & BESS Installation	\$33,920,000.00
12	Raceway, Cable Tray, Conduits	\$3,780,000.00
13	Electrical Interconnection to Switchyard and Tests	\$615,000.00
14	Controls & Instrumentation	\$624,000.00
15	Construction & Project Management	\$12,129,150.00
<b>(Equipment and A&amp;E not included) TO TAL</b>		<b>\$82,662,150.00</b>

<sup>1</sup> Cost included in Project 335168- FAAST A&E PREPA

<sup>2</sup> Cost included in Project 673691- FAAST Equipment & Materials.

**E. Environmental & Historic Preservation (“EHP”) Requirement:**

1. Other than design, planning and non-destructive due diligence studies, no construction work will commence prior to the issuance of specific expressed written FEMA approval for the specific Scope of Work. FEMA- required EHP compliance review will precede the execution of each proposed Scope of Work submitted by PREPA, through its agent Genera PR, to FEMA. PREPA, through its agent Genera PR, is aware of its responsibility for coordinating, notifying obtaining permits, and complying with applicable federal, state, and local laws, regulations, and executive orders and understands that failure to comply with EHP requirements may jeopardize FEMA funding.
2. See the following for general methods of construction and list of equipment to be used:
  - a. Battery Energy Storage System (BESS) Construction Methodology ground disturbance:
    - o Excavate/strip, salvage, and stockpile topsoil in an environmentally appropriate manner to prevent soil contamination. Excavation/stripping limits shall be as shown on design drawings.
    - o Excavate to the extents and depths.
    - o Pile, drill for foundations construction.
    - o Suitable subgrade material will be utilized for construction.
    - o Unsuitable material shall be disposed of at an approved location notified to FEMA at close-out.
    - o Scarify, compact subgrade, and complete proctor testing to ensure compaction spec is met.
    - o Install geosynthetic materials.
    - o Place and compact pit run gravels.
    - o Install ground grid and insulated gravel.
    - o Excavate contours, ditches, and drainage.
    - o Place topsoil (from stockpile) and seed.
    - o Install permanent erosion control and protection measures.
    - o Complete activities for the construction of the concrete pads.
  - b. Miscellaneous Civil works. The work includes the following activities:
    - o Isolated repairs or maintenance activities for pads, access roads, drainage systems.
  - c. Concrete foundations, complete all required work related to the installation of concrete foundations. The work includes the following activities:
    - o Cast-in-place shallow and deep foundations.
    - o Prefabricated concrete foundations.
    - o Supply of third-party concrete testing.
3. List of Contractor Equipment to be used are following:
  - o Excavator
  - o Crawler Crane
  - o Semi-truck with low-bed trailer
  - o Man lift.
  - o Bucket Truck
  - o Dump Truck
4. Source of fill, gravel, sand, aggregates.
5. Removal of vegetation
  - a. Not Applicable.
6. Location of access roads:
  - o Entry point through existing Aguirrepower plant main entrance. Main access road is Calle Caracol. Enter through Calle 9, connecting road is pr-705. (Figure 17).

*ENTRY LOCATION (COORDINATES-5 DECIMAL DEGREES) (Blue Dot)		NEW (Orange Line) EXISTING (Yellow Line)	TEMPORARY / PERMANENT	PAVED / UNPAVED	POTENTIAL IM- PACT AREA (SQ. FT.) (Blue Poly- gon)
LATITUDE	LONGITUDE				
17.95445	- 66.228508	EXISTING	PERMANENT	PAVED	N/A

Figure 17(access road) (See DR4339 164988-FASSt-Generation Fleet- Vega Baja Cambalache Aguirre Yabucoa Costa Sur Palo Seco- Final 6-21-24.zip)

**Note: No temporary road will be required for this project.**

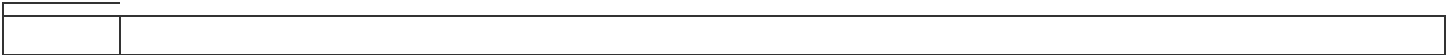
7. Type of debris:
  - a. The type of debris that may be found:

- o in the process of demolition are concrete,
  - o metal scrap,
  - o domestic waste,
  - o wood.
- b. The debris will be separated and taken to an approved waste disposal facility. Location permits and supporting documentation will be provided at close-out.

8. Description of Staging Area:

The staging area will be located inside the premises of the Aguirre Power Plant and will serve as an assembly point for all the materials to be installed. Occupies area in the property coordinates (17.951149, -66.231551). A new fence will be installed. No demolition or ground disturbance is required. If an additional temporary staging area is required, it will be informed and reported accordingly. (See figure 18)

**Figure 18 Location of Staging area marked in orange. (See DR4339 164988-FASSt-Generation Fleet- Vega Baja Cambalache Aguirre Yabucoa Costa Sur Palo Seco- Final 6-21-24.zip)**



9. Hazardous Material:

- a. Describe the activity and the hazardous material involved. Calculate the quantity to be generated or disposed and include the management and disposal plan.
- c. The identified materials that can potentially be found in the Generation Plant are asbestos, PCBs, lead, SF6 gas, oil from the transformer & breakers, diesel, and sealants. These contaminants will be handled and disposed of as per the State and federal laws and regulations.
- d. GENERA will provide actual disposal locations, permits quantities and supporting documentation as a Condition of FEMA Record of Environmental Considerations
- e. These products and their residues will be stored in special covered areas for disposal by an authorized company and provided with temporary spill controls until collected. All paint containers and curing compounds will be tightly sealed and stored when not in use. Excess paint will not be discharged to the storm system, properly disposed, according to the manufacturer’s instructions.
- b. The project that includes building demolition with asbestos will provide a copy of the DNER approved plan or evidence of plan submission.
- f. In case the presence of asbestos is confirmed in the building to be demolished, GENERA will follow all permits protocols required by law to properly dispose of the hazardous materials from the premises. GENERA will provide evidence of the plan submission as a condition of FEMA Record of Environmental Considerations (REC).
- c. Disposal of damaged transformers or wood poles with creosote, Genera will include the management and disposal plan. The plan must include the final disposition site.
  - o Transformers and pole disposal will be handled as per the Waste Disposal Management Plan. GENERA will provide actual disposal locations and quantities as a Condition of FEMA Record of Environmental Considerations.
  - o The removal of the transformer will require testing of the existing oil for PCB’s levels, drain oil, and delivery to the approved waste disposal site as per Environmental Regulations.
  - o Removal of wood poles with creosote treatment will be handled according state and federal regulations.

10. Water Crossings:

- a. Specify if the project will affect a waterway or body of water.
  - o No
  - o There are no wetlands near the impact area (Figure 19 shown in red).
  - o The closest natural reserve (Jobos Bay, shown in green) is more than half a mile away from the impact area.

**Figure 19 (Project Location in red) (See DR4339 164988-FASSt-Generation Fleet- Vega Baja Cambalache Aguirre Yabucoa Costa Sur Palo Seco- Final 6-21-24.zip)**

Scope of equipment repair/replacement and potential staging areas are outside any wetland zones.

- b. Does the project alter a watercourse, water flow patterns, or a drainage way, regardless of its floodplain designation?
  - o No
- c. Flood zone: Is the project located in a flood zone, floodway or will it have a negative impact on the flood zone?
  - o Part of the Generation Plant is in Flood Zone A according to the ABFE. However, the project area is NOT in the flood zone. The project will have no negative impact on the flood zone. (see Figure 20)
  - o In accordance with the updated version of FEMA Region II Memorandum, dated October 10, 2017, Guidance for the use of Available Flood Hazard Information for the Government of Puerto Rico in complying with FEMA Policy 104-008-2, 44 CFR Part 9, and Executive Order 11988 (Floodplain Management). All hazard mitigation proposals under alternative procedures must be designed using the best available flood hazard data and in compliance with applicable regulations and policy.

**Figure 20 (Flood Zone) (See DR4339 164988-FASSt-Generation Fleet- Vega Baja Cambalache Aguirre Yabucoa Costa Sur Palo Seco- Final 6-21-24.zip)**

11. Structure Age:

- a. Provide the construction date of any buildings or structures within the project. Include those near the project.
  - o Aguirre Power Plant was built in 1971 and the units to be demolished were built in 1972.
- b. Provide date and information of any prior repairs, remodeling, and/or rehabilitation of the property. Include current and previous use of building or structure.
  - o The project area has been used for the peaking unit's operation since its installation in 1972.
- c. Include plans, drawings, blueprints, any architectural documentation available for new construction or substantial improvements regardless of the age of the building or structure.
  - o Refer to Aguirre ESK9-0002-01 and Aguirre ESK9-0002-02
  - o Appendix E BORING ACCESS STAGING AREA PLAN - Aguirre

12. Ground Disturbance:

- a. Provide a description of the new ground disturbance by giving the dimensions (area, depth, volume, etc.), if any. Include an aerial photo map showing the extent of the disturbance with coordinates.
  - o Top-soil stripping will occur within the construction area.
  - o See Aguirre BESS boring plan – Refer to Appendix E BORING ACCESS STAGING AREA PLAN - Aguirre - Revision A.
  - o Cable trenching will occur within the Generation site up to 10ft deep. The underground will require 1,083,021.84 CU.FT. of excavation.
  - o Ground disturbance will occur at 4 feet deep for the construction of concrete pads requiring 343,284.60 CU.FT. of excavation.

Ground Disturbance	Latitude	Longitude	Depth (FT)	Volume (FT <sup>3</sup> )
BESS Equipment Pads	17.95147	-66.22844	4	343,284.60
Electrical Duct Bank	17.95147	-66.22844	10	1,083,021.84

Figure 21 Location of pads to be built. (See DR4339 164988-FASSt-Generation Fleet- Vega Baja Cambalache Aguirre Yabucoa Costa Sur Palo Seco- Final 6-21 24.zip)

- o GENERA has reviewed the Archaeological GIS layers provided by the Puerto Rico Planning Board and confirmed no previous features in the project area. Any features discovered during construction will be managed in accordance with Section 106 Project Specific Programmatic agreement among FEMA, COR 3 and PREPA.
- b. The project SOW will not affect water or sewer utility services.
- c. Indicates the prior/current use of the area to be impacted:
  - o Not Applicable. Area is an existing Generation Plant. 100% of the work to be completed will be within the existing and already impacted Generation Plant perimeter.
- d. Explain how materials will be stockpiled and disposed of:
  - o The excess of soil material will be stockpiled temporarily onsite in the staging area or within the Generation Plant. Disposal of soil will be handled as per estate and federal laws and regulations.
  - o GENERA will provide actual disposal locations and quantities as a Condition of FEMA Record of Environmental Considerations (REC).
- e. Specify disposition site:
  - o The disposal of materials will be handled as per the State and federal regulations regarding the site's location. Location, Permits and support documentation will be provided to FEMA at close-out.

13. Soil Stabilization measures:

- a. Does the project involve any soil stabilization measures?
  - o No.

IX. 428 Version 0 - Yabucoa Site

Location: Carretera #3 Humacao, PR 00791

Latitude / Longitude: 18.105999, -65.823684

A. Site Description:

The Yabucoa gas turbine is on the easter coast of Puerto Rico, adjacent to the town of Yabucoa and on a 7.55-acre lot, the project be in approx. 1.11 acres lot (60,926 ft<sup>2</sup>). The facility comprises two oil-fired gas turbines and two oil tanks. These turbines generate electricity by burning No. 2 fuel oil, which is delivered to the facility via trucks. In response to emergency power needs, a TM2500 mobile gas turbine was installed at the plant. This mobile gas turbine generates 25 megawatts (MW) of emergency power for the region.

On November 7, 2017, a TM2500 mobile gas turbine was installed at the Yabucoa power plant, generating 25MW emergency energy. The Yabucoa plant was already fully functional 30 days later, offering the necessary stability to the afflicted network.

The combination of 85MW in the Yabucoa plant now helps with the stabilization of the electricity grid and the restoration of fundamental and necessary electricity for thousands of homes, hospitals, schools and businesses, a vital step in the long process for the reconstruction of Puerto Rico.

For Yabucoa, Genera is accounting for the worst-case scenario, considering the entire marked footprint impacted and underground interconnection. Please refer to the attached General Arrangement. The site is currently under design, and Genera will provide detailed information at the final design stage.

**B. Boring:**

**Geotech Studies SOW**

1. Yabucoa

Boring #	Latitude	Longitude	Diameter(in)	Depth (ft)	Volume (Ft <sup>3</sup> )
B-1	18.10692	-65.82496	4	50	4.36
B-7	18.10706	-65.82487	4	50	4.36
B-8	18.10681	-65.82453	4	50	4.36
B-10	18.10657	-65.82441	4	75	6.54
B-11	18.10674	-65.82428	4	75	6.54

a. Equipment:

- ✓ drill rig for subsurface drilling in accordance with ASTM D6151.

b. Access Roads: All boring have access through PR-3.

c. Vegetation Removal will not be required.

**Figure 22 (Boring Location in red dot)(See DR4339 164988-FASSt-Generation Fleet- Vega Baja Cambalache Aguirre Yabucoa Costa Sur Palo Seco- Final 6-21 24.zip)**

2. Boring's location coordinates, equipment to be utilized and access roads submitted. See supporting document:

- Appendix B BORING ACCESS STAGING AREA PLAN-Yabucoa (BESS).xls

**C. Recovery Solution – 428**

➤ **Permits:**

- EHP Review/ Environmental Assessment.
- Endangered Species Act (ESA) Section 7 Endangered Species Consultation.
- National Historic Preservation Act Consultation (Section 106).
- Rule 141 - Environmental Impact Documentation.
- NPDES Construction General Permit (CGP) for Storm Water Discharges.
- Lead based paint and asbestos removal permit.
- Permiso Unico Incidental (PUI).

➤ **Pre-Demolition Activities:**

- Empty office building.
- Remove utilities.
- Perform GPR survey to identify and map existing underground utilities.
- Perform topographic survey.
- Perform geological survey.

➤ **Demolition– Mechanical:**

- Remove 50 ft underground water piping.

➤ **Demolition– Structural:**

- Uninstall and demolish one administrative building.
- Demolition of concrete floor and asphalt.

➤ **Demolition– Electrical:**

- Uninstall and demolish 200 Lft electrical utility conduits and cables.

➤ **Material disposal:**

- Removal and segregation of non-regulated waste materials at the designated staging area prior to transporting offsite for disposal.
- Transport nonregulated waste materials to an approved offsite disposal facility.
- Removal and segregation of regulated waste material and transport to an approved offsite disposal facility.

➤ **Construction – Utilities Non-permanent:**

- Provide and install 120V, 240V 208V 3-Phase construction power source.
- Provide and install stepdown transformer and distribution of 480V construction power.
- Provide and install temporary facilities such as bathrooms, hand washing station, breakroom, office space and internet connection.
- Provide and install lighting. (qty)

➤ **Construction – Permits:**

- USEPA non -PSD Applicability Determination.
- DNER – Construction Permit for Air Emissions.
- FAA – Determination of Hazard.
- USEPA – NPDES individual Industrial Wastewater Permit (Amendment to Existing).
- PR Planning Board – Federal Consistency Certification – PR Coastal Zone Management Program.

➤ **Construction – Civil permanent:**

- Preparation of site to accommodate construction equipment.
- Provide and install erosion control system.
- Perform excavation and backfilling.
- Perform site grading for concrete foundations.
- Perform compacting and testing of equipment and road footprint.
- Provide and install drainage system and interconnection.

➤ **Construction – Structural permanent:**

- Provide and install BESS container **concrete foundations** preparation and setting with 60,926 ft<sup>2</sup> of disturbance area.
- Provide and install main power transformer and ancillary equipment **foundation** and setting.
- Provide and install reinforce steel and concrete pouring.
- Provide and install retaining walls.
- Provide and install sound wall.
- Provide and install foundations.
- Provide and install main transformer structure.

➤ **Construction– Mechanical permanent:**

- Provide and install fire protection system.
- Provide and install interconnections of fire protection to existing piping.

➤ **Construction– Electrical permanent:**

- Provide and install underground conduits.
- Provide and install ground grid and testing.
- Provide and install Aux service feeder, transformer wiring, terminations, and commissioning.
- Provide and install medium voltage (MV) transformer.
- Provide and install medium voltage wiring and testing.
- Provide and install site lighting system.
- Provide and install communication cable and testing.
- Provide and install 20 battery packs total 40MW BESS containers delivery, set, and anchoring.
- Provide and install BESS container ground grid tie-in.
- Provide and install HVAC and energize BESS containers.

- Provide and install sub-station modifications and interconnection.
- Perform energization of ancillary equipment.
- Provide and install electrical interconnection of BESS.
- Provide and install new main power transformer and interconnections.
- Provide and install overhead and underground wiring for new transformer interconnections.

➤ **Construction testing and commissioning:**

- Perform cables and circuit testing.
- Perform testing of auxiliary components.
- Perform metering and protection system testing and commissioning.
- BESS reactive power, charge, and discharge test.
- Perform main power transformer testing.
- Perform system startup.

**D. Cost Estimate:**

Item	Topic	Estimated Costs
1	A&E- 335168-FAAST A&EPREPA <sup>1</sup>	(\$3,188,000.00)
2	40MW BESS Equipment - 673691-FAAST Equipment and Materials <sup>2</sup>	(\$47,348,800.00)
3	Demolition	\$520,000.00
4	Fencing / Security System	\$144,000.00
5	Sound Wall	\$1,200,000.00
6	Backfill & Site Preparation	\$2,800,000.00
7	Concrete	\$3,000,000.00
8	Fire Protection	\$240,000.00
9	Transformers (115KV)	\$1,200,000.00
10	Electrical Equipment & BESS Installation	\$7,800,000.00
11	Raceway, Cable Tray, Conduits	\$1,200,000.00
12	Electrical Interconnection to Switchyard and Tests	\$615,000.00
13	Controls & Instrumentation	\$160,000.00
14	Construction & Project Management	\$3,158,350.00
<b>(Equipment and A&amp;E not included) TOTAL</b>		<b>\$22,037,350.00</b>

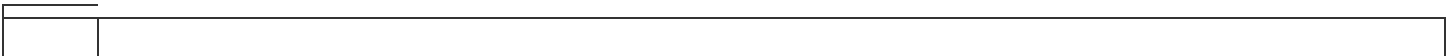
<sup>1</sup> Cost included in Project 335168- FAAsT A&E PREPA.

<sup>2</sup> Cost included in Project 673691- FAAsT Equipment & Materials.

**E. Environmental & Historic Preservation (“EHP”) Requirement**

1. Other than design, planning and non-destructive due diligence studies, no construction work will commence prior to the issuance of specific expressed written FEMA approval for the specific Scope of Work. FEMA- required EHP compliance review will precede the execution of each proposed Scope of Work submitted by PREPA, through its agent Genera PR, to FEMA. PREPA, through its agent Genera PR, is aware of its responsibility for coordinating, notifying, obtaining permits, and complying with applicable federal, state, and local laws, regulations, and executive orders and understands that failure to comply with EHP requirements may jeopardize FEMA funding.

2. See the following for general methods of construction and list of equipment to be used:
  - a. Battery Energy Storage System (BESS) Construction Methodology ground disturbance. The work includes the following activities:
    - o Excavate/strip, salvage, and stockpile topsoil in an environmentally appropriate manner to prevent soil contamination. Excavation/stripping limits shall be as shown on design drawings.
    - o Excavate to the extents and depths.
    - o Pile, drill for foundations construction.
    - o Suitable subgrade material will be utilized for construction.
    - o Unsuitable material shall be disposed of at an approved location notified to FEMA at close-out.
    - o Scarify, compact subgrade, and complete proctor testing to ensure compaction spec is met.
    - o Install geosynthetic materials.
    - o Place and compact pit run gravels.
    - o Install ground grid and insulated gravel.
    - o Excavate contours, ditches, and drainage.
    - o Place topsoil (from stockpile) and seed.
    - o Install permanent erosion control and protection measures.
    - o Complete activities for the construction of the concrete pads.
  - b. Miscellaneous Civil works. The work includes the following activities:
    - o Isolated repairs or maintenance activities for pads, access roads, drainage systems.
  - c. Concrete foundations complete all work related to the installation of concrete foundations. The work includes the following activities:
    - o Cast-in-place shallow and deep foundations.
    - o Prefabricated concrete foundations.
    - o Supply of third-party concrete testing.
  - d. Demolition & Salvage:
    - o Complete testing for any containments or hazardous waste.
    - o All contaminated materials will be delivered to the approved waste disposal as per state and federal laws and regulations.
    - o Multiple bins will be available onsite to sort the debris (i.e., Metal, Wood, General Waste). The equipment to be salvaged, it will be loaded and removed from the site.
    - o All debris will be taken to the approved waste disposal facility site location permits and supporting documentation will be provided at close-out.
    - o While completing all demolition activities, a water source will be onsite to mitigate dust.
    - o Waste bins will be emptied regularly as required.
3. List of Contractor Equipment to be use are the following:
  - o Excavator.
  - o Crawler Crane.
  - o Semi-truck with low-bed trailer.
  - o Man lift.
  - o Bucket Truck.
  - o Dump Truck.
4. Source of fill, gravel, sand, aggregates materials.
5. Removal of vegetation:
  - a. Not Applicable.
6. Location of access roads:
  - a. Entry point through existing Yabucoa power plant main entrance. The main access road is Road PR-3. The connecting road is PR-906. (Latitude /Longitude: 18.1060971, -65.8237465). Refer to the following aerial picture (Figure 23) of the conceptual layout for the access road to the Generation Plant:



**Figure 23 (Location Access Roads) (See DR4339 164988-FASSt-Generation Fleet- Vega Baja Cambalache Aguirre Yabucoa Costa Sur Palo Seco- Final 6-21-24.zip)**

Note: No temporary road will be required for this project.

7. Type of debris:
  - a. The type of debris that can be found:
    - o in the process of demolition are concrete,
    - o metal scrap,

- o domestic waste,
  - o wood.
  - b. The debris will be separated and taken to an approved waste disposal facility. Location permits and supporting documentation will be provided at close-out.
8. Description of Staging Area:
- a. The staging area will be inside the Yabucoa Power Plant premises and will serve as an assembly point for all the materials to be installed. Occupies area in the northwest part of the property (Figure 24) coordinates (18.107163, -65.825271). A new temporary fence will be installed. No demolition or ground disturbance is required. Additional temporary staging area will be informed and reported accordingly in case to be necessary.

Figure 24 (See DR4339 164988-FASSt-Generation Fleet- Vega Baja Cambalache Aguirre Yabucoa Costa Sur Palo Seco- Final 6-21-24.zip)

9. Hazardous Material:
- a. Describe the activity and the hazardous material involved. Calculate the quantity to be generated or disposed and include the management and disposal plan.
  - b. The identified materials that can potentially be found in the Generation Plant are asbestos, PCBs, lead, SF6 gas, oil from the transformer & breakers, diesel, and sealants. These contaminants will be handled and disposed of as per the State and Federal Laws and Regulations.
  - c. GENERA will provide actual disposal locations, permit quantities and supporting documentation as a Condition of FEMA Record of Environmental Considerations (REC).
  - d. These products and their residues will be stored in special covered areas for disposal by an authorized company and provided with temporary spill controls until collected. All paint containers and curing compounds will be tightly sealed and stored when not in use. Excess paint will not be discharged to the storm system, properly disposed, according to the manufacturer's instructions.
  - e. Material amounts will be provided by a certified management contractor performing a site evaluation calculation for asbestos, lead paint, and roof material.
  - f. Prior to the start of any demolition activities, inspections, and tests for the presence of asbestos will be conducted by a trained and certified laboratory.
  - g. All asbestos waste found at the Generation Plant will be disposed of at an approved landfill designated by Puerto Rico's Department of Natural and Environmental Resources (DNER). All asbestos waste generated will be bagged and transported in accordance with all applicable State and Federal regulations. There will be no exceptions.
  - h. Any asbestos spills will be cleaned up immediately to prevent the dispersal of fibers. Prudence will be exercised to avoid contamination of laboratory facilities or exposure of personnel to asbestos. Asbestos spills will be cleaned up with wet methods and/ or a High-Efficiency Particulate-Air (HEPA) filtered vacuum.
  - i. The project that includes building demolition with asbestos will provide a copy of the DNER approved plan or evidence of plan submission.
  - j. In case the presence of asbestos is confirmed in the building to be demolished, GENERA will follow all permits protocols required by law to properly dispose of the hazardous materials from the premises. GENERA will provide evidence of the plan submission as a condition of FEMA Record of Environmental Considerations (REC).
  - k. Disposal of damaged transformers or wood poles with creosote, Genera will include the management and disposal plan. The plan must include the final disposition site.
    - o Transformers and pole disposal will be handled as per the Waste Disposal Management Plan. GENERA will provide actual disposal locations and quantities as a Condition of FEMA Record of Environmental Considerations.
    - o The removal of the transformer will require testing of the existing oil for PCB's levels, drain oil, and delivery to the approved waste disposal site as per Environmental Regulations.
    - o Removal of wood poles with creosote treatment will be handled according state and federal regulations.
10. Water Crossings:
- a. Specify if the project will affect a waterway or body of water (Figure 25).
    - o No.
  - b. Modification of a body of water or wetland: Does the project require dredging, excavation, disposal of material, adding fill material that might result in any modification of a body of water or wetland designated as "waters of the U.S."?
    - o Not Applicable.

Figure 25 (See DR4339 164988-FASSt-Generation Fleet- Vega Baja Cambalache Aguirre Yabucoa Costa Sur Palo Seco- Final 6-21-24.zip)

**Scope of equipment repair/replacement and potential staging areas are outside any wetland zones.**

- c. Does the project alter a watercourse, water flow patterns, or a drainage way, regardless of its floodplain designation?
  - o Not Applicable.
- d. Flood zone: Is the project located in a flood zone, floodway or will it have a negative impact on the flood zone?
  - o The Generation Plant is in Flood Zone A according to the ABFE. The project will have no negative impact on the flood zone. (Figure 26)
  - o In accordance with the updated version of FEMA Region II Memorandum, dated October 10, 2017, Guidance for the use of Available Flood Hazard Information for the Government of Puerto Rico in complying with FEMA Policy 104-008-2, 44 CFR Part 9, and Executive Order 11988 (Floodplains Management). All hazard mitigation proposals under alternative procedures must be designed using the best available flood hazard data and in compliance with applicable regulations and policy.

Figure 26 (See DR4339 164988-FASSt-Generation Fleet- Vega Baja Cambalache Aguirre Yabucoa Costa Sur Palo Seco- Final 6-21-24.zip)

11. Structure Age:

- a. Provide the construction date of any buildings or structures within the project. Include those near the project.
  - o Yabucoa Gas Turbine was constructed in 1971.
- b. Provide date and information of any prior repairs, remodeling, and/or rehabilitation of the property. Include current and previous use of building or structure.
  - o The Generation Plant was used as a Peaker site with two Peaking Units since constructed in 1971.
- c. In the case that building includes both older and newer sections, Genera will confirm which section of the building is being done.
  - o Not Applicable.
- d. Include plans, drawings, blueprints, any architectural documentation available for new construction or substantial improvements regardless of the age of the building or structure.
  - i. Refer to Yabucoa ESK5-0002-01.pdf and Yabucoa ESK5-0002-02.
  - ii. The proposed new structures plans are included in Appendix B BORING ACCESS STAGING AREA PLAN - Yabucoa (BESS).
- e. Provide at least five color pictures of every structure or building, showing the four facades and the contextual view. Include additional pictures of architectural details. Also provide pictures of buildings (45 years old or older) in proximity.
  - i. Not Applicable.

12. Ground Disturbance:

- a. Provide a description of the new ground disturbance by giving the dimensions, if any. Include an aerial photo map showing the extent of the disturbance with coordinates.
  - o Top-soil stripping will occur within the construction area.
  - o See Yabucoa BESS - Boring Schedule in Appendix B BORING ACCESS STAGING AREA PLAN - Yabucoa (BESS).
  - o Cable trenching will occur within the Generation site up to 10ft deep. The undergrounding will require 198,776.58 ft<sup>3</sup> of excavation.
  - o Ground disturbance will occur at 4 feet deep for the construction of concrete pads requiring 88,362.21 CU.FT. of excavation.

Ground Disturbance	Latitude	Longitude	Depth (ft)	Volume (Ft <sup>3</sup> )
EQUIPMENT FOUNDATIONS	18.10610	-65.82375	4	88,362.21
ELECTRICAL DUCT BANK	18.10610	-66.82375	10	198,776.58

- o Based by PREPA, about 10 feet deep below the surface has been disturbed for construction of the existing Generation units, fuel piping, fuel tank concrete pad, and ancillary equipment.
- o GENERA has reviewed the Archaeological GIS layers provided by the Puerto Rico Planning Board and confirmed no previous features in the project area. Any features discovered during construction will be managed in compliance with Project Specific Programmatic agreement among FEMA, COR 3 and PREPA, 2022.
- b. The project SOW will not affect water or sewer utility services.
- c. Indicate the prior/current use of the area to be impacted:
  - o Not Applicable. Area is an existing Generation Plant. 100% of the work to be completed will be within the existing and already impacted Generation Plant perimeter.
- d. Explain how materials will be stockpiled and disposed of:
  - o The excess of soil material will be stockpiled temporarily onsite in the staging area or within the Generation Plant. Disposal of soil will be handled following state and federal regulations.
  - o GENERA will provide actual disposal locations, quantities and supporting documents as a Condition of FEMA Record of Environmental Considerations (REC).
- e. Specify final disposition site:
  - o The disposal of materials will be in an approved facility, location, quantities and supporting documentation will be provided at close-out.

13. Soil Stabilization measures:

- a. Does the project involve any soil stabilization measures?
  - o No.

X. Costa Sur Scope of Work 428 Version 0

Location: Carretera 127 Guayanilla, PR 00656

Latitude / Longitude: 18.001478, -66.751438

**A. Site Description:**

Costa Sur is on the southern coast of Puerto Rico in Guayanilla and is owned by PREPA and operated by Genera, which has approx. 990 acres Lot, and the project is .26 acres lot (76,423ft<sup>2</sup>). The Plant has two operational steam power generation units with a combined nameplate generation capacity of 820 megawatts (MW). There are four non-operational steam units that are no longer in service. Finally, there are two 21-MW black start capable gas turbine (GT) generators on site: GT #1.1 and GT #1.2.

Steam Units, 5 and 6, are each rated at 410 MW; they began commercial operation in 1972 and 1973, respectively. Their boilers are tangentially fired CE that were retrofitted in 2011 to burn natural gas but also still have the flexibility to burn a) a combination of natural gas and HFO or b) HFO only as originally designed. Fired with natural gas, they can meet their original maximum continuous rating (MCR) design conditions: 2,970 kilo pounds per hour (klb/hr.) main steam flow and outlet steam conditions of 2,620 psig2 and 1,005°F. The boilers also have a reheat circuit designed to provide 2,371 klb/hr. steam flow at 451 psig and 1,000°F to the intermediate pressure (IP) section of the GE turbines at the rated output of 410 MW.

For Costa Sur, Genera is accounting for the worst-case scenario, considering the entire marked footprint impacted and underground interconnection. Please refer to the attached General Arrangement. The site is currently under design, and Genera will provide detailed information at the final design stage.

**B. Boring:**

**Geotech Studies SOW**

Costa Sur (Figure 27)

Boring #	Latitude	Longitude	Diameter(in)	Depth (ft)	Volume (Ft <sup>3</sup> )
B-1	18.00130	-66.75396	4	100	8.73
B-2	18.00110	-66.75385	4	75	6.54

a. Equipment:

- ✓ drill rig for subsurface drilling in accordance with ASTM D6151.

b. Access Roads: All boring have access through road PR-681. PR-681 accessible through main road PR-2.

c. Vegetation Removal will not be required.

Figure 27 (Boring location in red dot) (See DR4339 164988-FASSt-Generation Fleet- Vega Baja Cambalache Aguirre Yabucoa Costa Sur Palo Seco- Final 6-21 24.zip)

d. Boring’s location coordinates, equipment to be utilized and access roads submitted. See supporting document:

- Appendix D BORING ACCESS STAGING AREA PLAN – Costa Sur.xls

**C. Recovery Solution – 428**

➤ **Demolition Permits:**

- EHP Review/ Environmental Assessment.
- Endangered Species Act (ESA) Section 7 Endangered Species Consultation.
- National Historic Preservation Act Consultation (Section 106).
- Rule 141 - Environmental Impact Documentation.
- NPDES Construction General Permit (CGP) for Storm Water Discharges.
- Lead based paint and asbestos removal permit.
- Permiso Unico Incidental (PUI).

➤ **Pre- Demolition Activities:**

- Perform GPR survey to identify and map existing underground utilities.
- Perform topographic survey.
- Perform geological survey.

➤ **Demolition Electrical:**

- Remove & demolish 75 Lft of T-Line structure.

➤ **Demolition Structural:**

- Demolish 600 ft<sup>2</sup> concrete floor.
- Demolish 600 ft<sup>2</sup> deep foundations.

➤ **Material disposal:**

- Removal and segregation of non-regulated waste materials at the designated staging area prior to transporting offsite for disposal.
- Transport nonregulated waste materials to an approved offsite disposal facility.
- Removal and segregation of regulated waste material and transport to an approved offsite disposal facility.

➤ **Construction Utilities non-permanent:**

- Provide and install 120V, 240V 208V 3-Phase construction power source.
- Provide and install stepdown transformer and distribution of 480V construction power.
- Provide and install temporary facilities such as bathrooms, hand washing station, breakroom, office space and internet connection.
- Provide and install lighting.

➤ **Construction Permits:**

- USEPA non -PSD Applicability Determination.
- DNER – Construction Permit for Air Emissions.
- FAA – Determination of Hazard.
- USEPA – NPDES individual Industrial Wastewater Permit (Amendment to Existing).
- PR Planning Board – Federal Consistency Certification – PR Coastal Zone Management Program.

➤ **Construction civil permanent:**

- Preparation of site to accommodate construction equipment.
- Provide and install erosion control system.
- Perform excavation and backfilling.
- Perform site grading for concrete foundations.
- Perform compacting and testing of equipment and road footprint.
- Provide and install site concrete slabs and repairs.
- Provide and install drainage system and interconnection.

➤ **Construction structural permanent:**

- Provide and install BESS container **concrete foundations** preparation and setting. 76,423ft<sup>2</sup> of ground disturbance area.
- Provide and install main power transformer and ancillary equipment **foundation** and setting.
- Provide and install reinforce steel and concrete pouring.
- Provide and install retaining walls.
- Provide and install sound wall.
- Provide and install foundations.
- Provide and install main power transformer structure.

➤ **Construction mechanical permanent:**

- Provide and install fire protection system.
- Provide and install interconnections of fire protection to existing piping.

➤ **Construction electrical permanent:**

- Provide and install high voltage poles (T-Lines) and wiring.
- Provide and install underground conduits.
- Provide and install ground grid and testing.
- Provide and install Aux service feeder, transformer wiring, terminations, and commissioning.
- Provide and install medium voltage (MV) transformer.
- Provide and install medium voltage wiring and testing.
- Provide and install site lighting system.
- Provide and install communication cable and testing.
- Provide and install 20 battery packs total 40MW BESS containers delivery, set, and anchoring.
- Provide and install BESS container ground grid tie-in.
- Provide and install HVAC and energize BESS containers.
- Provide and install sub-station modifications and interconnection.
- Perform energization of ancillary equipment.
- Provide and install electrical interconnection of BESS.

- Provide and install new main power transformer and interconnections.
- Provide and install overhead and underground wiring for new transformer interconnections.

➤ **Construction testing & commissioning:**

- Perform cables and circuit testing.
- Perform testing of auxiliary components.
- Perform metering and protection system testing and commissioning.
- Perform SCADA and communication point to point testing.
- BESS reactive power, charge, and discharge test.
- Perform main power transformer testing.
- Perform system startup.

**D. Cost Estimate:**

Item	Topic	Estimated Costs
1	A&E- 335168-FAASt A&E PREPA <sup>1</sup>	(\$3,315,000.00)
2	40MW BESS Equipment - 673691-FAASt Equipment and Materials <sup>2</sup>	(\$47,348,800.00)
5	Demolition	\$540,000.00
6	Fencing/ Security System	\$84,000.00
7	Foundations	\$6,200,000.00
8	Concrete	\$1,300,000.00
9	Fire Protection	\$240,000.00
10	Transformers (115KV)	\$1,200,000.00
11	Electrical Equipment & BESS Installation	\$7,800,000.00
12	Raceway, Cable Tray, Conduits	\$1,200,000.00
13	Electrical Interconnection to Switchyard and Tests	\$300,000.00
14	Controls & Instrumentation	\$160,000.00
15	Construction & Project Management	\$3,166,950.00
<b>(Equipment and A&amp;E not included) TO TAL</b>		<b>\$22,190,950.00</b>

<sup>1</sup> Cost included in Project 335168- FAASt A&E PREPA.

<sup>2</sup> Cost included in Project 673691- FAASt Equipment & Materials.

**E. Environmental & Historic Preservation (“EHP”) Requirements:**

1. Other than design, planning and non-destructive due diligence studies, no construction work will commence prior to the issuance of specific expressed written FEMA approval for the specific Scope of Work. FEMA- required EHP compliance review will precede the execution of each proposed Scope of Work submitted by PREPA, through its agent Genera PR, to FEMA. PREPA, through its agent Genera PR, is aware of its responsibility for coordinating, notifying, obtaining permits, an complying with applicable federal, state, and local laws, regulations, and executive orders and understands that failure to comply with EHP requirements may jeopardize FEMA funding.

2. See the following for general methods of construction and list of equipment to be used:

- a. Battery Energy Storage System (BESS) Construction Methodology ground disturbance. The work includes the following activities:
    - o Excavate/strip, salvage, and stockpile topsoil in an environmentally appropriate manner to prevent soil contamination. Excavation/stripping limits shall be as shown on design drawings.
    - o Excavate to the extents and depths.
    - o Pile, drill for foundations construction.
    - o Suitable subgrade material will be utilized for construction.
    - o Unsuitable material shall be disposed of at an approved location notified to FEMA at close-out.
    - o Scarify, compact subgrade, and complete proctor testing to ensure compaction spec is met.
    - o Install geosynthetic materials.
    - o Place and compact pit run gravels.
    - o Install ground grid and insulated gravel.
    - o Excavate contours, ditches, and drainage.
    - o Place topsoil (from stockpile) and seed.
    - o Install permanent erosion control and protection measures.
    - o Complete activities for the construction of the concrete pads.
  - b. Miscellaneous Civil works. The work includes the following activities:
    - o Isolated repairs or maintenance activities for pads, access roads, drainage systems.
  - c. Concrete foundations, complete all work related to the installation of concrete foundations. The work includes the following activities:
    - o Cast-in-place shallow and deep foundations.
    - o Prefabricated concrete foundations.
    - o Supply of third-party concrete testing.
  - d. Demolition & Salvage
    - o Complete testing for any containments or hazardous waste.
    - o All contaminated materials will be delivered to the approved waste disposal as per state and federal laws and regulations.
    - o Multiple bins will be available onsite to sort the debris (i.e., Metal, Wood, General Waste). The equipment to be salvaged, it will be loaded and removed from the site.
    - o All debris will be taken to the approved waste disposal facility site location permits and supporting documentation will be provided at close-out.
    - o While completing all demolition activities, a water source will be onsite to mitigate dust.
    - o Waste bins will be emptied regularly.
3. List of Contractor Equipment to be use are the following:
- o Excavator
  - o Crawler Crane
  - o Semi-truck with low-bed trailer
  - o Man lift.
  - o Bucket Truck
  - o Dump Truck
4. Source of fill, gravel, sand, aggregates.
5. Removal of vegetation
- a. Not Applicable.
6. Location of access roads (Figure 28):  
 Entry point through existing Costa Sur Power Plant Main Gate. PR-127 access roadRefer to Appendix D BORING ACCESS STAGING AREA PLAN - Costa Sur (BESS).

*ENTRY LOCATION (COORDINATES-5 DECIMAL DEGREES)		NEW (Orange Line) EXISTING (Yellow Line)	TEMPORARY / PERMANENT	PAVED / UNPAVED	POTENTIAL IMPACT AREA (SQ. FT.) (Blue Polygon)
LATITUDE	LONGITUDE				
18.00221	-66.75429	EXISTING	PERMANENT	PAVED	NA

Figure 28 (LOCATION OF ACCESS TO ACCESS ROADS) See DR4339 164988-FASSt-Generation Fleet- Vega Baja Cambalache Aguirre Yabucoa Costa Sur Palo Seco Final 6-21-24.zip

Note: No temporary road will be required for this project.

7. Type of debris:

- a. The type of debris that can be found:

- o in the process of demolition are concrete,
  - o metal scrap,
  - o domestic waste,
  - o wood.
- b. The debris will be separated and taken to an approved waste disposal facility. Location permits and supporting documentation will be provided at close-out.

8. Description of Staging Area:

- a. The staging area will be located inside the premises of the Costa Sur Power Plant and will serve as an assembly point for all the materials to be installed. Occupies area in the north part of the property (Figure 29, in red) coordinates (18.001927,-66.752822 ). A new fence will be installed. No demolition or ground disturbance is required. If an additional temporary staging area is required, it will be informed and reported accordingly.

**Figure 29 (staging area in red) (See DR4339 164988-FASSt-Generation Fleet- Vega Baja Cambalache Aguirre Yabucoa Costa Sur Palo Seco- Final 6-21-24.zip)**

9. Hazardous Material:

- a. Describe the activity and the hazardous material involved. Calculate the quantity to be generated or disposed and include the management and disposal plan.
- o The identified materials that can potentially be found in the Generation Plant are asbestos, PCBs, lead, SF6 gas, oil from the transformer & breakers, diesel, and sealants. These contaminants will be handled and disposed of as per the State and federal laws and regulations.
  - o GENERA will provide actual disposal locations, permits quantities and supporting documentation as a Condition of FEMA Record of Environmental Considerations
  - o These products and their residues will be stored in special covered areas for disposal by an authorized company and provided with temporary spill controls until collected. All paint containers and curing compounds will be tightly sealed and stored when not in use. Excess paint will not be discharged to the storm system, properly disposed, according to the manufacturer's instructions.
- b. In the case of project includes building demolition with asbestos, Genera will provide a copy of the EQB approved plan or evidence of plan submission.
- o No demolition works will be performed.
- c. In the case of project includes disposal of damaged transformers or wood poles with creosote, include the management and disposal plan. The plan must include the final disposition site.
- d. In the case that project includes disposal of damaged transformers or wood poles with creosote, Genera will include the management and disposal plan. The plan must include the final disposition site.
- o Transformers and pole disposal will be handled as per the Waste Disposal Management Plan. GENERA will provide actual disposal locations and quantities as a Condition of FEMA Record of Environmental Considerations (REC).
  - o The removal of the transformer will require testing of the existing oil for PCB's levels, drain oil, and delivery to the approved waste disposal site as per Environmental Regulations.
  - o Removal of wood poles with creosote treatment will be handled according state and federal regulations.

10. Water Crossings:

- a. Specify if the project will affect a waterway or body of water. Refer to Appendix D BORING ACCESS STAGING AREA PLAN - Costa Sur (BESS).
- o Not Applicable.
  - o The project site is (shown in red) located adjacent to Mar Caribe (shown in green Figure 30) approximately 1.8 miles. Ground disturbances will not take place in wetland areas.

**Figure 30 Location of the project footprint in relation to Costa Sur (See DR4339 164988-FASSt-Generation Fleet- Vega Baja Cambalache Aguirre Yabucoa Costa Sur Palo Seco- Final 6-21-24.zip)**

**Scope of equipment repair/replacement and potential staging areas are outside any wetland zones.**

- b. Modification of a body of water or wetland: Does the project require dredging, excavation, disposal of material, adding fill material that might result in any modification of a body of water or wetland designated as "waters of the U.S."?
- o Not Applicable.
- c. Does the project alter a watercourse, water flow patterns, or a drainage way, regardless of its floodplain designation?
- o Not Applicable.
  - o Flood zone: Is the project located in a flood zone, floodway or will it have a negative impact on the flood zone? (Figure 31)
  - o The Generation Plant is in Flood Zone A according to the ABFE.
  - o As a mitigation site concrete pad will be elevated 2ft above flood water level.

**Figure 31 (Flood Zone) (See DR4339 164988-FASSt-Generation Fleet- Vega Baja Cambalache Aguirre Yabucoa Costa Sur Palo Seco- Final 6-21-24.zip)**

- o Memorandum with the updated version of FEMA Region II Memorandum, dated October 10, 2017, Guidance for the use of Available Flood Hazard Information for the Government of PuertoRico in complying with FEMA Policy 104-008-2, 44 CFR Part9, and Executive Order 11988 (Floodplain Management). All hazard mitigation proposals under alternative procedures must be designed using the best

available flood hazard data and in compliance with applicable regulations and policy.

11. Structure Age:

- a. Provide the construction date of any buildings or structures within the project. Include those near the project.
  - o No structures are impacted by the project.
- b. Provide date and information of any prior repairs, remodeling, and/or rehabilitation of the property. Include current and previous use of building or structure.
  - o Not Applicable.
- c. If a building includes both older and newer sections, confirm which section of the building the work is being done.
  - o Not Applicable.
- d. Include plans, drawings, blueprints, any architectural documentation available for new construction or substantial improvements regardless of the age of the building or structure.
  - o Refer to Costa Sur ESK2-0002-01.pdf and Costa Sur ESK2-0002-02.

12. Ground Disturbance:

- a. Provide a description of the new ground disturbance by giving the dimensions if any. Include a map showing the extent of the disturbance with coordinates. (see Attachment)
  - o Top-soil stripping will occur within the construction area.
  - o See Costa Sur BESS boring plan – Appendix D BORING ACCESS STAGING AREA PLAN - Costa Sur (BESS).
  - o Cable trenching will occur within the Generation site up to 10ft deep. The underground will require 370,184.3 ft<sup>3</sup> of excavation. For details Refer to Appendix D BORING ACCESS STAGING AREA PLAN - Costa Sur (BESS).
  - o Ground disturbance will occur at 4feet deep for the construction of concrete pads of a requiring 94,026.43 ft<sup>3</sup>. of excavation. Refer to Appendix D BORING ACCESS STAGING AREA PLAN - Costa Sur (BESS) (See Attachments).

Ground Disturbance	Latitude	Longitude	Depth	Volume (Ft <sup>3</sup> )
EQUIPMENT FOUNDATIONS	18.00042	-66.75322	4	94,026.43
Electrical Duck Bank	18.00042	-66.75322	10	370,184.30

o GENERA has reviewed the Archaeological GIS layers provided by the Puerto Rico Planning Board and confirmed no previous features in the project area. Any features discovered during construction will be managed in accordance with Section 106 Project a Specific Programmatic Agreement among FEMA, SHPO, COR3 and PREPA.

- b. The project SOW will not affect water or sewer utility services.
- c. Indicate the prior/current use of the area to be impacted:
  - o Not Applicable. Area is an existing Generation Plant. 100% of the work to be completed will be within the existing and already impacted Generation Plant perimeter.
- d. Explain how materials will be stockpiled and disposed of:
  - o The excess of soil material will be stockpiled temporarily onsite in the staging area or within the Generation Plant. Disposal of soil will be handled as per the Waste Management Plan.
  - o GENERA will provide actual disposal locations and quantities as a Condition of FEMA Record of Environmental Considerations (REC).
- e. Specify final disposition site:
  - o The disposal site will be in an approved location. according to state and federal laws and regulations in an approved facility. Location, quantities, and documentation will be provided at close out.

13. Soil Stabilization measures:

- a. Does the project involve any soil stabilization measures?
  - o No.

XI. Palo Seco Scope of Work - 428 Version 0

Location: Carretera PR-870, Toa Baja, P.R. 00949

Latitude / Longitude: 18.454764, -66.151414

A. Site Description:

Palo Seco is located on the northern coast of Puerto Rico in the Cataño municipality near San Juan and a location with approx. 36 acres lot, and project is approx. 2.5 acres lot (131,912 ft<sup>2</sup>). The Plant consists of four thermal steam units, six Hitachi-GE gas turbines (GTs), and three Pratt & Whitney Power Systems (PWPS) FT8 MOBILEPAC GTs with total nameplate capacity of 809 MW. Palo Seco has been a major generator in the PREPA fleet and continues to serve on a limited basis as current power distribution challenges face the island.

Palo Seco Steam Plant Units 1 and 2 are tangentially fired Combustion Engineering (“CE,” now GE Power), heavy fuel oil-fired (HFO-fired) boilers with reheat and a nameplate capacity of 85 MW each. The units are rated 1450 psi, 1000°F, and the boilers are 857.7 MMBtu/h. Unit 1 began commercial operation in 1960, and Unit 2 began commercial operation in 1961.

Palo Seco Steam Plant Units 3 and 4 are tangentially fired CE HFO-fired boilers with a nameplate capacity of 216 MW each. The steam turbines are rated 1800 psi, and the boilers are 1971 MMBtu/h. Additional details about the boilers and turbines were not provided for review. The units began commercial operation between 1967 and 1968.

There are also three blocks of diesel-fueled gas turbine generators that began commercial operation in 1972 and 1973. Each block is composed of two 21-MW (nominal) Hitachi-GE (PB5341) GT generators. In total, the three blocks have a nameplate capacity of 126 MW.

Each steam turbine generator is connected to the 115-kV switchyard through a dedicated transformer. The gas units are connected in pairs, where each pair shares a step-up transformer connecting them to the 115-kV switchyard.

Three mobile GT units were added to the facility in 2019. The units are trailer-mounted 27-MW (nominal, approximate) PWPS FT8 MOBILEPAC GTs. The units were installed adjacent to the main road and the gas-insulated switchyard (GIS) building and tied into the primary side of the Unit 2 main power transformer. In total, the three mobile GT units have a nameplate capacity of 69 MW.

**For Palo Seco, Genera is accounting for the worst-case scenario, considering the entire marked footprint impacted and underground interconnection. Please refer to the attached General Arrangement. The site is currently under design, and Genera will provide detailed information at the final design stage.**

**B. Boring:**

**Geotech Studies SOW**

- a. Palo Seco (Figure 32):

Boring #	Latitude	Longitude	Diameter(in)	Depth (ft)	Volume (Ft <sup>3</sup> )
B-1	18.45543	-66.15003	4	75	6.54
B-2	18.45479	-66.15007	4	75	6.54
B-3	18.45461	-66.14973	4	75	6.54
B-4	18.45443	-66.15081	4	75	6.54
B-5	18.45446	-66.14942	4	100	8.73
B-6	18.45445	-66.15010	4	100	8.73
B-7	18.45512	-66.15011	4	50	4.36

- b. Equipment:

- ✓ drill rig for subsurface drilling in accordance with ASTM D6151.

- c. Access Roads: All boring have access through the entry point through the existing Palo Seco Power Plant entrance. Main access road is PR-870. Main access road accessible through PR-165.
- d. Vegetation Removal will not be required.

Figure 32 (boring in red dot) (See DR4339 164988-FASSt-Generation Fleet- Vega Baja Cambalache Aguirre Yabucoa Costa Sur Palo Seco- Final 6-21-24.zip)

- e. Boring's location coordinates, equipment to be utilized and access roads submitted. See supporting document:
  - Appendix F BORING ACCESS STAGING AREA PLAN – Palo Seco.xls

### C. Recovery Solution – 428

## BESS Palo Seco - Construction Tasks Description

### 1. Demolition Permits:

- EHP Review/ Environmental Assessment
- Endangered Species Act (ESA) Section 7 Endangered Species Consultation.
- National Historic Preservation Act Consultation (Section 106).
- Rule 141 - Environmental Impact Documentation.
- NPDES Construction General Permit (CGP) for Storm Water Discharges.
- Lead based paint and asbestos removal permit.
- Permiso Unico Incidental (PUI).

### 2. Pre- Demolition Activities:

- Empty Gas Turbine and Generator Systems of liquid and gases.
- Remove and clean surfaces of remaining liquid level and solids of Gas Turbine and Generator Systems.
- Remove liquid fuels, lubricating oils, and other chemicals (if applicable) for all exposed surfaces to remains.
- Perform GPR survey to identify and map existing underground utilities.
- Perform topographic survey.
- Perform geological survey.

### 3. Demolition Electrical:

- Demolition and disposal of three 15kV electrical switchgear for each transformer and pull out any associated underground feeders/wiring.
- Remove all three 13.2kV/480V Pad mounted transformers and pull out any associated underground feeders/wiring.
- Demolition and disposal of three electrical/control room components and pull out any associated underground feeders/wiring.
- Demolition and disposal of three plant battery room components and pull out any associated aboveground and underground feeders/wiring.
- Demolition and disposal of three 15kV electrical bus ducts between generators and 15kV switchgear.

### 4. Demolition Mechanical:

- Remove/dismantle GTs and Generators 1-1,1-2, 2-1, 2-2, 3-1 & 3-2.
- Uncouple/cut and remove above ground piping as much as practical inside the GT and Generator enclosures.

- Remove/uncouple/cut and cap 200ft underground piping.
- Demolish compressed gas station.
- Uncouple/cut and remove 50 ft above ground piping for compressed air.
- Remove/uncouple/cut and cap 65ft underground piping for compressed air.
- Demolish fire protection system.
- Uncouple/cut and remove above ground piping for fire protection.
- Remove/uncouple/cut and cap 100ft underground piping for fire protection.

**5. Demolition Structural:**

- Remove structural steel frames surrounding GTs and generators 1-1, 1-2, 2-1, 2-2, 3-1 & 3-2.
- Demolish all GTs and Generator enclosures.
- Demolition and disposal of three electrical/control rooms for all GTs.
- Demolition and disposal of three plant battery room.
- Demolition and disposal of two storage areas and trailers.
- Demolition of one workshop.
- Demolition of one administrative building.

**6. Material disposal:**

- Removal and segregation of non-regulated waste materials at the designated staging area prior to transporting offsite for disposal.
- Transport nonregulated waste materials to an approved offsite disposal facility.
- Removal and segregation of regulated waste material and transport to an approved offsite disposal facility.

**7. Construction Utilities non-permanent:**

- Provide and install 120V, 240V 208V 3-Phase construction power source.
- Provide and install stepdown transformer and distribution of 480V construction power.
- Provide and install temporary facilities such as bathrooms, hand washing station, breakroom, office space and internet connection.
- Provide and install lighting.

**8. Construction Permits:**

- USEPA non -PSD Applicability Determination.
- DNER – Construction Permit for Air Emissions.
- FAA – Determination of Hazard.
- USEPA – NPDES individual Industrial Wastewater Permit (Amendment to Existing).
- PR Planning Board – Federal Consistency Certification – PR Coastal Zone Management Program.

**9. Construction civil permanent:**

- Preparation of site to accommodate construction equipment.
- Provide and install erosion control system.

- Perform excavation and backfilling.
- Perform site grading for concrete foundations.
- Perform compacting and testing of equipment and road footprint.
- Provide and install site concrete slabs and repairs.
- Provide and install drainage system and interconnection.

**10. Construction structural permanent:**

- Provide and install BESS container **concrete foundations** preparation and setting. 131,912 ft<sup>2</sup> of ground disturbance area.
- Provide and install main power transformer and ancillary equipment **foundation** and setting.
- Provide and install reinforce steel and concrete pouring.
- Provide and install retaining walls.
- Provide and install foundations.
- Provide and install reinforcing steel and concrete pouring.
- Provide and install main power transformer structure.

**11. Construction mechanical permanent:**

- Provide and install fire protection system.
- Provide and install interconnections of fire protection to existing piping.)

**12. Construction electrical permanent:**

- Provide and install underground conduits.
- Provide and install ground grid and testing.
- Provide and install Aux service feeder, transformer wiring, terminations, and commissioning.
- Provide and install medium voltage (MV) transformer.
- Provide and install medium voltage wiring and testing.
- Provide and install site lighting system.
- Provide and install communication cable and testing.
- Provide and install 42 battery packs total 84MW BESS containers delivery, set, and anchoring.
- Provide and install BESS container ground grid tie-in.
- Provide and install HVAC and energize BESS containers.
- Provide and install sub-station modifications and interconnection.
- Perform energization of ancillary equipment.
- Provide and install electrical interconnection of BESS.
- Provide and install new main power transformer and interconnections.
- Provide and install overhead and underground wiring for new transformer interconnections.

**13. Construction testing & commissioning:**

- Perform cables and circuit testing.

- Perform testing of auxiliary components.
- Perform metering and protection system testing and commissioning.
- Perform SCADA and communication point to point testing.
- Perform BESS equipment testing and commissioning – inverters, batteries, integration equipment.
- Perform BESS reactive power, charge, and discharge tests.
- Perform main power transformer testing.
- Perform system startup.

**D. Cost Estimate:**

Item	Topic	Estimated Costs
1	A&E- 335168-FAAsT A&E PREPA <sup>1</sup>	(\$3,866,842.11)
2	84MW BESS Equipment - 673691-FAAsT Equipment and Materials <sup>2</sup>	(\$99,432,480.00)
3	Demolition	\$2,660,000.00
4	Fencing/ Security System	\$156,000.00
5	Foundations	\$9,420,000.00
6	Concrete	\$2,680,000.00
7	Fire Protection	\$504,000.00
8	Transformers (115KV)	\$2,500,000.00
9	BOP Electrical Equipment & BESS Installation	\$20,000,000.00
10	Raceway, Cable Tray, Conduits	\$1,420,000.00
11	Electrical Interconnection to Switchyard and Tests	\$615,000.00
12	Controls & Instrumentation	\$336,000.00
13	Construction & Project Management	\$6,650,000.00
<b>(Equipment and A&amp;E not included) TO TAL</b>		<b>\$46,941,000.00</b>

<sup>1</sup> Cost included in Project 335168- FAAsT A&E PREPA.

<sup>2</sup> Cost included in Project 673691- FAAsT Equipment & Materials

**E. Environmental & Historic Preservation (“EHP”) Requirement:**

1. Other than design, planning and non-destructive due diligence studies, no construction work will commence prior to the issuance of specific expressed written FEMA approval for the specific Scope of Work. FEMA- required EHP compliance review will precede the execution of each proposed Scope of Work submitted by PREPA, through its agent Genera PR, to FEMA. PREPA, through its agent Genera PR, is aware of its responsibility for coordinating, notifying, obtaining permits, an complying with applicable federal, state, and local laws, regulations, and executive orders and understands that failure to comply with EHP requirements may jeopardize FEMA funding.

2. See the following for general methods of construction and list of equipment to be used:

a. Battery Energy Storage System (BESS) Construction Methodology ground disturbance:

- Excavate/strip, salvage, and stockpile topsoil in an environmentally appropriate manner to prevent soil contamination. Excavation/stripping limits shall be as shown on design drawings.
- Excavate to the extents and depths.
- Pile, drill for foundations construction.
- Suitable subgrade material will be utilized for construction.
- Unsuitable material shall be disposed of at an approved location notified to FEMA at close-out.
- Scarify, compact subgrade, and complete proctor testing to ensure compaction spec is met.
- Install geosynthetic materials.
- Place and compact pit run gravels.
- Install ground grid and insulated gravel.

- o Excavate contours, ditches, and drainage.
  - o Place topsoil (from stockpile) and seed.
  - o Install permanent erosion control and protection measures.
  - o Complete activities for the construction of the concrete pads.
- b. Miscellaneous Civil works. The work includes the following activities:
- o Isolated repairs or maintenance activities for pads, access roads, drainage systems.
- c. Concrete foundations, complete all work related to the installation of concrete foundations. The work includes the following activities:
- o Cast-in-place shallow and deep foundations.
  - o Prefabricated concrete foundations.
  - o Supply of third-party concrete testing.
- b. Demolition & Salvage:
- o Complete testing for any containments or hazardous waste.
  - o All contaminated materials will be delivered to the approved waste disposal as per state and federal laws and regulations.
  - o Multiple bins will be available onsite to sort the debris (i.e., Metal, Wood, General Waste). The equipment to be salvaged, it will be loaded and removed from the site.
  - o All debris will be taken to the approved waste disposal facility site location permits and supporting documentation will be provided at close-out.
  - o While completing all demolition activities, a water source will be onsite to mitigate dust.
  - o Waste bins will be emptied regularly.
3. List of Contractor Equipment to be used are following:
- o Excavator
  - o Crawler Crane
  - o Semi-truck with low-bed trailer
  - o Man lift.
  - o Bucket Truck
  - o Dump Truck
4. Source of fill, gravel, sand, aggregates.
5. Removal of vegetation
- a. Not Applicable.
6. Location of access roads:
- o Entry point through existing AguirrePower plant main entrance. Main access road is Calle Caracol. Enter through Calle 9, connecting road is PR-705. Refer to Appendix F BORING ACCESS STAGING AREA PLAN - Palo Seco (Figure 33)

*ENTRY LOCATION (COORDINATES-5 DECIMAL DEGREES)		NEW (Orange Line) EXISTING (Yellow Line)	TEMPORARY / PERMANENT	PAVED / UNPAVED	POTENTIAL IM-PACT AREA (SQ. FT.) (Blue Poly- gon)
LATITUDE	LONGITUDE				
18.4551	-66.15181	EXISTING	PERMANENT	PAVED	N/A

Figure 33 (access road)

**Note: No temporary road will be required for this project.**

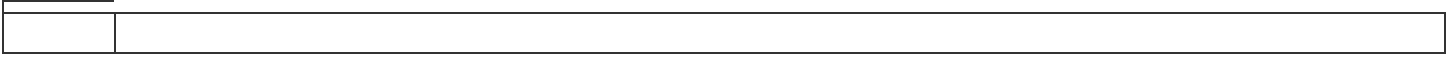
7. Type of debris:
- a. The type of debris that may be found:
- o in the process of demolition are concrete,
  - o metal scrap,
  - o domestic waste,
  - o wood.
- b. The debris will be separated and taken to an approved waste disposal facility. Location permits and supporting documentation will be provided at close-out.

8. Description of Staging Area:

The staging area will be located inside the premises of the Palo Seco Power Plant and will serve as an assembly point for all the materials to be installed. Occupies area

in the northeast part of the property (Figure 34, in red) coordinates (18.454421,-66.150170 ). A new temporary fence will be installed. No demolition or ground disturbance is required. If an additional temporary staging area is required, it will be informed and reported accordingly.

**Figure 34 Location of Staging area. (See DR4339 164988-FASSt-Generation Fleet- Vega Baja Cambalache Aguirre Yabucoa Costa Sur Palo Seco- Final 6-21 24.zip)**



9. Hazardous Material:

- a. Describe the activity and the hazardous material involved. Calculate the quantity to be generated or disposed and include the management and disposal plan.
  - o The identified materials that can potentially be found in the Generation Plant are asbestos, PCBs, lead, SF6 gas, oil from the transformer & breakers, diesel, and sealants. These contaminants will be handled and disposed of as per the State and federal laws and regulations.
  - o GENERA will provide actual disposal locations, permit quantities and supporting documentation as a Condition of FEMA Record of Environmental Considerations (REC).
  - o These products and their residues will be stored in special covered areas for disposal by an authorized company and provided with temporary spill controls until collected. All paint containers and curing compounds will be tightly sealed and stored when not in use. Excess paint will not be discharged to the storm system, properly disposed, according to the manufacturer's instructions.
- b. The project that includes building demolition with asbestos will provide a copy of the DNER approved plan or evidence of plan submission.
  - o In case the presence of asbestos is confirmed in the building to be demolished, GENERA will follow all permits protocols required by law to properly dispose of the hazardous materials from the premises. GENERA will provide evidence of the plan submission as a condition of FEMA Record of Environmental Considerations (REC).
- c. Disposal of damaged transformers or wood poles with creosote, Genera will include the management and disposal plan. The plan must include the final disposition site.
  - o Transformers and pole disposal will be managed as per the Waste Disposal Management Plan. GENERA will provide actual disposal locations and quantities as a Condition of FEMA Record of Environmental Considerations.
  - o The removal of the transformer will require testing of the existing oil for PCB's levels, drain oil, and delivery to the approved waste disposal site as per Environmental Regulations.
  - o Removal of wood poles with creosote treatment will be managed according state and federal regulations.

10. Water Crossings:

- a. Specify if the project will affect a waterway or body of water.
  - o No.
  - o There are no wetlands near the impact area (Figures 35 shown in red).

**Figure 35 (See DR4339 164988-FASSt-Generation Fleet- Vega Baja Cambalache Aguirre Yabucoa Costa Sur Palo Seco- Final 6-21-24.zip)**

**Scope of equipment repair/replacement and potential staging areas are outside any wetland zones.**

- b. Modification of a body of water or wetland: Does the project require dredging, excavation, disposal of material, adding fill material that might result in any modification of a body of water or wetland designated as "waters of the U.S."?
  - o Not Applicable.
- c. Does the project alter a watercourse, water flow patterns, or a drainage way, regardless of its floodplain designation?
  - o Not Applicable.
- d. Flood zone: Is the project located in a flood zone, floodway or will it have a negative impact on the flood zone?
  - o Part of the Generation Plant is in Flood Zone A according to the ABFE. However, the project area is NOT in the flood zone. The project will have no negative impact on the flood zone. (See Figure 36)

- As a mitigation site concrete pad will be elevated 2ft above flood water level.
- In accordance with the updated version of FEMA Region II Memorandum, dated October 10, 2017, Guidance for the use of Available Flood Hazard Information for the Government of Puerto Rico in complying with FEMA Policy 104-008-2, 44 CFR Part 9, and Executive Order 11988 (Floodplain Management). All hazard mitigation proposals under alternative procedures must be designed using the best available flood hazard data and in compliance with applicable regulations and policy.

Figure 36 (ABFE Zone) (See DR4339 164988-FASSt-Generation Fleet- Vega Baja Cambalache Aguirre Yabucoa Costa Sur Palo Seco- Final 6-21-24.zip)

11. Structure Age:

- a. Provide the construction date of any buildings or structures within the project. Include those near the project.
  - Palo Seco Power Plant was built in 1960.
- b. Provide date and information of any prior repairs, remodeling, and/or rehabilitation of the property. Include current and previous use of building or structure.
  - The project area has been used for the peaking unit's operation since its installation in 2019.
- c. Include plans, drawings, blueprints, any architectural documentation available for new construction or substantial improvements regardless of the age of the building or structure.
  - Refer to Palo Seco ESK7-0002-01.pdf and Palo Seco ESK7-0002-02.pdf

12. Ground Disturbance:

- a. Provide a description of the new ground disturbance by giving the dimensions (area, depth, volume, etc.), if any. Include an aerial photo map showing the extent of the disturbance with coordinates.
  - Top-soil stripping will occur within the construction area.
  - See Palo Seco BESS boring plan – Refer Appendix F BORING ACCESS STAGING AREA PLAN - Palo Seco.
  - Cable trenching will occur within the Generation site up to 10ft deep. The undergrounding will require 122,015.85 CU.FT. of excavation. Refer to Appendix F BORING ACCESS STAGING AREA PLAN - Palo Seco.
  - Ground disturbance will occur at 4 feet deep for the construction of concrete pads requiring 211,286.90 CU.FT. of excavation. For details of construction, refer to Appendix F BORING ACCESS STAGING AREA PLAN - Palo Seco.

Ground Disturbance	Latitude	Longitude	Depth (FT)	Volume (FT³)
BESS Equipment Pads	18.45530	-66.14803	4	211,286.90
Electrical Duct Bank	18.45530	-66.14803	10	122,015.85

- GENERA has reviewed the Archaeological GIS layers provided by the Puerto Rico Planning Board and confirmed no previous features in the project area. Any features discovered during construction will be managed in accordance with Section 106 Project Specific Programmatic agreement among FEMA, COR 3 and PREPA.
- b. The project SOW will not affect water or sewer utility services.
- c. Indicates the prior/current use of the area to be impacted:
  - Not Applicable. Area is an existing Generation Plant. 100% of the work to be completed will be within the existing and already impacted Generation Plant perimeter.
- d. Explain how materials will be stockpiled and disposed of:
  - The excess of soil material will be stockpiled temporarily onsite in the staging area or within the Generation Plant. Disposal of soil will be managed as per estate and federal laws and regulations.
  - GENERA will provide actual disposal locations and quantities as a Condition of FEMA Record of Environmental Considerations (REC).
- e. Specify disposition site:
  - The disposal of materials will be managed as per the State and federal regulations regarding the site's location. Location, Permits and support documentation will be provided to FEMA at close-out.

13. Soil Stabilization measures:

- a. Does the project involve any soil stabilization measures?
  - No.

**FEMA Cost Estimate Summary Version 0:**

**Work to be Completed (WIBC): \$767,392,662.53**

**[335168] FAASt Global A&E PREPA: \$22,722,412.53**

**[673691] FAASt Equipment and Materials: \$508,999,600.00**

**Project Total Cost: \$235,670,650.00**

**Project Notes:**

1. For additional scope of work and cost estimate information please refer to uploaded document: *164988-FAASt-Generation Fleet- Vega Baja Cambalache Aguirre Yabucoa Costa Sur Palo Seco- Final 7-29-24-EHP rev.pdf*.
2. This project is part of a FAASt project, please reference project 136271.
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 Materials costs are deducted given an additional project capturing those costs. Please see project: (673691 - FAASt Equipment and Materials).

**406 HMP Scope**

7/3/2024: 406 Hazard Mitigation measures were not requested by the sub-applicant 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.

Note: FEMA agreed with the strategy requested by the sub-applicant, to present different versions for individual sites, using the latest version to relocate the works considered as a mitigation measure. However, 406 HM comments will be included in the draft of the DSOW for reference that the project was preliminarily evaluated by the 406 HM team.

## Cost

Code	Quantity	Unit	Total Cost	Section
9001 (9001 (v0 Contract - PREPA 673691-FAASt Equipment and Materials- PW10710))	1.00	Lump Sum	(\$508,999,600.00)	Uncompleted
3510 (3510 (v0 Engineering and Design Services, Deduction - PREPA FAASt Global A&E 335168))	1.00	Lump Sum	(\$22,722,412.53)	Uncompleted
9001 (9001 (v0 Contract - PREPA FAASt Donor Project 136271))	1.00	Lump Sum	\$767,392,662.53	Uncompleted

CRC Gross Cost \$235,670,650.00

Total 406 HMP Cost \$0.00

Total Insurance Reductions \$0.00

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CRC Net Cost \$235,670,650.00

Federal Share (90.00%) \$212,103,585.00

Non-Federal Share (10.00%) \$23,567,065.00

## Award Information

### Version Information

Version #	Eligibility Status	Current Location	Bundle Number	Project Amount	Cost Share	Federal Share Obligated	Date Obligated
0	Pending	In Review		\$235,670,650.00	90%	\$0.00	

### 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	9/18/2024	\$212,103,585.00	90%	Accepted	4339DRPRP00118551

## 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.
- 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.
- 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.
- 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.
- The Subrecipient provided the estimate for this PW. FEMA validated the estimate and found it to be reasonable for the work to be performed.
- Pursuant to section 312 of the Stafford Act, 42 U.S.C. 5155, FEMA is prohibited from providing financial assistance to any entity that receives assistance from another program, insurance, or any other source for the same work. The subrecipient agrees to repay all duplicated assistance to FEMA if they receive assistance for the same work from another Federal agency, insurance, or any other source. If an subrecipient receives funding from another federal program for the same purpose, it must notify FEMA through the Recipient and return any duplicated funding.

## Insurance

### Additional Information

**8/12/2024**

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.**

**7/9/2024**

### **GENERAL INFORMATION**

Event: DR4339-PR

Project: SP 164988

Category of Work: Cat F - Utilities

Applicant: PR Electric Power Authority

Event Type: Hurricane / Hurricane Maria

Cause of Loss: Wind / Wind Driven Rain

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

Total Public Assistance Amount: CRC Gross Cost \$235,670,650.00

**COMMERCIAL INSURANCE INFORMATION**

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

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

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

Mapfre Praico Insurance Company (1398178000644)

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

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

Policy Limits: \$300,000,000.00

RCV or ACV: Replacement Cost Value

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

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

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

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

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

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

**NUMBER OF DAMAGED LOCATIONS INCLUDED IN THIS PROJECT: (6)**

**Damaged Inventory (DI) #424905:**

**FAASt New Black Start System at Costa Sur**

Location Description: Black Start System at Costa Sur

GPS Coordinates: 18.00079, -66.75273

Cause of Loss: Wind / Wind Driven Rain

SOV / Schedule #: "Costa Sur Steam Plant"

SOV / Schedule Amount: \$1,350,000,000.00

Applicable Deductible Amount: \$25,000,000.00

Damage Inventory Amount: CRC Gross Cost \$235,670,650.00

-

**Vega Baja**

Location Description: Vega Baja

GPS Coordinates: 18.446230, -66.392561

Cause of Loss: Wind / Wind Driven Rain

SOV / Schedule #: As per policy

SOV / Schedule Amount: As per policy

Applicable Deductible Amount: \$25,000,000.00

Damage Inventory Amount: CRC Gross Cost \$24,845,000.00

Prior Obtain and Maintain Requirement:

No prior insurance requirements were found for this facility.

-

Reduction(s):

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

Obtain and Maintain Requirement:

An Obtain & Maintain Requirement is being required for Equipment, for the peril of Wind (all wind associated losses including "wind driven rain" for the FAAST New Black Start System at Vega Baja in the amount of \$20,525,000.00 (CRC Gross Cost \$24,845,000.00 – Uninsurable Items \$4,320,000.00). Please see "SP164988 – Cost Estimate – Insurance" file.

The cost estimate provided by the Applicant did not provide a cost breakdown per item.

**Cambalache**

Location Description: Cambalache

GPS Coordinates: 18.470985, -66.699693

Cause of Loss: Wind / Wind Driven Rain

SOV / Schedule #: "Cambalache Steam Plant"

SOV / Schedule Amount: \$331,000,000.00

Applicable Deductible Amount: \$25,000,000.00

Damage Inventory Amount: CRC Gross Cost \$36,994,200.00

Prior Obtain and Maintain Requirement:

No prior insurance requirements were found for this facility.

-

Reduction(s):

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

-

Obtain and Maintain Requirement:

An Obtain & Maintain Requirement is being required for Equipment, for the peril of Wind (all wind associated losses including "wind driven rain" for the FAASt New Black Start System at Cambalache in the amount of \$27,718,200.00 (CRC Gross Cost \$36,994,200.00 – Uninsurable Items \$9,276,000.00). Please see "SP164988 – Cost Estimate – Insurance" file.

The cost estimate provided by the Applicant did not provide a cost breakdown per item.

**Aguirre**

Location Description: Aguirre

GPS Coordinates: 17.951690, -66.229675

Cause of Loss: Wind / Wind Driven Rain

SOV / Schedule #: "Aguirre Steam Plant"

SOV / Schedule Amount: \$1,118,000,000.00

Applicable Deductible Amount: \$25,000,000.00

Damage Inventory Amount: CRC Gross Cost \$82,662,150.00

Prior Obtain and Maintain Requirement:

No prior insurance requirements were found for this facility.

-

Reduction(s):

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

-

Obtain and Maintain Requirement:

An Obtain & Maintain Requirement is being required for Equipment, for the peril of Wind (all wind associated losses including "wind driven rain" for the FAASt New Black Start System at Aguirre in the amount of \$52,932,150.00 (CRC Gross Cost \$82,662,150.00 – Uninsurable Items \$29,730,000.00). Please see "SP164988 – Cost Estimate – Insurance" file.

The cost estimate provided by the Applicant did not provide a cost breakdown per item.

**Yabucoa**

Location Description: Yabucoa

GPS Coordinates: 18.106216, -65.823685

Cause of Loss: Wind / Wind Driven Rain

SOV / Schedule #: As per policy

SOV / Schedule Amount: As per policy

Applicable Deductible Amount: \$25,000,000.00

Damage Inventory Amount: CRC Gross Cost \$22,037,350.00

Prior Obtain and Maintain Requirement:

No prior insurance requirements were found for this facility.

-

Reduction(s):

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

-

Obtain and Maintain Requirement:

An Obtain & Maintain Requirement is being required for Equipment, for the peril of Wind (all wind associated losses including "wind driven rain" for the FAAST New Black Start System at Yabucoa in the amount of \$13,693,350.00 (CRC Gross Cost \$22,037,350.00 – Uninsurable Items \$8,344,000.00). Please see "SP164988 – Cost Estimate – Insurance" file.

The cost estimate provided by the Applicant did not provide a cost breakdown per item.

**Costa Sur**

Location Description: Costa Sur

GPS Coordinates: 18.000463, -66.753480

Cause of Loss: Wind / Wind Driven Rain

SOV / Schedule #: "Costa Sur Steam Plant"

SOV / Schedule Amount: \$1,350,000,000.00

Applicable Deductible Amount: \$25,000,000.00

Damage Inventory Amount: CRC Gross Cost \$22,190,950.00

Prior Obtain and Maintain Requirement:

No prior insurance requirements were found for this facility.

-

Reduction(s):

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

-

Obtain and Maintain Requirement:

An Obtain & Maintain Requirement is being required for Equipment, for the peril of Wind (all wind associated losses including "wind driven rain" for the FAAST New Black Start System at Costa Sur in the amount of \$13,406,950.00 (CRC Gross Cost \$22,190,950.00 – Uninsurable Items \$8,784,000.00). Please see "SP164988 – Cost Estimate – Insurance" file.

The cost estimate provided by the Applicant did not provide a cost breakdown per item.

## **Palo Seco**

Location Description: Palo Seco

GPS Coordinates: 18.455569, -66.148590

Cause of Loss: Wind / Wind Driven Rain

SOV / Schedule #: "Palo Seco Steam Plant"

SOV / Schedule Amount: \$1,047,000,000.00

Applicable Deductible Amount: \$25,000,000.00

Damage Inventory Amount: CRC Gross Cost \$46,941,000.00

### Prior Obtain and Maintain Requirement:

No prior insurance requirements were found for this facility.

-

### Reduction(s):

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

-

### Obtain and Maintain Requirement:

An Obtain & Maintain Requirement is being required for Equipment, for the peril of Wind (all wind associated losses including "wind driven rain" for the FFAST New Black Start System at Palo Seco in the amount of \$33,265,000.00 (CRC Gross Cost \$46,941,000.00 – Uninsurable Items \$13,676,000.00). Please see "SP164988 – Cost Estimate – Insurance" file.

The cost estimate provided by the Applicant did not provide a cost breakdown per item.

### Insurance Proceeds Statement:

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

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

### Standard Insurance Comments

#### FEMA Policy 206-086-1

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

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

1. Before FEMA approves assistance for a property, an applicant must provide FEMA with information about any actual or anticipated insurance settlement or recovery it is entitled to for that property.
2. FEMA will reduce assistance to an applicant by the amount of its actual or anticipated insurance proceeds.

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

...

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

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

-

#### **FEMA Policy 206-086-1**

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

1. If the applicant failed to maintain the required insurance from the previous disaster, then the facility is not eligible for assistance in any subsequent disaster.
2. Upon proof that the applicant maintained its required insurance, FEMA will reduce assistance in the subsequent disaster by the amount of insurance required in the previous disaster regardless of:
  - a. The amount of any deductible or self-insured retention the applicant assumed (i.e., "retained risk").

...

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

#### **Obtain and Maintain Requirements:**

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

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

(b)

(1) Assistance under section 406 of the Stafford Act will be approved only on the condition that the recipient obtain and maintain such types and amounts of insurance as are reasonable and necessary to protect against future loss to such property from the types of hazard which caused the major disaster. The extent of insurance to be required will be based on the eligible damage that was incurred to the damaged facility as a result of the major disaster. The Regional Administrator shall not require greater types and extent of insurance than are certified as reasonable by the State Insurance Commissioner.

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

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

(d) The requirements of section 311 of the Stafford Act are waived when eligible costs for an insurable facility do not exceed \$5,000.00. The Regional Administrator may establish a higher waiver amount based on hazard mitigation initiatives which reduce the risk of future damages by a disaster similar to the one which resulted in the major disaster declaration which is the basis for the application for disaster assistance.

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

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

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

#### **FEMA Policy 206-086-1**

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

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

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

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

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

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

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

### O&M Requirements

Insured Peril	Item Type	Description	Required Coverage Amount
Wind	Equipment	An Obtain & Maintain Requirement is being required for Equipment, for the peril of Wind (all wind associated losses including "wind driven rain" for the FAASt New Black Start System at Vega Baja in the amount of \$20,525,000.00.	\$20,525,000.00
Wind	Equipment	An Obtain & Maintain Requirement is being required for Equipment, for the peril of Wind (all wind associated losses including "wind driven rain" for the FAASt New Black Start System at Cambalache in the amount of \$27,718,200.00.	\$27,718,200.00
Wind	Equipment	An Obtain & Maintain Requirement is being required for Equipment, for the peril of Wind (all wind associated losses including "wind driven rain" for the FAASt New Black Start System at Aguirre in the amount of \$52,932,150.00.	\$52,932,150.00
Wind	Equipment	An Obtain & Maintain Requirement is being required for Equipment, for the peril of Wind (all wind associated losses including "wind driven rain" for the FAASt New Black Start System at Yabucoa in the amount of \$13,693,350.00.	\$13,693,350.00
Wind	Equipment	An Obtain & Maintain Requirement is being required for Equipment, for the peril of Wind (all wind associated losses including "wind driven rain" for the FAASt New Black Start System at Costa Sur in the amount of \$13,406,950.00.	\$13,406,950.00
Wind	Equipment	An Obtain & Maintain Requirement is being required for Equipment, for the peril of Wind (all wind associated losses including "wind driven rain" for the FAASt New Black Start System at Palo Seco in the amount of \$33,265,000.00.	\$33,265,000.00

### 406 Mitigation

There is no additional mitigation information on **FAASt Generation Fleet Project (Generation)**.

### 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 - For Aguirre, Cambalache, Vega Baja, Costa Sur, and Palo Seco: 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.
- Clean Air Act (CAA) - For Cambalache, Aguirre and Palo Seco sites: The Applicant is responsible for providing a Source of Emission Permit (PFE) from the Puerto Rico Department of Natural and Environmental Resources (PR DNER), or any coordination (emails, letters, documented calls) pertaining to these activities and compliance must be documented and maintained in the Applicant's permanent files. Applicant shall

identify, handle, transport, and dispose of hazardous materials and/or toxic waste in accordance with Puerto Rico Department of Natural and Environmental Resources (PRDNER) requirements including completing required notifications of the permit.

- National Historic Preservation Act (NHPA) - 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.
- Resource Conservation and Recovery Act, aka Solid Waste Disposal Act (RCRA) - a. 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. b. 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. c. 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.
- NEPA Determination - 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 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. 2. 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 Generation Fleet Project (Generation)**.

## Final Reviews

### Final Review

**Reviewed By** Amaro, Luis N.

**Reviewed On** 08/29/2024 2:02 PM AST

#### Review Comments

LNA 08/29/24. 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** 08/29/2024 3:22 PM AST

#### 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

**Signed By** Sanchez, Maria

**Signed On** 08/29/2024