

SECTION I

CHARACTERISTIC OF THE PROJECT AND REGULATORY AND INSTITUTIONAL FRAMEWORK

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1.0 INTRODUCTION

PERU LNG S.R.L. (PLNG) plans to build and operate a Liquefied Natural Gas (LNG) Export Project at Pampa Melchorita, the selected location south of Cañete, Lima. This Project will process part of the natural gas produced at the Camisea fields, which will be liquefied and shipped for export to Mexico and North America.

The document presented here describes the improvements and modifications made to the LNG Export Project at Pampa Melchorita, Peru and presents the modifications made to the EIA originally prepared for the Project during 2002 and 2003, and approved through R. D No. 061-2004-MEM/AAE on June 21, 2004.

This “Amendment to the EIA of the LNG Export Project at Pampa Melchorita, Peru” has been prepared in accordance with the terms defined by Report No.044-2005-MEM-AAE/IB (dated May 17, 2005), in which the DGAAE of the Ministry of Energy and Mines addressed the inquiry concerning improvements and changes to the LNG Export Project, presented by PERU LNG S. R. L (PLNG) on April 29, 2005. This report integrates the Official letter No.717-2005-MEM/AAE and is part of Dossier No. 1529264 of the DGAAE of the Ministry of Energy and Mines.

This document has been prepared by Golder Associates Perú S. A (Golder) and PLNG in two volumes according to the following structure and content:

Volume 1

Executive Summary

Section I – Characteristics of the Project and Legal and Institutional Framework

Section II – Modifications to the Design of the LNG Export Project

Section III – Changes in the Baseline

Section IV – Complementary Environmental Assessment

Section V – Modifications to the Social and Environmental Management Plan

Volume 2 A

Appendix A – Analysis of Thermal Radiation Consequences

Appendix B – Description of Flare System

Appendix C – Update of the Environmental Baseline

Volume 2 B

Appendix D – Public Consultation and Participation Process

Appendix E – Legal Status of Human Settlements in the Project Area – Ministry of Agriculture

Appendix F – Evaluation of EIA Amendment

Appendix G – Modeling of Sediment Transport and Wave Energy

A brief description of the project and supplementary information on the legal and institutional framework are presented in the following section. This information was used as a basis for the environmental studies and will be used for the environmental management of the project during the construction and operation stages (the legal framework was initially presented in Chapter I of the EIA approved in June 2004).

2.0 CHARACTERISTICS OF THE PROJECT

2.1 Nature of the Resource, Quantity and Characteristics of the Product Being Produced

The LNG Export Project involves the construction and operation of a natural gas process plant and its transformation into liquefied natural gas for export, with a nominal capacity of 4.4 million metric tons per year (MMTY). The plant will process natural gas from the Camisea gas fields in Cusco, located 500 Km. east of Lima to produce liquefied natural gas (LNG), which will then be transported by tankers to markets with a high demand of natural gas in the American Pacific such as Mexico and the USA.

The transformation process of natural gas into LNG is at present the most economic, safe and efficient alternative for transporting gas over long distances particularly when pipeline construction possibilities are limited. LNG is produced when natural gas is cooled to minus 163 Celsius (°C) at atmospheric pressure. The LNG occupies approximately 1/600th of the equivalent volume of natural gas, which facilitates the storage and transportation of the bulk LNG supply using special ships.

The main characteristics of LNG are: that it weighs less than water, is odorless, colorless, non-corrosive, non-toxic and non-explosive. LNG vapors are flammable only under certain specific conditions that require a methane gas concentration between 5.3% and 15% in the air and the presence of an ignition source.

2.2 Project Location and Area

The project will be located on a 521 Ha coastal site at Pampa Melchorita between the 167 and 170 Kilometer markers on the west side of the Panamerican South highway, in the district of San Vicente de Cañete, province of Cañete and the Department of Lima (Figure RE-1). The land was acquired by PERU LNG S.R.L through a direct purchase from the Superintendent of National Goods – “Superintendencia de Bienes Nacionales (SBN). The corresponding concession for the aquatic area where the Project’s marine facilities will be located has also been requested.

2.3 Proponent

Pampa Melchorita LNG Export Project will be constructed by contractors selected by PERU LNG S.R.L (PLNG), and supervised by it or by a third-party (operator), as required in the Regulations for Natural Gas Processing Plants (Law No. 28176). Once the project construction is finished, the Plant will be operated by PLNG or by the operator designated by it. PLNG is the subsidiary of a shareholder consortium led by Hunt Oil Company of Peru, L.L.C., which has broad worldwide experience in the energy sector.

2.4 Construction of the Facility and Characteristics of the Process to be Utilized

The Project facility mainly consists of the following infrastructure:

- LNG processing, liquefaction and storage plant;
- Marine Installations to facilitate tanker berth and LNG loading operations;
- Administration offices, staff housing and infrastructure for transportation, internal maintenance and operation support services.

The project was designed to be self-sufficient with respect to power and water consumption obtaining electrical power from natural gas fuelled generators and water from a desalinizing plant that transforms sea water into water for human and industrial consumption. The project is also designed to control all effluents (liquid, solid, industrial or domestic) in an environmentally safe way complying with national and international environmental requirements.

The marine facilities for tanker berth and LNG loading operations will include:

- A trestle approximately 1.3 kilometers long, aligned perpendicular to the coastline and extending from the shore to the loading platform. The trestle will consist of a steel superstructure supported by driven steel piles and a cast-in-place concrete abutment.
- A breakwater not connected to the coast will be located 1.6 km off-shore because the site selected for tanker berth is exposed to long periods of Pacific swells, mainly from the southwest. The proposed breakwater will be located along the 14m depth contour of the sea floor, will be 800 m long and aligned parallel to the coastline. A crest elevation of 8.5 m above mean low surf level will prevent the 100-year design wave from damaging the facilities.
- An area will be dredged around the breakwater described above to the depth required for ship maneuvering and access to the LNG tanker berth structures. The berth site will be connected to approach and departure channels (navigational channels), which will be dredged for providing enough room between the ship keel and the sea bottom during swell periods and ship maneuvers in the protected area of the breakwater. The navigation channels and the berth facility together form a “U” shaped area with the breakwater located on the inside of the “U” at its base.
- Lighting and navigational aids will be constructed including: racon, sea buoys, leading lights, gate buoys, breakwater markings, mooring dolphin markings; and a laser berthing aid system for determining speed and approaching distance to the dock.

In Section 2 of this document the modifications proposed to the basic design of the project and considered as modifications to the original EIA are described. The modifications currently proposed are located within the same area of direct influence as that defined in the original EIA approved in June 2004, except for a small additional extension to the area of direct influence in the terrestrial component.

The proposed LNG plant will utilize the Air Products and Chemicals, Inc (APCI) process which consists of gas liquefaction induced by mixed refrigerants pre-cooled with propane.

The processes and units included in the plant for transforming dry natural gas into liquefied natural gas (transformation from gaseous state to liquid state) is outlined below. These processes and units are shown in **Figure 1.1**.

- **Feedgas Receiving, Liquid Separation, Gas Metering and Pressure Reduction;** the Feedgas receiving unit (FRU) will be designed to separate and store any liquids that could be retained in the gas supply pipeline after initial hydrostatic testing or formed due to abnormal operations in the production block (Production Facilities in the Camisea Block in Malvinas) or maintenance of the pipeline (piggings and cleaning operations). The feedgas will flow through an Inlet Knock Out Drum to remove any free liquids collected in the pipeline.

Figure 1. 1 Plant Design and Location of Process Units and Installations



- **Acid Gas Removal (Carbon Dioxide);** The Acid Gas Removal Unit (AGRU) will process natural gas from the FRU to remove carbon dioxide, the contaminant acid gas present in the feedgas. Carbon dioxide is considered a contaminant because it would freeze during the cryogenic process of converting gaseous methane to liquid methane and thus block the process flow. The technology for removal of carbon dioxide (CO₂) and hydrogen sulfide (H₂S) (collectively called acid gas) from natural gas uses activated methyl diethanolamine, a tertiary amine. The activated diethanolamine is an aqueous solution of MDEA combined with a chemical activator.
- **Gas Dehydration and Carbon Adsorption Units;** The Dehydration Unit dries the water-saturated gas to meet the cryogenic process specification requirements. The Dehydration Unit uses a three-bed molecular sieve configuration; two beds operating in the absorption mode while the third bed is regenerating. Each molecular sieve bed is regenerated in 24 hours. The dehydration unit dries the water-saturated gas to less than 1 ppm(v) of water to avoid freezing and plugging in the cryogenic liquefaction unit by gas hydrates. An activated carbon absorber is provided as a safety measure to ensure reliable operation of the LNG plant. An activated Carbon Absorber will remove any heavy metals present in the feedgas and thus avoid corrosion problems in the aluminum components of the liquefaction process equipment. This will be obtained through an activated carbon bed.
- **Refrigeration and Liquefaction;** The Air Products and Chemicals, Inc. (APCI) propane multi-component refrigerant process uses two types of refrigeration cycles to pre-cool and liquefy the feedgas. The feedgas is first pre-cooled using propane as a refrigerant at four descending pressure and corresponding temperature levels. After being cooled by refrigerated propane, the feedgas enters the main cryogenic heat exchanger where the feedgas is further cooled and totally condensed by the mixed refrigerant. A control valve reduces the sub-cooled LNG pressure from the main cryogenic heat exchanger and sends it to the LNG storage tank. The LNG entering the storage tanks enters at 1.08 bars of pressure and -163 °C temperature.
- **LNG Storage;** the two (2) storage tanks proposed for the plant have a single containment design. In compliance with NFPA 59A, the tanks will have a common secondary containment area. The capacity of the tanks originally proposed has been modified as described in Section 4 of the Executive Summary.

- **Refrigerant Storage;** propane and ethylene will each be stored in horizontal bullet type storage tanks. The two propane tanks will have a volume of 602 m³ each. The two ethylene tanks will be 4 m in diameter and 20 m in length with a capacity of 200 m³ each.

In section 2, some of the proposed modifications regarding the relocation of the previously mentioned units are described. These do not involve changes in the process or in the plant production capacity.

2.5 Activities Schedule

The table below summarizes the Project development to date. The Project is currently in the Technical Studies – Feasibility stage.

Technical Studies – Feasibility (2001 - 2005)
• Analysis of Options (2001) • Basic Engineering (2002) • EIA and Consultation Process (2002 - 2004) • Permits (2002 - 2004) • Business Agreements (2002 - 2005) • Financing (2002 a 2005) • Modification to Basic Engineering (2004 - 2005) • Complementation to EIA (2005) • LNG Sale Offer to Mexico(Nov 2005)

The project construction schedule extends from the second semester of 2005 to the second semester of 2009 (Table 1.1) and is structured in two phases. Phase 1 involves the delineation of property boundaries and upgrading of the internal access road between the Panamerican highway to the area where the rock material will be stored for the breakwater construction. Phase 2, involves the main construction activities including construction of the plant and marine facilities planned between 2006 and the second semester of 2009. This phase has been further subdivided into a light construction stage (Phase 2 A), during which the main earthworks related to construction near the Panamerican highway, the beach and the construction camp will be performed, and a heavy construction stage (Phase 2 B) which involves all civil works, metal-mechanical structures and equipment installation. Due to this subdivision of the work some components of the Community Relations Plan to be performed in Phase 2, shall be understood as being in Phase 2 B.

Table 1.1 Schedule of Construction Activities



2.6 Labor Requirements

According to the information provided in the EIA (chapter II, section 3.3.1), the construction stage of this project will require 15 million man-hours of labor to complete the works. At the peak of construction, an estimated 3,000 people will be employed.

Most of the labor and skilled trades required for constructing the LNG Export Plant will be provided to Peruvian workers; however, the main contractor selected by PERU LNG and some specialized subcontractors may require specialized foreign personnel for planning, organization, training, and management works. The following table provides a list of the different trades with an estimate of the number of positions to be filled by the main contractor and its subcontractors. .

Trade	Maximum number
Semi-qualified workers	500
Carpenters	300
Iron workers (structural and bars)	200
Masons	100
Electricians/Instruments, helpers	250
Workers for shaft and pulley installation, mechanics	100
Tank makers	100
Workers for pipeline mounting, welding helpers	500
Welders of carbon steel	225
Welders of stainless and alloy steel	200
Workers for cable installation	20
Equipment operators	50
Specialized marine crew	50
Drivers	100
Painters	50
Others- insulators, surveyor, storekeeper, watchmen, food service.	500
Total work positions – in all trades	3,245

Other personnel categories will include management positions, engineering, supervision, technical personnel, quality control and inspection and administrative support personnel. These categories could represent an additional 10% of workers.

For certain specialized trades it may be difficult to find qualified workers in the local area in which case qualified personnel from other regions of Peru will be hired and relocated to the site, while certain management and technical personnel will be hired from abroad.

The modifications proposed to the project do not involve an increase in the number of workers over that estimated in the original EIA approved in June 2004.

3.0 LEGAL AND INSTITUTIONAL FRAMEWORK

The EIA for the Pampa Melchorita, Peru LNG Export Project, approved on June 21, 2004 through Directorate Resolution No. 061-2004-MEM/AE, contains the legal framework applicable to the Project. The regulations applicable to the EIA Modification are included in the legal framework of the approved EIA. However, due to modifications made to some of the environmental regulations since the EIA was approved, PERU LNG has performed a comprehensive review of the legal framework in order to include any applicable new regulations.

This sub-section complements the legal framework presented in the approved EIA. It is important to mention that only those regulations that have been modified and any new regulations approved since the original EIA was approved have been added here. **Table 1.2** includes an updated list of the regulations applicable to the project.

The main modifications to the environmental legislation in Peru are described below. First the National Port System Law (Law No. 27943), was issued on March 1, 2003, with its respective Regulation, Supreme Decree No. 003-2004-MTC dated February 4, 2004. This Law established that effective July 1, 2005 a large part of the jurisdiction and administrative authority of the Harbormaster's Office and Ports Directorate (DICAPI) will be transferred to the National Port Authority (APN).

Secondly a description is provided below on the implications of the recently issued General Environmental Law. Thirdly, an analysis is provided of Ministerial Resolution No. 535-2004-MEM-

DM which establishes Regulations for Citizen Participation in Energy Activities within the Environmental Impact Assessment process. Finally, a summary is provided of the National Environmental Evaluation System Law.

3.1 Law of the National Port System and Its Regulation

The National Port System Law (Law No. 27943), published on March 1, 2003, and its corresponding Regulations (Supreme Decree No. 003-2004-MTC dated February 4, 2004) establish a reorganization of the National Port System and the entities related to its administration and management. The National Port System Law determines the competence of the MTC (Ministry of Transportation and Communications) and the Ministry of Defense concerning private and state port infrastructure, and port infrastructure for defense purposes.

The Law of the National Port System also establishes that the Ministry of Transport (MTC) is the governing body that will define the general regulations corresponding to the National Port System. Also, the National Port Authority was created (APN) which is a Decentralized Public entity in charge of the National Port System, attached to the MTC, and dependent on the Minister, with legal authority, its own assets, administrative, functional, technical, economical and financial autonomy, and normative powers delegated by the Ministry of Transport and Communications.

The APN and the Regional Port Authorities, are the authorities responsible of supervising the construction, improvement, expansion, rehabilitation and conservation of ports and terminals in the country. They are also responsible for regulating commercial navigation within the port areas and the activities and port services provided by the administrators or port operators in these areas. The APN, whose powers were delegated by the MTC, has normative and regulatory powers in the scope of its competence. The APN issues general rules by Directorate Agreement. It also issues resolutions, directives and circulars of lower hierarchy.

The APN and the Regional Port Authorities have sole competence and responsibility concerning the entrance and exit of ships and the loading and unloading of goods in the Port, as well as their reception, permanence and treatment in the Port area. The APN will coordinate with the corresponding authorities regarding enforcement and compliance of the requirements. The APN also has authority over qualifying a port as an international entrance or exit point.

The Harbormaster's Offices and Ports Directorate (DICAPI), is an administrative branch of the Marina de Guerra del Perú (Peruvian Navy) that is dependent on the General Command of the Navy. According to Law No. 26620 (Law of Control and Vigilance of Maritime, Fluvial and Lacustrian Activities), DICAPI is the authority in charge of regulating and supervising the activities performed within the maritime, fluvial and lacustrian areas of the national territory.

The National Port System Law and its corresponding Regulations establish that DICAPI's functions are restricted only to the management of port infrastructure by the Army.

To provide further clarification the scope and application of the National Port System Law (Law N° 27943) includes the following:

“Article 2°.- Scope of Application

2.1 This law covers everything related to the activities and services developed within the National Port System, in the maritime, fluvial and lacustrian areas, the competences and powers of port authorities, the authorizations, rights and liabilities of natural persons and legal entities that perform the activities and port services; and the construction, use, exploitation, operation and administration of the activities and port services.

2.2 The scope of this Law includes: ports, infrastructures and port facilities of the country as well as the activities and services provided within the port areas.

2.3 Not covered in the scope of this Law: ports and port infrastructures and facilities managed by the Army for national defense purposes, which will be ruled by their corresponding regulations. The artisan fishing docks are not included, which will be ruled by their specific regulations.”

Also, the Regulation of the Law of Control and Vigilance of Maritime, Fluvial and Lacustrian Activities which governs the functions of DICAPI, established as its scope of application:

“SCOPE OF APPLICATION”

The scope of application of the Regulation comprises:

- a) The maritime dominion of the State that covers the sea adjacent to its coasts as well as the sea bed and subsoil, up to the distance of 200 marine miles, measured from the base lines established by Law.*
- b) Navigable rivers and lakes of the National territory.*
- c) The islands located on the sea up to 200 miles as well as on the navigable rivers and lakes.*
- d) The riparian strip in the maritime litoral up to 50 meters counted from the highest water mark and the banks of navigable rivers and lakes up to the highest ordinary flood..*
- e) All ships and aquatic devices that are located in the maritime dominion, navigable rivers and lakes, and those with the national flag either offshore or in foreign waters or ports, without detriment of the observance for the internal regulations of that country and the applicable rules of the International Law.*
- f) Warships, in aspects where the Regulations are applicable.*
- g) Naval devices and installations located on the areas established in subsections a), b) y c) of this article.*
- h) The natural persons and legal entities whose activities are performed in maritime, fluvial and lacustrian fields; without detriment of the powers granted by law to other sectors of the public administration.”*

The mentioned regulations also describe the functions of DICAPI as control and vigilance in those fields above mentioned.

Without prejudice to the issues mentioned above, through Supreme Decree N° 010-2005-MTC some stipulations of the Regulation of the National Port System Law were modified. These stipulations establish that the jurisdiction and authorities to be assumed by the APN would remain with the current respective authorities, such as DICAPI, until June 30, 2005 and that from July 1st, 2005 onwards APN will assume directly these powers and authorities.

Another authority referred to in the preceding paragraph is the General Direction of Aquatic Transport /DGTA) of the Ministry of Transport and Communications (MTC).

As established in Supreme Decree No. 041-2002-MTC, the DGTA is the national authority for aquatic transport. In accordance with the Regulations of the National Port System Law, the DGTA is the subordinate body of the MTC responsible of promoting, regulating and managing the development of maritime, fluvial and lacustrian activities; and of regulating tport activities and related services, as well as the infrastructure of the port system and navigable water ways, excluding that which is the competences of the National Port Authorities.

The DGTA has the sole authority for regulating issues concerning commercial navigation and the merchant navy in the country and proposing policies regarding transport in maritime, fluvial and lacustrian waterways, except for those which are granted by Law to the Ministry of Defense.

In conclusion, there are various permits that PERU LNG will need to obtain from the APN, some of these are: concession over the aquatic area, formerly under DICAPI authority, and the Authorization of the Study of Ports and Commercial Docks, formerly under DGTA authority, (the APN has incorporated them with other names and procedures). Other permits including authorization for dredging activities, are still under the jurisdiction of DICAPI. **Table 1.3** shows a list of the main permits that shall apply to PERU LNG, in addition to those already obtained to date since approval of the EIA and whose table was included in the EIA.

3.2 General Law of the Environment

Law 28611 “General Law of the Environment” recently issued on October 13, 2005, incorporates in its four titles and 154 articles, elements comprising environmental national policy and environmental management, integration of the environmental regulations and responsibility for environmental damages. All these elements in the new Law will contribute to the development of the National System of Environmental Management (enacted by Law No.28245 and its Regulation) and the National System of Environmental Impact Assessment (enacted by Law No.27446, whose Regulation is pending). Additionally, this Law requires a review of the functions and legal competence of national, regional, sectoral, and local authorities that generally cause concurrent actions by the State and also, to propose corrective action or appropriate legislation for the development of appropriate environmental management.

Some relevant aspects of the Law which modify specific Peruvian environmental regulations are detailed below:

- a. The National Council of the Environment (CONAM) obtains inspection powers (previously it was only a coordinating entity). This modifies the current system in which each Ministry is the sole environmental authority over its own corresponding sector. However, the inspection activity of CONAM does not include imposing sanctions on private sector activity. All aspects of inspection authorities and activities will be defined by the new “Common System of Environmental Inspection and Control” yet to be established by the Presidency of the Council of Ministers (PCM).
- b. The maximum fine for environmental damages has been established at approximately US\$ 10,000,000. Previously, the maximum fine was approximately US\$ 1,000,000.
- c. The right of indigenous and peasant communities to natural resources is recognized.
- d. CONAM can propose the establishment of financial warranties that cover indemnities for environmental damages in case of “environmental risky or dangerous activities” (such as hydrocarbon activities, among others).

3.3 Citizen Participation

Ministerial Resolution 535-2004-MEM-DM, (December 30, 2004) defines the Regulations governing Citizen Participation in Energy Activities within the Administrative Procedures of Environmental Evaluation Studies (which modified the Ministerial Resolution No. 596-2002-EM/DM dated December 12, 2002)

This Regulation establishes that the Environmental Impact Study shall have a consultation process with two stages called: Informative Workshops and Public Consultation Meetings, respectively.

The Informative Workshops consist of a group of activities intended to inform the community about the project details, scope, impacts and legal framework, and are the responsibility of DGAAE, the Regional Authority (i.e., the corresponding body of the Regional Government) and the project proponent or title holder according to the following terms,:

- a. Before the preparation of the EIA, informative workshops will be held in the project area of influence, The State may call and conduct the workshops offered to the public to inform them about their rights and duties, environmental regulations and the new technologies to be developed in the project.
- a. Before preparation of the EIA, the project proponent will explain to authorities in charge of reviewing the project, the project details, the potential social, cultural and environmental impacts of the project, and the environmental and social management plans for controlling these impacts and obtain feedback from the authorities.
- b. During preparation of the EIA, the project proponent and the State, through the DGAAE and the respective DREM, will distribute information about the project and preparation of the EIA to the public, and obtain feedback from them.
- c. Once the EIA is submitted to the Ministry of Energy and Mines, the project proponent on request of the DGAAE, will conduct Informative Workshops, to inform regional, local and sectoral authorities and the public in general of the findings of the Environmental Study.

The DGAAE in coordination with regional DREM authorities will determine the number of workshops to be held, according to the scale of the project and its territorial impact. Either the Regional Authority, DGAAE, the company that prepared the EIA or the project proponent may be in charge of the workshops.

The Public Consultation Meetings consist of formal presentation of the EIA to the public, and are held in the project area. The public can express its observations on the project during the consultation meetings and up to (15) days afterwards. All the observations presented must be attached to the dossier and included in the evaluation.

Apart from the regulations for public consultation discussed above, the MEM has published a Guide for Community Relations (MEM, 2000), which includes a chapter on public consultation and information dissemination. These guidelines constitute a group of recommendations that are not mandatory but recommended by the authority.

3.4 The National System of Environmental Impact Assessment (SEIA)

The EIA review and approvals procedure will be modified once Regulations for the National Environmental Impact Assessment System Law (Law No.27446) are approved.

Law No. 27446 establishes that the SEIA is a single and coordinated system for the identification, prevention, supervision, control and correction of the negative environmental impacts derived from human actions and investment projects.

The SEIA Law establishes that any investment project that involves activities, construction or other works that can cause negative environmental impacts shall obtain an Environmental Certification, prior to its execution. The Environmental Certification is the resolution issued by the competent authority after reviewing the corresponding environmental study (this Law establishes three options – see below) which certifies that the project does not involve significant risks of damage to the environment if prevention and mitigation measures proposed in the EIA are correctly applied.

This Law establishes three categories of environmental studies:

- Category I: Environmental Impact Statement (DIA).- Applicable to projects whose execution does not generate significant negative environmental impacts.
- Category II: Semi-detailed Environmental Impact Study (EIA-sd).- Applicable to those projects whose execution might generate moderately negative environmental impacts and whose negative effects can be eliminated or minimized by adopting measures that are easily applicable.
- Category III: Detailed Environmental Study (EIA-d).- Includes those projects whose characteristics, magnitude and/or relocation, might generate significant negative environmental impacts either quantitatively or qualitatively, and thus require a deep analysis in order to review their impacts and to propose a management strategy.

Given that the classification is performed according to the magnitude of the environmental impact expected and not to the magnitude or extension of the activities, a first review of the environmental impacts of the project is required to decide on the proper classification. This first review is made by submitting a document called “Preliminary Evaluation”, which includes the information available about the project and a preliminary assessment of the environmental impacts and the proposal for the

project classification. The environmental authority shall approve the classification and proceed to the next step as outlined below:

If the project is classified as Category I, the Preliminary Assessment turns into the Declaration of Environmental Impact and the authority will approve the project, make an observation or reject the study. If the Project is classified in Categories II or III, the proponent shall include a proposal for the terms of references for preparing the EIA, which shall be approved by the authority before proceeding with the study.

Thus, the SEIA introduced a system of tailored EIAS according to the characteristics of each project, so that the contents, level of detail and depth of the studies will vary according to the characteristics of each project and its location.

The temporary stipulation of the Law establishes that, until the accompanying regulation are approved, the existing and corresponding sectoral rules will remain in force. To date only drafts of the regulation have been presented. Article 24 of the new General Law of the Environment also establishes that the Law and its regulation will define the components of the National Environmental Assessment System.

4.0 REFERENCES

- (1) OPIC, 1995. Environmental Handbook. Appendix B.
- (2) IFC, 1998. Doing Better Business through Effective Public Consultation and Disclosure.
- (3) CONAM (National Council of the Environment): <http://www.conam.gob.pe>
- (4) Ministry of Agriculture: <http://www.minag.gob.pe>
- (5) Ministry of Energy and Mines: <http://www.minem.gob.pe>
- (6) Ministry of Transport and Communications: <http://www.mtc.gob.pe>
- (7) Ministry of Health: www.minsa.gob.pe
- (8) Ministry of Production: <http://www.produce.gob.pe>
- (9) Ministry of Defense: <http://www.mindef.gob.pe>
- (10) INRENA: <http://www.inrena.gob.pe>

- (11) OSINERG (Supervising Entity of Energy Investment): <http://www.osinerg.gob.pe>
- (12) DGAAE (General Bureau of Energy Environmental Affaires): www.minem.gob.pe/dgaee
- (13) DGH (General Bureau of Hydrocarbons): <http://www.minem.gob.pe/ministerio/dgh>
- (14) DIGESA (Direction of Environmental Health): <http://www.digesa.sld.pe>
- (15) DICAPI (Direction of Harbormaster's Offices and Ports):
http://www.dicapi.mil.pe/hp_dicapi_principal

TABLES

Table 1.2 Updated Table of Legislation and Regulations Applicable to the Project

Number	Date of Issue/ Modification	Title	Subject
CONSTITUTION			
	Dec 31,1993	Political Constitution of Peru	Collects general principles regulating the national legislation that prevail over all the regulations.
LAWS			
28611	Oct 15, 2005	General Law of the Environment	The main source of environmental regulations. Establishes the principles that should regulate the national environmental policy and annuls Legislative 613, Code of Environment.
28296	Jul 22, 2004	General Law of Cultural Heritage Protection	Establishes national policies of defense, protection, promotion, property and legal system and destination of the goods that are considered the Cultural Heritage of the Nation.
28256	June 19, 2004	Law for Land Transport of Dangerous Materials and Goods	This rule regulates the transport of wastes and dangerous materials in the national road network and other roads. Certain regulations are lacking.
28245	June 04, 2004	Law of the National System of Environmental Management	Among other stipulations, it establishes that CONAM is the national environmental authority and governing body of the national system of environmental management, in charge of regulating the actions oriented to environmental protection and conservation of the natural heritage. This has been reaffirmed by the General Law of the Environment recently approved (Law No. 28611 dated October 13, 2005).
27943	Mar 01, 2003	Law of the National Port System	Guidelines of national port policy, port authorities, among others.
27798	Jul 26, 2002	Law for determining deadlines for preliminary evaluation of some administrative procedures requested by the Ministry of Energy and Mines	Establishes deadlines for various administrative procedures requested by the Ministry of Energy and Mines, such as the procedures for the approval of the EIA.
27444	April 11, 2002	General Law of Administrative Procedures	Regulates all the procedures performed by the government agencies.
27314	July 07, 2001	Law of Solid Wastes	Establishes the general conditions for solid waste management.
27446	April 23, 2001	Law of the National System of Environmental Impact	Establishes a new procedure for the approval of EIA reports,

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			including a classification of projects based on the magnitude of environmental potential impacts and the introduction of specific terms of reference for each project for the EIA reports. An errata list was published on May 4, 2001.
27332	July 29, 2000	Law of the Regulatory Bodies of Private Investment in Public Services	Establishes the functions of the regulatory bodies and among them is OSINERG.
26734	Dec 31, 1996	Law of the Supervising Body of Energy Investment – OSINERG	Creation of OSINERG. Modified by Law No. 26817 (June 27, 1997)
26620	June 9, 1996	Law of Control and Vigilance of the Maritime, Fluvial and Lacustrine Activities	Regulates the aspects of control and vigilance which are responsibilities of the Maritime Authority concerning the activities that are developed in maritime, fluvial and lacustrine areas of the National Territory.
26410	Dec 22, 1994	Law of the National Council of Environment (CONAM)	Creation of CONAM
LEGISLATIVE DECREES			
757	Nov 13, 1991	Law for the Growth of Private Investment	Law 50° establishes that the government body in charge of supervising the environmental performance of the industry is the Ministry of the corresponding industrial sector or the entity specifically designated by the supervising company. When a company performs activities in more than one industrial sector, the environmental authority is the Ministry of the industrial sector that brought more sale profits to the company. Therefore, there is only one environmental authority for each company. This principle is known as “single window”.
DECREE LAW			
17752	Jul 24,1969	General Law of Waters	Establishes the rules for the water use rights.
SUPREME RESOLUTION			
008-2005-PCM	Jan 28,2005	Regulation of Law of the National System of Environmental Management	Regulates the functioning of the National System of Environmental Management (SNGA).
004-2000-	Jan 25, 2000	Regulation for Archaeological Investigations	Establishes the procedures to be followed for conducting

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ED			archaeological investigation projects with the aim to obtain the Certificate of Non-Presence of Archaeological Remains
SUPREME DECREE			
012-2005-SA	May 10, 2005	Modifies regulation of the national alert levels for air contaminants.	Modifies Supreme Decree 009-2003-SA.
010-2005-MTC	April 01, 2005	Postpone deadline for the National Port Authority and Maritime authority to assume their competences established in the Regulation of the Law of the National Port System.	From July 1, 2005, some of the competences of certain authorities such as DICAPI and DGTA are transferred to APN.
057-2004-PCM	Jul 24, 2004	Regulation of the General Law of Solid Wastes	Establishes the general conditions for the solid waste management, from the collection to their final disposal.
003-2004-MTC	Feb 04, 2004	Regulation of Law of the National Port System	Guidelines for the national port policy, port authorizations, among others.
085-2003-PCM	Oct 24, 2003	Approves the regulation of national standards of noise environmental quality.	Establishes the national standards of noise environmental quality and the guidelines for not exceeding them, with the aim to protect health, improve the quality life of the population and promote the sustainable development.
025-2003-EM	Jun 28, 2003	Regulation of Organization and Functions of the Ministry of Energy and Mines	Establishes the organization structure of the MEM. According this regulation, the review and approval of the Modification of the EIA approved in June 2004 are competences of the DGAAE.
009-2003-SA	Jun 25, 2003	Approves the regulation of the national alert levels for air contaminants.	Regulates the alert levels for air contaminants, which are set up to activate immediately a pre-determined short-length group of measures intended for avoiding excessive air contaminant exposure to the population during events of accurate contamination.
002-2003-AG	Jan 15, 2003	Regulation of Organization and Functions of INRENA	Establishes that the main objective of INRENA is the management and rational and integral use of the renewable natural resources and their ecological setting to obtain sustainable development. Also, establishes the new structure and functions of the different branches of INRENA.
002-2002-	Sep 27, 2002	Regulation of Organization and Functions of the	Establishes the new structure and functions of the different

Number	Date of Issue/ Modification	Title	Subject
PRODUCE		Ministry of Production	branches of the Ministry of Production
041-2002-MTC	Aug 24, 2002	Regulation of Organization and Functions of the Ministry of Transport and Communications	Establishes the new structure and functions of the different branches of the MTC.
074-2001-PCM	June 24, 2001	Approves the regulation of national standards for air environmental quality.	Establishes the national standards of air environmental quality and the strategy guidelines for meeting these standards progressively .
028-DE-MGP	May 25, 2001	Regulation of the Law of Control and Vigilance of Maritime, Fluvial and Lacustrine Activities	Regulates Law 26620.
054-2001-PCM	May 09, 2001	General Rules of OSINERG	Defines the functions and organization of OSINERG. Modified by Supreme Decree No. 055-2001-PCM (5/17/2001)
053-99-EM	Sep 28,1999	Establishes stipulations intended for standardizing administrative procedures at the DGAA.	Grants to DGAAE-MEM the authority to approve the reports of the EIA and modifies the corresponding administrative procedure.
041-99-EM	Sep 15,1999	Regulations for Hydrocarbon Transport through pipeline	Modified by S.D. No. 054-2001-EM (09/12/2001).
029-97-EM	Dec 16, 1997	Regulations for Inspection of Third-Party Energy Activities	Has the aim to regulate the supervision of the entities that perform activities in the Electricity and Hydrocarbon sub-sectors, which can be conducted through supervising companies, in compliance with the First Complementary Provision of Law N° 26734.
061-97-PCM	Dec 04,1997	Modifies Supreme Decree N° 056-97-PCM which determined the cases that will require the opinion of INRENA for the approval of the EIAs or PAMAs.	Complements Supreme Decree No. 056-97-PCM, establishing a deadline for the opinion of INRENA about the approval process of the EIA.
056-97-PCM	Nov 19,1997	Determine the cases in which the opinion of INRENA will be required for the approval of the EIAs and PAMAs.	Establishes the participation of INRENA in the revision of EIA related to the use or affectation of the natural resources. Complemented by Supreme Decree No. 061-97-PCM
052-93-EM	Nov 18, 1993	Safety Regulations for Hydrocarbons Storage	Establishes the rules and stipulations for which, in compliance with article 73° of Law N° 26221, any natural person or legal entity either national or foreigner can construct, operate and maintain facilities for hydrocarbons storage either petroleum or byproducts, in any of the different stages of the hydrocarbons industry.
051-93-EM	Nov 17, 1993	Regulations for Hydrocarbon Refining and Processing	Establishes the rules and stipulations for the design, construction,

Number	Date of Issue/ Modification	Title	Subject
			operation and maintenance of Refineries and Hydrocarbons Processing Plants, which includes petroleum refining process, natural asphalts manufacturing, grease and lubricant manufacturing, basic petro-chemistry, and natural gas and condensate processing, in compliance with article 74o of the Organic Law that regulates the Hydrocarbons Activities in the national territory, Law No 26221.
046-93-EM	Nov 12,1993	Regulations of Environmental Protection for Hydrocarbons Activities	Regulates the environmental aspects of all the hydrocarbons activities, including the EIA for new projects. Modified by Supreme Decree No. 09-95-EM (13/05/1995)
051-DE/MGP	Oct 02, 1993	Contingency National Plan and Appendices for Contamination Cases from Hydrocarbons and other Hazardous Substances.	
261-69-AP	Dec 12, 1969	Regulation of Titles I, II and III of Supreme Decree No. 17752	Establishes the permissible concentration limits (i.e. Environmental Quality Standards - ECA) of harmful substances that can be contained in waters according to their use, which are being utilized by DIGESA for granting the disposal authorizations.
MINISTERIAL RESOLUTION			
535-2004-EM/DM	Dec 30, 2004	Regulations of Citizen Participation for performing energy activities within the administrative procedures for environmental issues assessment	New procedure for citizen participation and spread of the EIA for hydrocarbons and electricity projects. The new procedure includes developing workshops and continuous consultations.
DIRECTORATE RESOLUTION			
0397-2000/DCG	Sep 02, 2000	Guides for the preparation of EIAs for dredging activities	Guide for the preparation of those reports.
0497-98/DCG	Dec 12,1998	Guides for the Preparation of Configuration Plans for Spillage of Hydrocarbons and Other Substances to the Ocean, Rivers or Navigable Lakes, corresponding to terminals, docks, berths, barges, petroleum floating stations and other aquatic facilities.	Guide for preparing those plans.
197-98-DCG	June 08, 1998	Rules about citizen participation in the EIA evaluation process	Procedure to be followed as part of the presentation of the EIA to maritime authorities.
0069-98-	March 09, 1998	Rules for prevention and control of water	Approves rules for prevention and control including ballast water,

Number	Date of Issue/ Modification	Title	Subject
DCG		contamination caused by ships.	among others.
030-96-EM/DGAA	Nov 07, 1996	Maximum Permissible Levels for Liquid Effluents in Hydrocarbon Activities.	Establishes the discharge limits for hydrocarbon activities.
0283-96-DCG	Oct 21, 1996	Guidelines for EIA preparation related to construction of docks, piers and others.	Terms of reference for preparing EIAs, both in content and form, related to docks, piers and others in an aquatic area.
0178-96-DCG	Jul 10, 1996	Establishes the ships from abroad shall change ballast water at least once a month.	Foreign ships shall change ballast water at least 12 miles offshore according MARPOL Resolution No. A774 (18). This Resolution has been replaced later by Resolution A.868(20).
0052-96-DCG	March 09, 1996	Guide for preparation of EIA reports in regard to the effects on the waterbodies caused by wastewater transported through the pipelines.	Guide for the preparation of those reports.
026-94-EM/DGAA	Sep 14, 1994	Approves the Protocol of Water and Effluents Monitoring for Hydrocarbons activities.	Modified by Directorate Resolution No. 043-99-EM/DGAA (21/11/1999) for replacing the use of a harmful reactive for the ozone layer by an analytical method.

Table 1.3 List of Permits

Permits	Entity	Legal Base
Favorable Technical Report for Installation of Refineries and Processing Plants.	OSINERG	Supreme Decree 051-93-EM Resolution of the Directive Council No. 0554-2002-OS/CD
Favorable Technical Report of Use and Operation of Refineries and Processing Plants	OSINERG	Supreme Decree 051-93-EM Resolution of the Directive Council No. 0554-2002-OS/CD
Authorization of installation, modification and/or use and operation for refineries, processing plants and supply plants.	MEM-DGH	Supreme Decree No. 051-93-EM. (17/01/1999)
Approval of Modification of the EIA	MEM-DGAEE	Supreme Decree No. 046-93-EM
Issue of the Certificate of Non-Presence of Archaeological Remains - CIRA	INC – Executive Director	Supreme Decree No. 004-2000-ED
Sanitary Authorization of the Industrial and Domestic Wastewater Treatment and Disposal System.	DIGESA	Decree Law No. 17752
Authorization Temporary for Uses of Aquatic Areas and/or Riparian Lands for port qualifications	National Port Authority - APN	Supreme Decree No. 003-2004-MTC
Definitive Authorizations for use of Aquatic Areas and/or Riparian Lands for port renewal	National Port Authority - APN	Supreme Decree No. 003-2004-MTC
Granting of port renewal	National Port Authority - APN	Supreme Decree No. 003-2004-MTC
Granting of Port License	National Port Authority - APN	Supreme Decree No. 003-2004-MTC
Evaluation of Port Facilities Protection or Approval of Evaluation Conducted by an OPR	National Port Authority - APN	Ministerial Resolution No. 330-2004-MTC/02
Approval of the Protection Plan of Port Facilities	National Port Authority - APN	Ministerial Resolution No. 330-2004-MTC/02
Authorization for performing dredging activities in aquatic areas. ¹	DICAPI – Direction of Environment	Supreme Decree No. 011-DE-MGP. TUPAM B-10

¹ According to Article 34 of Regulation of the General Law of Solid Wastes, also a DIGESA authorization will be required for dredging muds.