



**Consultancy Services for the Acquisition of
ENVIRONMENTAL COMPLIANCE CERTIFICATE FOR THE PROPOSED
CONSTRUCTION AND OPERATION OF A 600 MW LNG COMBINED CYCLE
POWER PLANT PROJECT IN BRGY. TUGAS, TABANGO, LEYTE**

REQUEST FOR SCOPING

December 2021

PRESTIGE POWER RESOURCES, INC.



4. PROJECT DESCRIPTION FOR PUBLIC SCOPING

4 PROJECT DESCRIPTION

4.1 BASIC PROJECT INFORMATION

4.1.1 Project Information

Name of Project : 600 MW LNG Combined Cycle Power Plant Project
Location : Brgy. Tugas, Tabango, Leyte
Nature of Project : Power Plant
Size/Scale : 26 hectares – property coverage
600 MW – rated capacity

4.1.2 Name and Address of Proponent

Proponent : Prestige Power Resources Inc., subsidiary of SMC Global Power Holdings Corporation
Address : 155 Epifanio de los Santos Avenue, Barangay Wack Wack, Mandaluyong, 1555
Contact Person : Engr. Lauro Andrade, Engineer-In-Charge of Project
Contact Number : (02) 8667 5000

4.1.3 EIA Preparer

Preparer : CEST, Incorporated
Address : Unit 1404 Prestige Tower, F. Ortigas Jr. Ave., Ortigas Center, Pasig City
Contact Person : Leila L. Flores, Chief Operating Officer
Edna Cruz-Bayan, Acting Vice-President for Business Development - Government Accounts and Head of Solid Waste Management Team, Project Team Member – Environmental Specialist
Contact Number : (632) 631-7520 to 21

4.2 PROJECT DESCRIPTION

4.2.1 Project Location

The Project is located in the province of Leyte, particularly in the municipality of Tabango. Leyte is composed of 5 congressional districts, 40 municipalities and 3 cities namely, Baybay City, Ormoc City and Tacloban City. Leyte province has a total of 1,641 barangays. See **Figure 4.2-1** for the location map of the project site.



Figure 4.2-1: Location Map of the Project

Leyte is the largest out of the six provinces in the Eastern Visayas Region. The province is bounded by the Carigara Bay in the north, by the Leyte Gulf in the east, by the Camotes Sea in the west and by the province of Southern Leyte in the south.

The terrain of Leyte is mountainous and a very rugged range cuts the island in half from northwest to southeast.

Tabango is a fourth-class municipality located at the northwest portion of Leyte province. The municipality is bounded by the municipality of San Isidro in the north, the municipality of Leyte in the east, the Visayan Sea in the west, and by the municipality of Villaba in the south.

Tabango is composed of 2 urban and 11 rural barangays. The proposed project is situated in Barangay Tugas which is a rural barangay and has a population of 1,001 based on the 2020 Census of Population and Housing conducted by the Philippine Statistics Authority.

- D. Steam Turbine - The steam generated by HRSG will be used to rotate the steam turbine blades thus drives a generator that converts the energy into electricity (combined cycle).
- E. Generator – This is an electrical equipment that converts the mechanical energy of the gas turbine into electrical energy.
- F. Transformer – A transformer is an electrical device that trades voltage for current in a circuit, while not affecting the total electrical power. This means it takes high-voltage electricity with a small current and changes it into low voltage electricity with a large current, or vice versa.
- G. Condenser and Cooling system - Condenser and its cooling system is required in a steam turbine operation in order to have recirculation of the demineralized water and primarily to save on demineralized water requirement. Steam from the steam turbine is condensed at the condenser where the cooling medium, in this proposed power plant, is seawater.
- H. Interconnection Facility - The facilities shall transmit all generated power of the power plant to transmission grid for power distribution. It is composed of switchyard either 230kV or 500kV capacity and interconnection line that connects the power plant to the grid substation.
- I. Jetty/Mooring & LNG Receiving Facilities - This facility shall receive incoming delivery of LNG vessel via sea and will be transfer to on-shore LNG Tanks.
- J. On-Shore LNG Storage & Regasification Facility - From the Jetty, the LNG shall be stored in on-shore LNG tank where the regasification process is done to meet gas turbine requirement and specifications.

Support Facilities

Water Treatment Plant - Water treatment shall process and improves the quality of water to make it appropriate for a specific end-use. Water treatment removes contaminants and undesirable components or reduces their concentration so that the water becomes fit for its desired end-use.

Pollution Control Facilities

Wastewater Treatment Plant - The system shall treat all the identified wastewater generation from plant processes to comply with the existing effluent standards.

Other Facilities

- Control Room Building
- Administration Building
- Maintenance Building
- Staff House Building

The site development plan of the project is shown in Figure 4.2-4.

PPRI will have a lease agreement with East Genesis Landholdings Inc. (owner) covering about 26.0 hectares as shown in Figure 4.2-1. Topographic map of the project site is shown in Figure 4.2-2.

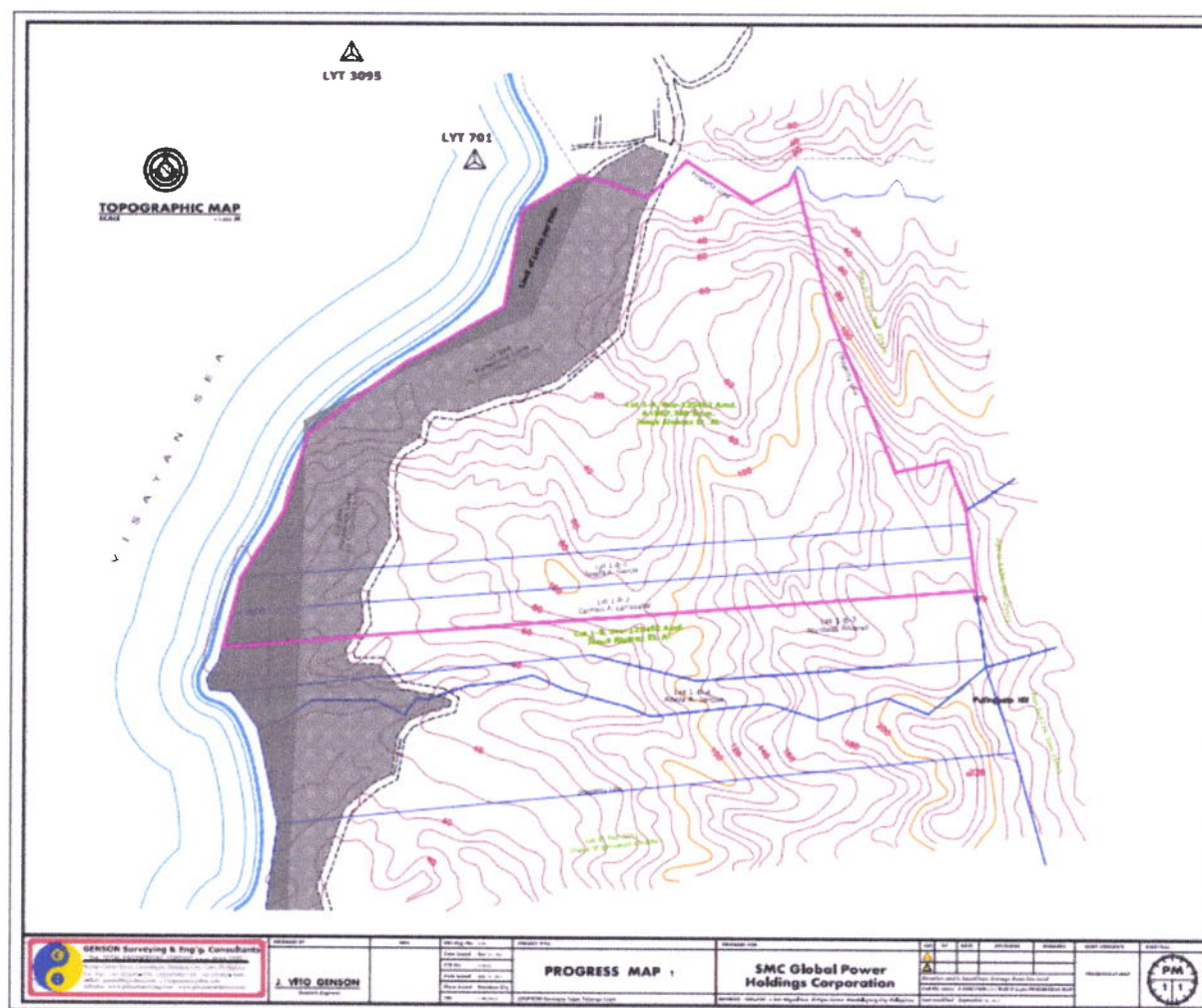


Figure 4.2-3 Topographic Map of the Project Area

4.2.2 Project Rationale/Objectives

The country's electricity demand is projected to grow by approximately 5% per year and will eventually reach 49,287 MW by year 2040 according to the Power Development Plan (PDP) 2017-2040 of the Department of Energy. To meet this projected demand, an additional 43,765 MW is required to come online as of 2016. The DOE welcomes all types of power generation technologies as long as they are reliable, efficient, and cost-effective.

Prestige Power Resources Inc. ("PPRI") aims to contribute 600 MW to the grid as a baseload power plant. As required by DOE, the proponent will develop a reliable, efficient, and cost-effective energy source. PPRI proposes to use LNG – the cleanest of all fossil fuels to provide energy in a manner that is safe to the environment.

4.2.3 Project Components

Prestige Power Resources Inc. ("PPRI") aims to construct and operate a Combined Cycle Power Plant in Brgy. Tugas, Tabango Leyte. A combined cycle power plant converts energy resident in natural gas/oil to electricity. The combination of a combustion turbine in water/steam cycle uses the Brayton Cycle Principle as presented in **Figure 4.2-3**. The rated capacity of the proposed power plant is 600 MW and will be built within the 56.769-hectare property owned by East Genesis Landholding Inc.

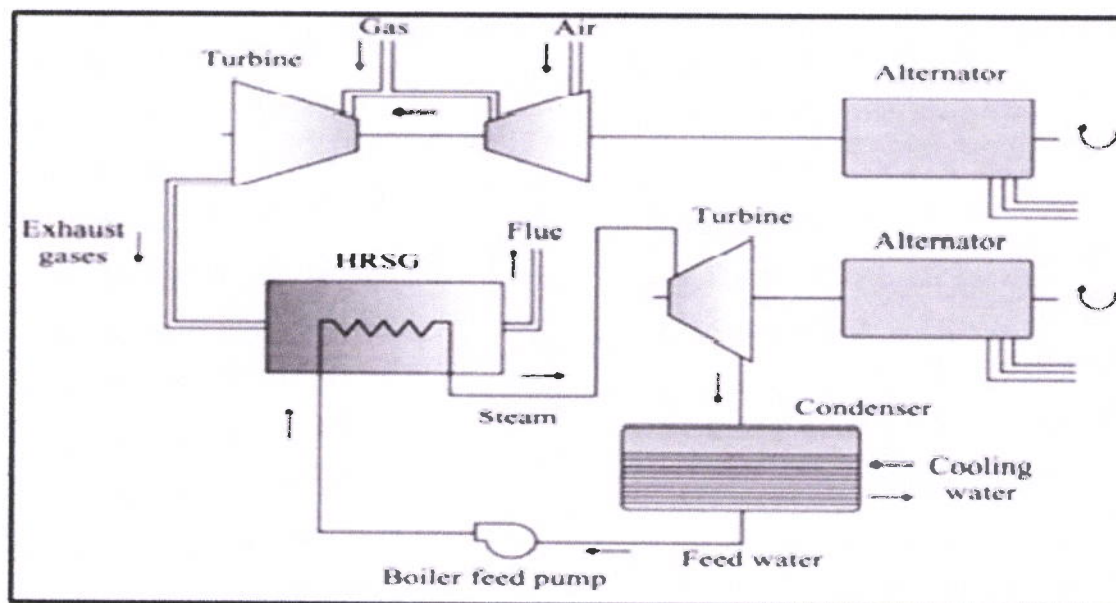


Figure 4.2-3: Combined Cycle Power Plant Process

The major components as well as the auxiliary facilities and pollution control devices for the proposed project are summarized in below.

Main Project Components

- A. Gas Turbine - Gas turbine is a combustion engine that heats a mixture of air and fuel at very high temperatures, causing the turbine blades to spin. The spinning turbine drives a generator that converts the energy into electricity.
- B. Compressor - The compressor section of the gas turbine draws air into the engine, pressurizes it, and feeds the correct amount of air required into the combustion burners of the gas turbine. Since gas turbine and compressor are installed in a single shaft, manufacturer/brand of these major equipment are the same.
- C. Heat Recovery Steam Generator (HRSG) – A heat recovery steam generator (HRSG) is an energy recovery heat exchanger that recovers heat from a hot gas stream, such as a Gas turbine or other waste gas steam. The hot gas stream shall produce steam that will drive the steam turbine.

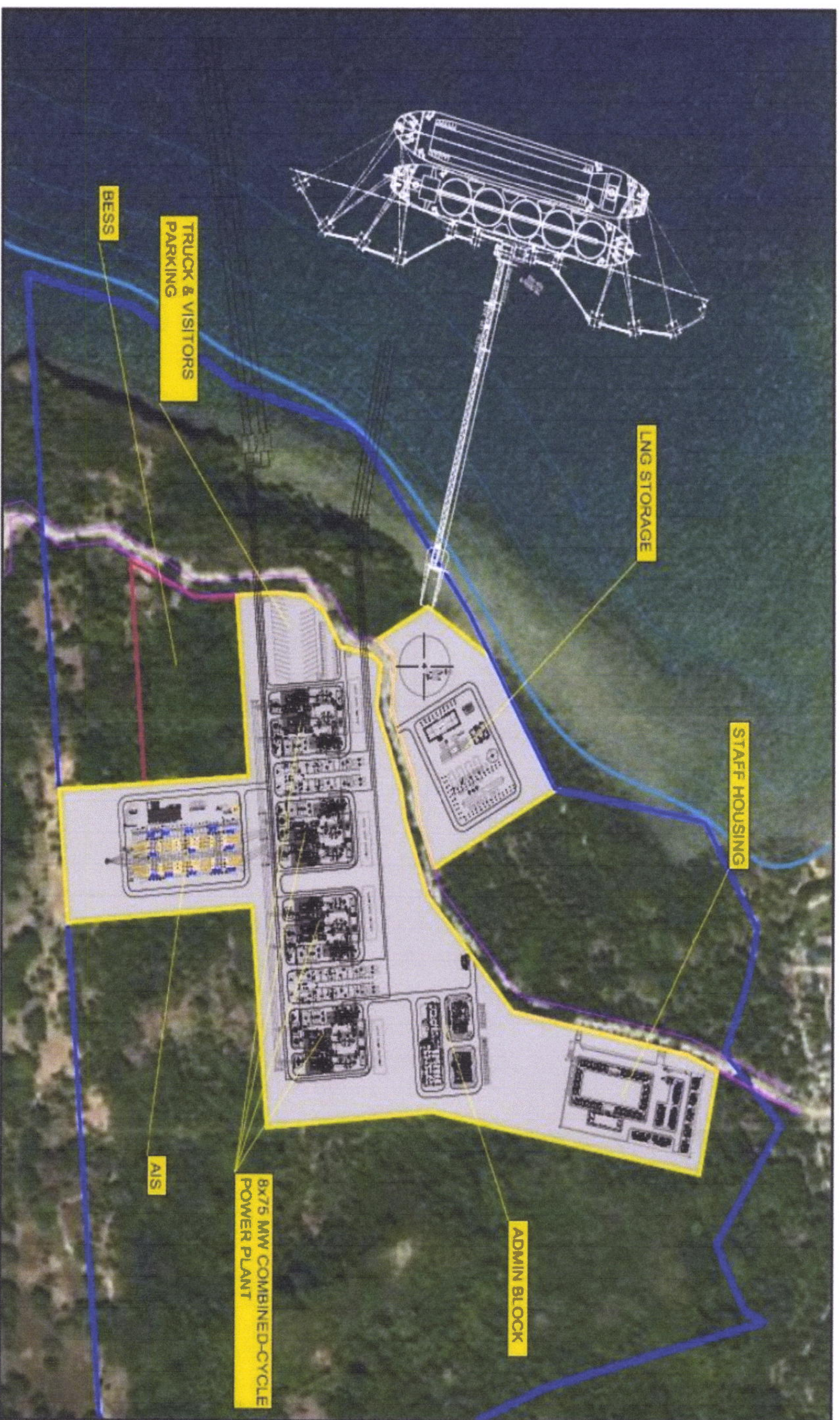


Figure 4.2-3 Site Development Plan of the Project

4.2.4 Project Phases, Key Environmental Aspects, Wastes, Issues, Built-In Measures

The 600 MW LNG Combined Cycle Power Plant was proposed to contribute 600 MW to the grid as a baseload power plant. The power plant will be constructed in Barangay Tugas in the municipality of Tabango in Leyte province.

Some of the preliminary environmental impacts identified are discussed below.

Environmental Impacts

Disturbance to wildlife due to vegetation clearing: Site clearing and earthwork activities will result in ecological impacts during the construction of the power plant. The following are the mitigation measures that will be included: compliance with the conditions of DENR/LGU with regards to tree cutting, to limit land clearing as much as possible, provide temporary fencing for vegetation that will be retained and promote restoration of damaged or destroyed vegetation where possible such as tree planting among others.

Soil/land contamination due to improper solid waste disposal: To ensure the insignificance of pollution of soil, ground water and surface water by human and construction wastes, effective waste management measures and practices will be prescribed in the contracts. The measures and practices may include: implementation of the Ecological Solid Waste Management Plan (ESWMP), implement re-use and recycling of waste materials, implement proper segregation, collection and disposal of domestic wastes in designated areas and provide receptacles / bins for solid wastes.

Soil erosion and degradation: Earthmoving activities at the power plant will expose surfaces which may lead to extensive erosion during the rainy season. The stockpile of materials to be used for construction will likewise be subjected to erosion. To ensure minimum soil erosion and degradation, effective mitigation measures and sound environmental management practices will be specified in the contracts. During construction phase, proper materials handling shall be observed. The exposed surfaces which will not be occupied by permanent engineering structures shall be revegetated where practicable as soon as work in these areas is completed. Where possible, the bulk of the construction works should be undertaken during the dry season.

Air quality: Excavation, movement of vehicles, or by gaseous emissions of vehicles and construction equipment could result to dust generation and affect the air quality in the project site and the surrounding areas. To ensure minimum air pollution, effective mitigation measures and sound environmental management practices will be specified in the contracts.

Increase in dust and noise levels:

Earthmoving will result to increased dust generation within the direct impact area and the emission of air pollutants will result from heavy equipment operation. To mitigate these impacts, regular sprinkling of water on material stockpiles should be made. Stockpiles of

construction materials should be covered where practicable. Wearing of protective masks and goggles should be required to the site personnel directly involved in earthmoving to minimize or prevent dust inhalation and eye irritation. Equipment to be used should have proper maintenance to reduce air pollution. Construction should be avoided during night time and the use of noisy equipment should be minimized to keep the noise to a minimum.

Water quality: The river near the site and the ocean west of the site may experience minor changes in its water quality. The eroded materials during construction will contribute to the siltation of the river. Turbidity may occur as well as increase in the amount of total suspended solids (TSS) and total dissolved solids (TDS). Silt traps shall be installed or any equivalent soil detention structures at appropriate locations to minimize the influx of sediments into the river and the ocean. Also, proper site drainage must be implemented by the contractor to reduce transport of loose soil and rock fragments into the nearby water bodies.

Local loss of aquatic life: The siltation of the water bodies at the direct impact area could lead to local loss of aquatic life though on a short-term basis. The placement of silt traps along the edge of the river could reduce siltation and consequently minimize potential short-term loss of aquatic life. The local system that could be affected is expected to recover after construction activities are completed.

Threat to existence and loss of important local species: Runoff will proportionately increase due to activities such as earth moving and removal of vegetation within the development area. Sediment runoff will have a potential impact to river and ocean organisms as well as flora and may be a potential source of threat to existence of locally important species.

Loss of habitat: As part of the monitoring program, freshwater monitoring and marine water monitoring will be conducted congruently within the freshwater marine water quality stations.

Social Impacts

Affected Families: There were two (2) families identified living in the area that will be affected. Proper compensation or replacement cost should be given to them that is in accordance with Republic Act 10752 of the Philippine law.

Loss of land/coconut plantation area: Construction activities will lead to the loss of land/coconut plantation area to be occupied by the power plant. These affected properties should be acquired based on market values.

Increased employment opportunities: Employment opportunities for the local residents will be generated during the project construction and operation. The employment will bring increased income to those who will be employed. Local manpower may have to need to compete with migrant labor for employment. Employment of local residents during the construction stage should be prioritized, particularly those from families in the direct impact area.

Health and sanitation problems: The volume of sewage and solid waste generation will increase due to the influx of construction workers to the project area. If improperly managed, the wastes will lead to unsanitary conditions in the area which will result to local outbreak of diseases. This will be aggravated if there are no provisions for temporary bunkhouses for workers and other sanitary facilities. Temporary housing for worker, with provision for adequate water and toilet facilities should be provided by construction contractors. At the construction site, construction workers will be oriented to strictly observe proper hygiene and sanitation practices. To ensure the protection of health and sanitation of workers, contractors will be required to provide basic medical services.

Safety and public health hazards: Workers at the construction area will be exposed to risks/ construction-related hazards. If there are no adequate provisions for the safety of workers and visitors, accidents may occur and cause minor and/or major injuries as well as disability. The contractors will be required to implement safety measures to avoid accidents and protect workers. Health precautions need to be undertaken to minimize health risks to construction workers and nearby residents.

Increased local revenues: The revenue of concerned LGU will increase due to purchase of locally available materials and equipment for construction which will translate to additional taxes. Business establishments should be properly registered and pay the required taxes. The LGU of Tabango that the Project will provide assistance through Social Development Programs and others that will be beneficial to the local communities.

4.2.5 Project Cost and Duration

The total project cost is Forty-one Billion Four Hundred Ninety-three Million Philippine Pesos (Php 41.493 Billion (Vat Inclusive)).

The duration for construction will be about one (1) year.

5. PROPOSED LIST OF INVITEES FOR SCOPING

5 PROPOSED LIST OF INVITEES FOR SCOPING

Name	Position
Hon. Bernard Jonathan M. Remandaban	Mayor, Municipality of Tabango
Engr. Ver Phillip C. Pelayo	Municipal Planning and Development Coordinator, Municipality of Tabango
Ron A. Costelo	LGU Focal Person for Environmental Concerns, Municipality of Tabango
Romeo Arcenal	Barangay Captain, Barangay Tugas
Ma. Elena Arnoco	Sangguniang Kabataan Chairman
Rolando M. Valiente	Directly-Affected Household, Barangay Tugas
Rome Valiente	Directly-Affected Household, Barangay Tugas
Giovane Arriesgado	President, Fishermen Association
Beneto Pepe	Farmers' Association Representative
Rita Arriesgado	Senior Citizen's Association Representative
Natividad Santos	Religious Group Representative
Maricel Rojas	Women's (Mother's) Representative
Joevert Reyes	LGBT Representative
Marivic Canete	PWD Representative
Mario Fajardo	Property Caretaker

6. DRAFT INVITATION LETTER

SUBJECT : Request for Scoping for the Proposed Construction and Operation of a 600 MW LNG Combined Cycle Power Plant in Brgy. Tugas, Tabango, Leyte

Dear Sir/Madam,

CEST Incorporated was engaged by Prestige Power Resources Inc. for the "*Consulting Services for the Acquisition of Environmental Compliance Certificate for the Proposed Construction and Operation of a 600 MW LNG Combined Cycle Power Plant in Brgy. Tugas, Tabango, Leyte*". It aims to provide consulting services to prepare the project's Social and Environmental Impact Statement (SEIS) Report which is the primary document in securing the ECC.

In behalf of our client, Prestige Power Resources Inc., may we invite you to participate in the Public Scoping for the Proposed Construction and Operation of a 600 MW LNG Combined Cycle Power Plant on 16 December 2021, 10:00 AM to be held at Brgy. Tugas, Tabango, Leyte while other attendees will be through virtual meeting. Link for the meeting will be sent once the schedule is finalized.

This Public Consultation is in accordance with the requirements of the Department of Environment and Natural Resources through its Environmental Management Bureau (DENR-EMB) for the conduct of Social and Environmental Impact Assessment (SEIA). Moreover, this meeting will be a venue to raise your issues and concerns about the proposed project.

We look forward to your valuable attendance and participation in this Public Scoping.

Very truly yours,

LEILA L. FLORES
Chief Operations Officer
CEST Incorporated

7. DRAFT PRESENTATION OF THE PROJECT DURING PUBLIC SCOPING

Consulting Services for the Acquisition of ECC for the Proposed Construction and Operation of a **600 MW LNG Combined Cycle Power Plant** in Brgy. Tugas, Tabango, Leyte



Tabango, Leyte

- ❑ 4th class municipality located in the northwestern portion of Leyte province
- ❑ Has a land area of 96.62 square kilometers
- ❑ Composed of 2 urban and 11 rural barangays

Project Location

Brgy. Tugas,
Tabango, Leyte



Figure 1. Vicinity Map of the Proposed Project Site

Consulting Services for the Acquisition of Environmental Compliance Certificate (ECC) for the Proposed Construction and Operation of a 600 MW LNG Combined Cycle Power Plant in Brgy. Tugas, Tabango, Leyte

Objectives

- ▣ The project aims to construct and operate a 600 MW/ LNG Combined Cycle Power Plant to contribute to the projected demand of electricity.
- ▣ Prestige Power Resources Inc. (PPRI) proposes to use LNG – the cleanest of all fossil fuels to provide energy in a manner that is safe to the environment.

Consulting Services for the Acquisition of Environmental Compliance Certificate (ECC) for the Proposed Construction and Operation of a 600 MW LNG Combined Cycle Power Plant in Brgy. Tugas, Tabango, Leyte

Proposed Power Plant Layout



Figure 2. Proposed Power Plant Layout

Consulting Services for the Acquisition of Environmental Compliance Certificate (ECC) for the Proposed Construction and Operation of a 600 MW LNG Combined Cycle Power Plant in Brgy. Tugas, Tabango, Leyte

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Combined Cycle Process

A combined cycle power plant converts energy resident in natural gas/oil to electricity. The combination of a combustion turbine in water/steam cycle uses the Brayton Cycle Principle as presented in the figure.

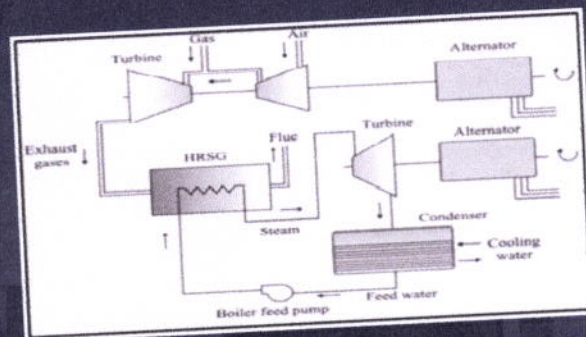


Figure 3. Combined Cycle Power Plant Process

Consulting Services for the Acquisition of Environmental Compliance Certificate (ECC) for the Proposed Construction and Operation of a 600 MW LNG Combined Cycle Power Plant in Brgy. Tugas, Tabango, Leyte

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Project Components

Main Project Components

Gas Turbine
Compressor
Heat Recovery Steam Generator
Steam Turbine
Generator
Transformer
Condenser and Cooling System
Interconnection Facility
Jetty/Mooring & LNG Receiving Facilities
On-Shore LNG Storage & Regasification Facility

Consulting Services for the Acquisition of Environmental Compliance Certificate (ECC) for the Proposed Construction and Operation of a 600 MW LNG Combined Cycle Power Plant in Brgy. Tugas, Tabango, Leyte

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Project Components

Support Facilities

Water Treatment Plant

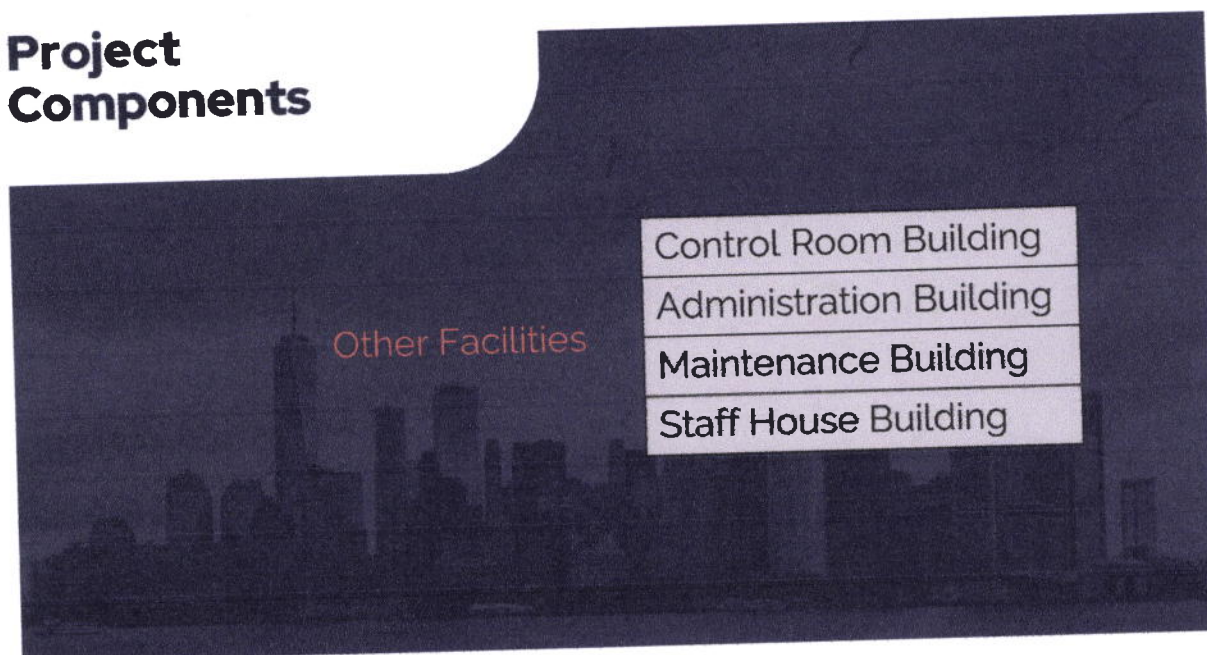
Pollution Control Facilities

Wastewater Treatment Plant

Consulting Services for the Acquisition of Environmental Compliance Certificate (ECC) for the Proposed Construction and Operation of a 600 MW LNG Combined Cycle Power Plant in Brgy. Tugas, Tabango, Leyte

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Project Components



Control Room Building

Administration Building

Maintenance Building

Staff House Building

Consulting Services for the Acquisition of Environmental Compliance Certificate (ECC) for the Proposed Construction and Operation of a 600 MW LNG Combined Cycle Power Plant in Brgy. Tugas, Tabango, Leyte

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Indicative Project Timeline

Activity / Milestone	2021				2022				2023				2024				2025			
	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q
Pre-engineering works & ECC Application																				
Detailed Engineering																				
Construction (Civil work: Site Development, foundation etc.)																				
Installation of Equipment																				
Start-up & Commissioning																				
Commercial Operation																				

Consulting Services for the Acquisition of Environmental Compliance Certificate (ECC) for the Proposed Construction and Operation of a 600 MW LNG Combined Cycle Power Plant in Brgy. Tugas, Tabango, Leyte

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Project Cost

- ▣ The proposed project is estimated to cost approximately **Php 41.493 Billion** (Vat Inclusive).

Consulting Services for the Acquisition of Environmental Compliance Certificate (ECC) for the Proposed Construction and Operation of a 600 MW LNG Combined Cycle Power Plant in Brgy. Tugas, Tabango, Leyte

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Thank you



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