TOTAL
TOTAL E&P PNG LIMITED

PAPUA LNG PROJECT

UPSTREAM ENVIRONMENTAL IMPACT STATEMENT

VOLUME 1: MAIN REPORT

Chapter 2: Regulatory Framework, Policies, Standards and Guidelines

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TOTAL E&P PNG LIMITED

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2. Regulatory Framework, Policies, Standards and Guidelines

2.1 Introduction

This chapter describes the main laws, regulations and policies applicable to the Project at the date of this report, and good practice standards and guidelines that have informed the preparation of this document, namely:

- The PNG legislation and regulations that apply to the approvals and environmental permitting of the Project under the *Environment Act 2000* (*Environment Act*) and the requirements for licensing of the Project under the *Oil and Gas Act 1998 (Oil and Gas Act)*.
- PNG legislation and guidelines relevant to regulating the Project's development.
- International standards and agreements to which Papua New Guinea (PNG) is a signatory and which are applicable to the Project.
- International environmental and social conventions, standards and guidelines, including the International Finance Corporation (IFC) performance standards, which have informed the preparation of this Environmental Impact Statement (EIS) and influenced Project design.
- Total E&P PNG Ltd (TEP PNG) environmental and social standards relevant to the Project.

The most stringent requirements will be applied when there is a conflict between PNG and other requirements, or an absence in PNG requirements. This is further elaborated where relevant in the respective impact assessment chapters (i.e., Chapters 11 to 16).

2.2 Legislation Governing Project Approval

Two key pieces of legislation regulate oil and gas development projects in Papua New Guinea; the *Environment Act* and the *Oil and Gas Act*. The *Environment* Act sets out requirements for approvals and environmental permitting of oil and gas developments, including the baseline data collection as part of impact assessment, and is supplemented by various regulations and guidelines. The *Oil and Gas Act* governs the licensing of petroleum exploration and development activities and infrastructure.

2.2.1 *Environment Act 2000*

The *Environment Act* and supporting *Environment (Prescribed Activities) Regulation 2002 (Environment (Prescribed Activities) Regulation)* regulate the environmental and social effects of major projects in Papua New Guinea and are administered by the Conservation and Environment Protection Authority (CEPA), formerly the PNG Department of Environment and Conservation (DEC).

The *Environment (Amendment) Act 2014* documents amendments to the *Environment Act*, including some changes to the environmental impact assessment (EIA) process; however, at the time of writing, these changes had not been enacted into law. Thus, the discussion in the following subsections aligns with the *Environment Act*.

2.2.1.1 Environment Permit and Approvals

The *Environment Act* requires project proponents to obtain an environmental permit before undertaking activities that may cause environmental harm. *The Environment (Prescribed Activities) Regulation* classifies activities as Level 1, 2 or 3 depending on the extent to which they cause environmental harm.

The Project is classified as a Level 3 activity as it will undertake activities that '(a) may result in serious environmental harm, or (b) may have a negative or significant negative impact on a matter of national importance' (s. 42). Thus, it will require an EIA (s. 50). As part of this process, CEPA may seek input from other PNG government authorities as appropriate. For the purposes of s. 5 of the *Environment (Prescribed Activities) Regulation*, approvals are also required for several categories of Level 2 activities that are subsidiary to the Project. Table 2.1 lists the Level 3 and 2 prescribed activities relevant to the Project.

Table 2.1 – Level 3 and Level 2 Prescribed Activities Relevant to the Project

Activity Number	Prescribed Activity
Level 3	
18.1	Recovery, processing, storage or transportation of petroleum products requiring the issue of a petroleum development licence or a pipeline licence under the *Oil and Gas Act*.
Level 2	
1.1	Drilling of oil and gas wells.
5.2	Pipeline transport and storage using facilities with a holding capacity of more than 0.5 million liters.
7.4	Quarrying involving the extraction of more than 100,000 tonnes per year.
10.2	Operation of fuel-burning power stations with a capacity of more than 5 megawatts but not including emergency generators.
11.4	Incineration, reprocessing, treatment or disposal of industrial waste of a capacity greater than 10 tonnes per year.
12.4	Construction of aerodromes or airfields except unpaved airstrips more than 10 km from an urban area.
12.6	Construction of electricity transmission lines or pipelines greater than 10 km in length.
13.1	Damming or diversion of rivers or streams.

Source: *Environment (Prescribed Activities) Regulation*.

Figure 2.1 shows the steps of the EIA approvals process for this Project.

To date, TEP PNG has submitted the following documents in accordance with the requirements set out in the regulation, and the following additional requirements stipulated in the associated Guideline for Preparation of an Environmental Inception Report (EIR) (GL-Env/01/2004) (DEC, 2004a):

- Notification of Intent to carry out preparatory works (s. 48) (submitted October 2015).
- Environment permit application (s. 60) (submitted October 2015). Subsequently, the Director advised the Project is classified as a Level 3 Activity Sub-Category 18: Petroleum and gas production and processing, and that an EIA would be required (s. 50).
- Submission of an EIR (s. 52) (submitted October 2016). The Director approved the EIR in December 2016. The EIR was revised and resubmitted in June 2019.[1]

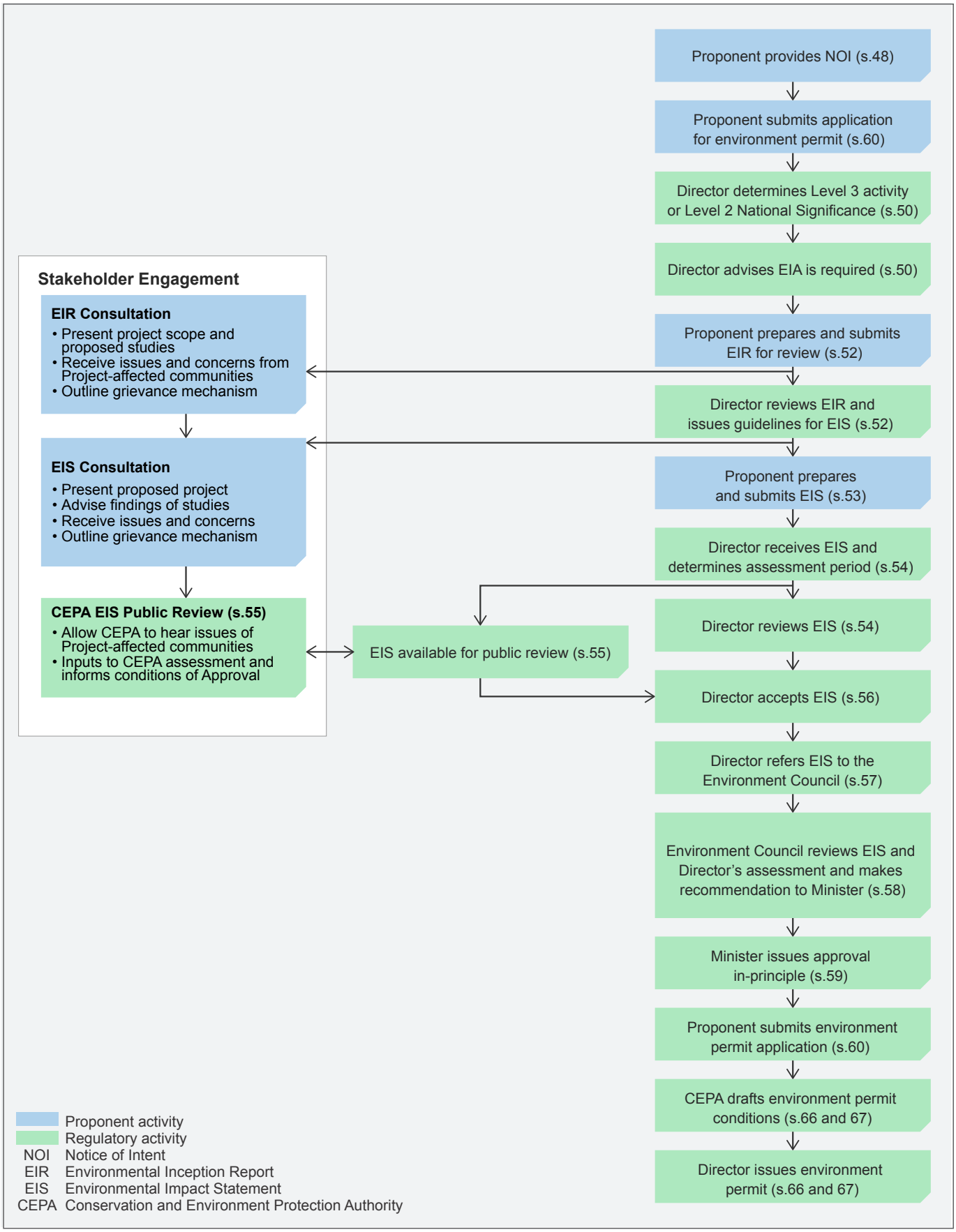
The next step in the EIA process is to undertake the environmental and social impact assessment studies and to prepare the EIS (this document), according to the Guideline for Conduct of Environmental Impact Assessment and Preparation of Environmental Impact Statement (DEC, 2004b), and to address the issues set out in the EIR. Attachment 1.1 presents a cross-reference with this guideline and the EIR.

1 The EIR was revised to update details regarding the Project proponent in relation to upstream and downstream facilities and some associated activities.

PAPUA NEW GUINEA ENVIRONMENT PERMIT AND APPROVALS PROCESS

Papua LNG Project | Environmental Impact Statement

FIGURE 2.1



Note: Consultation aligns with International Finance Corporation (IFC) for Informed Consultation and Participation (ICP) Process. This process aligns with the PNG *Environment Act 2000*, as the *Environment (Amendment) Act 2014* has not to-date been enacted into law.

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Considering the potential social and economic impacts is an integral part of the *Oil and Gas Act* and the EIA process under the *Environment Act,* a socio-economic impact assessment is a specific requirement under the *Oil and Gas Act* to support the grant of a petroleum development licence (see Section 2.2.2).

Once the EIS is submitted to CEPA (s. 53), the Director will make a preliminary assessment (s. 54) within 30 days, before making it available for public review (s. 55). Following public review, the Director will accept the EIS in the event the Director is satisfied (s. 56), and the Director's assessment report and any public submissions will be referred to the Environment Council (Council), a multi-disciplinary panel of experts appointed under s. 57. The Council has 90 days to decide whether it is satisfied with the EIS. If the Council is not satisfied, the EIS is returned to the proponent for revision and resubmission. If the Council is satisfied, it will advise the Minister for Environment, Conservation and Climate Change (the Minister) to approve the proposed activity in principle (s. 58 and 59).

Once the Minister has issued approval in principle for the Project, CEPA will then finalize the conditions of the environment permit and grant the permit under s. 66 and s. 67 of the *Environment Act* respectively.

2.2.1.2 Other CEPA Guidelines

The former DEC published several technical guidelines that provide additional information and have been used to support specific discipline assessments and inform this EIS. The key documents are:

- IB-ENV/02/2004: Technical Guideline (Additional Information): Air Discharges – describes the information that should be provided as part of an application for an Environment (waste discharge) permit where air emissions may be generated (DEC, 2004c).
- IB-ENV/03/2004: Technical Guideline (Additional Information): Noise Discharges – describes the information that should be provided as part of an application for an Environment (waste discharge) permit where noise emissions may be generated (DEC, 2004d).
- IB-ENV/04/2004: Technical Guideline (Additional Information): Land and Water Discharges – describes the information that should be provided as part of an application for an Environment (waste discharge) permit where emissions to land or water may be generated (DEC, 2004e).

The standards and guidelines comprising qualitative measures and quantitative emission criteria (i.e., noise, air quality, water) that the Project will meet are described where relevant in the individual discipline impact assessments presented in Chapters 11 to 16.

2.2.2 *Oil and Gas Act 1998*

Papua New Guinea has a concessionary petroleum regime where rights to petroleum are owned by the State but are assigned to private interests set out in legislation. The *Oil and Gas Act* is the principle law governing the exploration, licencing, development, production, processing and transportation of petroleum in Papua New Guinea. The PNG Department of Petroleum and Energy (formerly the Department of Petroleum) administers the Act. Pursuant to the Act, the Project requires the following licences to regulate activities:

- Petroleum prospecting licence (PPL).
- Petroleum retention licence (PRL) covering nine blocks (i.e., PRL-15); granted in 2010 and issued from the PPL.
- Petroleum development licence (PDL) covering a portion of PRL-15; to be applied for in the future.

- Pipeline licence(s) (PL) covering the raw gas trunklines from the Elk and Antelope fields to the CPF, and the condensate and gas export pipelines from the CPF to the downstream Papua LNG facilities in Caution Bay; to be applied for in the future.
- Petroleum processing facility licence(s) (PPFL) covering the upstream central processing facilities and the downstream Papua LNG facilities and shared facilities in Caution Bay; to be applied for in the future.

The *Oil and Gas Act* also sets out specific requirements relating to land access following the award of a petroleum licence over a defined tenement.

2.2.2.1 Licences

Consideration of environmental and social aspects is required prior to a petroleum licence being issued. Prior to the issue of a PDL, the Minister for Petroleum must be satisfied that the Project will '…provide adequately for the protection of the environment and the welfare of the people of the area' (s. 57(2)(b)(iv)).

The Project was granted PRL no. 15 (PRL-15) on 30 November 2010 and will, in the future, seek a PDL, PL and PPFL. An environment permit is typically a prerequisite to PDL approval.

A PDL is granted for an initial period of 25 years, with rights to extend for a period, or consecutive periods of up to 20 years.

2.2.2.2 Land Access

Access to land required for petroleum extraction and infrastructure development is granted under the terms and conditions of the *Oil and Gas Act* via the award of a petroleum licence. Once granted, licencees have the right to enter the land and use that land to the extent reasonably necessary to conduct the operations for which the licence has been granted. Such rights of access are conditional upon providing appropriate compensation to the lawful owners and rightful occupiers of the land.

Before granting any petroleum licence, the Minister for Petroleum may authorize access to the land under s. 116(1) for surveying, gathering data or undertaking other temporary operations. The Minister for Petroleum may also allow activities in preparation for construction under s. 116(1A). The duration of authorization under either section is at the Minister's discretion.

2.2.2.3 Identifying Landowner Beneficiaries

Under the *Oil and Gas Act*, project-area landowners, affected provincial and local-level governments, and the national government may be entitled to Project benefits. To determine which landowners are entitled to Project benefits, s. 47 of the Act requires applicants to conduct social mapping, landowner identification (SMLI) studies and socio-economic studies, as a prerequisite to a licence being granted.

A development forum (s. 48) is required prior to a PDL being granted and will not be convened until an EIS, including a socio-economic impact study (s. 49) and a full-scale SMLI study (s. 47), has been submitted to the Minister and the Minister is satisfied that the landowners are correctly represented.

The socio-economic impact assessment that is documented in Chapter 13 of this EIS will be provided to the Department of Petroleum to satisfy the requirements identified above. TEP PNG has carried out a full-scale SMLI study according to s. 47 of the Act. The full-scale SMLI study will be reported to the Department of Petroleum separate to this EIS.

2.3 Other PNG Legislation and Guidelines

Table 2.2 summarizes other important PNG legislation and guidelines relevant to regulating environmental and socio-economic performance of Project development and operational activities. Table 2.3 lists additional legislation related to environment and health, land acquisition and compensation, employment and industrial relations, and planning and infrastructure that, while not exhaustive, may nonetheless influence the Project.

Table 2.2 – PNG Legislation and Guidelines Relevant to Environmental and Social Performance

Legislation	Description	Discipline Reference
Environment (Water Quality Criteria) Regulation 2002	This regulation sets water quality criteria to preserve freshwater and marine aquatic life. Any use or discharge into water shall not cause lowering of the water quality below the prescribed criteria (see Schedule 1) unless permitted by this regulation or the terms of a permit. Project activities and wastewater treatment plant discharge must comply with water quality criteria. Criteria for a range of parameters (e.g., arsenic, boron, copper, lead, mercury and nickel) have been set for freshwater and marine aquatic life environments.	Surface water and sediment quality (Part 3 of Volume 2). Marine water and sediment quality (Part 11 of Volume 2).
Fauna (Protection and Control) Act 1966 and *Fauna (Protection and Control) (Amendment) Act 2014*	This Act governs the protection, control, harvesting and destruction of native fauna. It lists restricted or protected species of conservation significance in Papua New Guinea.	Freshwater and estuarine biodiversity (Part 5 of Volume 2). Terrestrial biodiversity (Part 6 of Volume 2).
	The Act also provides for the declaration of sanctuaries, protected areas and wildlife management areas.	Marine biodiversity (Part 12 of Volume 2).
Conservation Areas Act 1978 and *Conservation Areas (Amendment) Act 2014*	This Act provides for the declaration of conservation areas, which serve as another form of protected area in Papua New Guinea. The 2014 amendment of the Act requires a permit to develop land in a conservation area (s. 31 to 36).	Freshwater and estuarine biodiversity (Part 5 of Volume 2). Marine biodiversity (Part 12 of Volume 2).
International Trade (Fauna and Flora) Act 1979 and *International Trade (Fauna and Flora) (Amendment) Act 2014*	This Act promotes the sustainable use of fauna and flora and implements Papua New Guinea's obligations as a party to the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES).	Freshwater and estuarine biodiversity (Part 5 of Volume 2). Terrestrial biodiversity (Part 6 of Volume 2).
Technical Guideline (Additional Information) Water & Land Discharges (DEC, 2004e)	This guideline supplements the Guideline for Submission of an Application for an Environment Permit to Discharge Waste (GL-ENV/03/2004) (DEC, 2004f). It sets out the information that should be provided, as part of an application for an environment permit where water or land discharges may be generated.	Hydrology and meteorology (Part 2 of Volume 2). Surface water and sediment quality (Part 3 of Volume 2). Freshwater and estuarine biodiversity (Part 5 of Volume 2). Marine biodiversity (Part 12 of Volume 2).

Table 2.2 – PNG Legislation and Guidelines Relevant to Environmental and Social Performance (cont'd)

Legislation	Description	Discipline Reference
Technical Guideline (Additional Information) Air Discharges (DEC, 2004e)	This guideline assists with completing the application for an Environment Permit to Discharge Waste and is intended to assist applicants in submitting the relevant technical information in the permit application, addressing both existing air emissions and potential impacts.	Air quality (Part 19 of Volume 2).
Technical Guideline (Additional Information) for Noise Discharges (DEC, 2004d)	This guideline assists with completing the application for an Environment Permit and is intended to assist applicants in submitting the relevant technical information in the permit application, addressing both background noise and Project noise predictions.	Noise (Part 20 of Volume 2).
Draft Environmental Guideline for Sewerage Treatment and Disposal (DEC, 2009)	This draft guideline assists in the planning and management of sewerage treatment and disposal facilities in Papua New Guinea, and in understanding the various roles and responsibilities of sanitation management organizations.	Surface water and sediment quality (Part 3 of Volume 2). Marine water and sediment quality (Part 11 of Volume 2). Waste (Chapter 10 of this EIS).
Environmental Code of Practice for PNG Vehicle & Machinery Workshops Petroleum Storage, Resale and Usage Sites (DEC, 1997)	This code of practice provides guidance on the use of hydrocarbon-based materials in an environmentally sound manner.	Waste (Chapter 10 of this EIS).
Marine Pollution (Sea Dumping) Act 2013 and *Marine Pollution (Sea Dumping) Regulation*	This Act regulates the incineration and dumping of waste and other matter at sea, and implements the London Dumping Protocols. It requires a sea dumping permit to place certain waste material in marine waters. The regulation provides contaminant guidelines for dredged material disposed of at sea.	Surface water and sediment quality (Part 3 of Volume 2). Seabed and coastal geomorphology (Part 9 of Volume 2). Physical oceanography (Part 10 of Volume 2). Marine water and sediment quality (Part 11 of Volume 2). Marine biodiversity (Part 12 of Volume 2).
Marine Pollution (Preparedness and Response) Act 2013	This Act makes provisions for the effective response to and control of spills of oils, chemicals or any other pollutants from vessels in PNG waters. The Act mandates a comprehensive system for responding to and cleaning up oil spills and other marine pollution incidents in Papua New Guinea and provides for cooperation with neighboring countries in the event of major pollution emergencies. It requires applicants for new petroleum-related facilities and for proposed new port facilities to undertake a marine pollution risk assessment as part of an EIS.	Marine and river traffic and transport (Part 22 of Volume 2).

Table 2.2 – PNG Legislation and Guidelines Relevant to Environmental and Social Performance (cont'd)

Legislation	Description	Discipline Reference
Marine Pollution (Ships and Installations) Act 2013	This Act makes provisions for the prevention and control of marine pollution from any vessel and any offshore installation in PNG waters and from any PNG vessel or offshore installation wherever it may be; and it incorporates into the law of Papua New Guinea, relevant provisions of the International Convention on the Control of Harmful Anti-fouling Systems on Ships (IMO, 2001) and the International Convention for the Prevention of Pollution from Ships (IMO, 1973) which relates to marine pollution prevention and control.	Marine and river traffic and transport (Part 22 of Volume 2).
Marine Pollution (Ballast Water Control) Act 2013	This Act incorporates relevant provisions of the International Convention for the Control and Management of Ships' Ballast Water and Sediments 2004 (IMO, 2004). It makes provisions to control the introduction of harmful aquatic organisms or pathogens.	Marine and river traffic and transport (Part 22 of Volume 2).
National Museum and Art Gallery Act 1992	The PNG National Museum and Art Gallery, through this Act, is required to maintain a register of cultural heritage and archaeological sites identified during planning and development, and to ensure that sites are not illegally damaged or destroyed.	Cultural heritage and archaeology (Part 17 of Volume 2).
National Cultural Property (Preservation) Act 1965 and *National Cultural Property (Preservation) Regulation 1965*	This Act applies to pre-European-contact and post-European-contact sites on land, and underwater/ maritime archaeological sites. The Act covers 'any property, movable or immovable, of particular importance to the cultural heritage of the country' and 'any object, natural or artificial, used for, or made or adapted for use for, any purpose connected with the traditional cultural life of any of the peoples of the country, past or present'.	Cultural heritage and archaeology (Part 17 of Volume 2).
Public Health (Drinking Water) Regulation 1984	This regulation sets out criteria for ensuring water is suitable for human consumption. There are no specific groundwater assessment criteria in PNG legislation; therefore, groundwater quality is assessed with respect to water quality standards relevant to potentially sensitive receptors (i.e., human receptors and aquatic life).	Surface water and sediment quality (Part 3 of Volume 2). Groundwater (Part 4 of Volume 2).
Maritime Zones Act 2015	This Act provides for the protection of the marine environment through the designation of marine protected areas, prescribing measures for preventing accidents and emergencies that may pollute the marine environment and for the design, construction and operation of in-sea infrastructure (Part XI). The Act also manages activities related to underwater cultural heritage within the PNG maritime cultural zone (Part XIII).	Marine water and sediment quality (Part 11 of Volume 2). Cultural heritage and archaeology (Part 17 of Volume 2).

Table 2.2 – PNG Legislation and Guidelines Relevant to Environmental and Social Performance (cont'd)

Legislation	Description	Discipline Reference
Fisheries Management Act 1998, Fisheries Management Regulation 2000 and *Fisheries Management (Amendment) Regulation 2016*	This Act regulates fishing activity. Commercial fisheries are managed under separate 'sectors', most of which are defined by fishery management plans that set out total allowable catch, fishing areas and other arrangements. Relevant management plans under the Act include the Gulf of Papua Prawn Fishery Management Plan, the Torres Strait and Western Province Tropical Rock Lobster Fishery Management Plan, the National Bêche-de-mer Fishery Management Plan, and the Barramundi Fishery Management Plan.	Marine fisheries and resources (Part 13 of Volume 2).
Environmental Code of Practice for Sanitary Landfill Sites (DEC, 2001)	This code of practice aims to protect the existing natural environment from negative impacts of uncontrolled waste management; it assists with the planning and design of new landfills; and promotes approaches to waste reduction.	Waste (Chapter 10 of this EIS).
Forestry Act 1991 (and amendments 1993,1996, 2000, 2005 and 2010)	This Act covers commercial forestry. It allows landowners to assign their timber rights to the PNG government, which issues permits to forest industry participants.	Terrestrial Biodiversity (Annex 1D - Forestry) (Part 6 of Volume 2). Deforestation (Part 7 of Volume 2).

Table 2.3 – Other PNG Legislation Potentially Relevant to the Project

Topic	Legislation and Regulations
Environment and health	♦ *Environment (Ozone Depleting Substances) Regulation 2007*. ♦ *Plant Disease and Control Act 1953* (Chapter 220). ♦ *Environment (Registration of Contaminants and Hazardous Contaminants) Regulation 2011*. ♦ *National Water Supply and Sanitation Act 2016* and the *Public Health (Sewerage) Regulation 1973.*
Land acquisition and compensation	♦ *Land Act 1996, Land (Amendment) Act 2013.* ♦ *Land (Ownership of Freeholds) Act 1976.* ♦ *Land Registration Act 1981.* ♦ *Land Disputes Settlement Act 1975.* ♦ *Land Titles Commission Act 1962.* ♦ *Land Regulation 1999.* ♦ *Valuation Act 1967* (Chapter 327). ♦ *Land Groups Incorporation Act 1974* and the *Land Groups Incorporation Regulation 1974.*
Employment and industrial relations	♦ *Employment Act 1978* and *Employment Regulation 1980*. ♦ *Employment of Non-citizens Act 2007, Employment of Non-citizens (Amendment) Act 2007* and the *Employment of Non-Citizens Regulation 2008.* ♦ *Industrial Organizations Act 1962* and the *Industrial Organizations Regulation 1963.* ♦ *Industrial Relations Act 1962* and the *Industrial Relations Regulation 1972.* ♦ *Workers' Compensation Act 1978* and the *Workers' Compensation Regulation 1983.* ♦ *Discriminatory Practices Act 1963.* ♦ *Industrial Safety, Health and Welfare Act 1961.*

Table 2.3 – Other PNG Legislation Potentially Relevant to the Project (cont'd)

Topic	Legislation and Regulations
Buildings, transport, planning and infrastructure	♦ *Building Act 1971.* ♦ *Roads Maintenance Act 1971* and the *Roads Maintenance Regulation 1973.* ♦ *Physical Planning Act 1989* and the *Physical Planning Regulation 1990.* ♦ *Inflammable Liquid Act 1953.* ♦ *Fire Service Act 1962.* ♦ *Explosives Act 1953.* ♦ *Customs Act 1951.* ♦ *Licensing of Heavy Vehicles (Repeal) Act 2017.*

2.4 International Conventions, Standards and Guidelines

In addition to the PNG legislation in Tables 2.2 and 2.3, TEP PNG has considered the requirements of international standards and guidelines that may be relevant to the Project's environmental and social performance.

Conventions, standards and guidelines of relevance include:

- International conventions ratified by the Government of Papua New Guinea (in addition to those outlined in Table 2.2).
- IFC performance standards on environmental and social sustainability (IFC, 2012) and World Bank Group Environmental, Health and Safety Guidelines (IFC, 2007); to which the project will align.
- Good international industry practice e.g., the International Petroleum Industry Environmental Conservation Association (IPIECA) guidelines relevant to biodiversity and ecosystem services, health, social responsibility and water.

2.4.1 International Conventions

Table 2.4 presents international conventions (i.e., conventions, memoranda of understanding, covenants and agreements) the PNG government has ratified that may be relevant to this Project and identifies those aspects of the Project to which they may be relevant. In general, these conventions are effective in local law only after implementing legislation has been enacted in a signatory country. Elements of these conventions may relate to managing the Project's environmental and social impacts in those instances where the PNG Government has passed local laws to fulfill its statutory obligations.

Table 2.4 – International Conventions

Title	Description/Objective	Relevance to the Project
Conservation and Biodiversity		
International Plant Protection Convention (1952) with associated Plant Protection Agreement for the Asia and Pacific Region (1956) as amended	The convention promotes international cooperation to control the introduction and spread of pests and diseases of plants and plant products.	Construction and operational hygiene and minimizing disturbance.
Convention on Biological Diversity (1992)	The convention covers conservation of biological diversity, the sustainable use of its components and the fair and equitable sharing of the benefits arising from using genetic resources, including sharing by appropriate access to genetic resources; and by appropriate transfer of relevant technologies, taking into account all	Minimizing Project impacts on biodiversity.

Table 2.4 – International Conventions (cont'd)

Title	Description/Objective	Relevance to the Project
Conservation and Biodiversity (cont'd)		
Convention on Biological Diversity (1992) (cont'd)	rights over those resources and to technologies; and by appropriate funding.	Minimizing Project impacts on biodiversity.
Convention for the Protection of the Natural Resources and Environment of the South Pacific Region related Protocols (SPREP) (Nouméa, 1986)	The convention obliges parties to endeavor to take all appropriate measures to prevent, reduce and control pollution from any source and to ensure sound environmental management and development of natural resources, using the best practicable means at their disposal.	Minimizing pollution resulting from Project activities.
Convention on Wetlands of International Importance Especially as Waterfowl Habitat (Ramsar Convention) (1971)	The convention's mission is the conservation and wise use of all wetlands through local and national actions, and international cooperation, as a contribution towards achieving sustainable development throughout the world.	Avoidance of wetlands for Project activities where possible. Minimizing disturbance of migratory shorebirds in the Purari River delta.
Convention on the Conservation of Migratory Species of Wild Animals (Bonn Convention) (1979)	The convention aims to conserve terrestrial, marine and avian migratory species throughout their range. It is an intergovernmental convention concerned with conserving wildlife and habitats on a global scale.	Minimizing Project impacts on migratory species.
Convention Concerning the Protection of World Cultural Heritage and Natural Heritage (1972)	The convention is aimed at the protection of indigenous cultural and environmental heritage.	Managing Project impacts on cultural heritage sites, traditions and natural features.
Convention on the International Trade in Endangered Species of Wild Fauna and Flora (CITES) (1973)	The convention's objective is to ensure the international trade in wild animal and plant specimens does not threaten the survival of the species in the wild. It accords varying degrees of protection to more than 35,000 animal and plant species.	Minimizing public or unauthorized access to forests in and surrounding the Project area.
Memorandum of Understanding for the Conservation of Cetaceans and their Habitats in the Pacific Island Region (2006)	The Memorandum of Understanding provides an international framework for coordinated efforts to conserve cetaceans and their habitats (including migratory corridors) in the Pacific Island region.	Minimizing Project impacts on cetaceans and their habitats.
Memorandum of Understanding on the Conservation and Management of Marine Turtles and their Habitats of the Indian Ocean and South-East Asia (2001)	The Memorandum of Understanding aims to 'maintain and recover marine turtle populations by promoting cooperation among governments and other organizations that share this common objective. Recognizing that marine turtles have a myriad of socio-economic values, the memorandum seeks to assure that any consumptive or non-consumptive use of turtles for the benefit of human beings is sustainable well into the future'.	Minimizing Project impacts on marine turtles and their habitats.

Table 2.4 – International Conventions (cont'd)

Title	Description/Objective	Relevance to the Project
Emissions and Climate Change (cont'd)		
Vienna Convention for the Protection of the Ozone Layer (the Vienna Convention) (1985)	The convention provides frameworks for international reductions in the production of chlorofluorocarbons.	Minimizing Project use of chlorofluorocarbons.
United Nations Framework Convention on Climate Change (1992)	The convention aims to 'stabilize greenhouse gas concentrations in the atmosphere at a level that would prevent dangerous anthropogenic interference with the climate system'. It focuses on reducing negative changes to the earth's climate, with a particular focus on greenhouse gases. It places the onus on industrialized countries to reduce emissions.	Minimizing Project contributions to greenhouse gas emissions.
Pollution Prevention		
International Convention for the Prevention of Pollution from Ships (1973) (as modified by the London Protocol of 1978) (MARPOL)	The convention requires member states to minimize the risk of marine pollution from ships, in particular, oil tankers.	Managing marine pipelaying vessel operations, ballast water disposal, shipping pollution and emergency plans for LNG carriers.
International Convention for the Control and Management of Ships' Ballast Water and Sediments (2004)	All international sea going ships under the Convention must implement a 'Ballast water management plan' that enables the ship to manage their ballast water and sediment discharge to a certain standard.	Managing ballast water discharges from Project marine vessels, e.g. supply ships, construction vessels and service craft, to prevent the transfer of harmful aquatic organisms and pathogens.
The Convention on the Prevention of Marine Pollution by Dumping of Wastes and Other Matter (London Convention) (1972)	The convention aims to control pollution of the sea by dumping and to encourage regional agreements supplementary to the convention. It covers the deliberate disposal at sea of wastes or other matter from vessels, aircraft and platforms.	Minimizing discharges to the marine environment from Project activities.
Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and their Disposal (1989)	The convention's objective is to protect human health and the environment against the adverse effects of hazardous wastes, through encouraging reduced generation of hazardous wastes, environmentally sound waste management, and restriction and regulation of transboundary hazardous wastes movements.	Minimizing and managing hazardous wastes resulting from Project activities.
Convention to Ban the Importation into Forum Island Countries of Hazardous Wastes and Radioactive Wastes, and to Control the Transboundary Movement and Management of Hazardous Wastes within the South Pacific Region (Waigani Convention) (1995)	The convention aims to reduce and eliminate transboundary movements of hazardous and radioactive waste, to minimize the production of hazardous and toxic wastes in the Pacific region, and to ensure that disposal of wastes in the Convention area is completed in an environmentally sound manner.	Minimizing and managing the generation and transport of hazardous waste.

Table 2.4 – International Conventions (cont'd)

Title	Description/Objective	Relevance to the Project
Pollution Prevention (cont'd)		
Stockholm Convention on Persistent Organic Pollutants (POPs) (2001)	The convention aims to protect human health and the environment from a range of persistent organic pollutants (POPs), via requiring signatories to ban the production, use, import and export of these. The convention also requires waste management to reduce or eliminate releases of POPs into the environment.	Avoiding the use of POPs and minimize release to the environment.
International Convention on the Establishment of an International Fund for Compensation for Oil Pollution Damage (1992)	The convention provides compensation for pollution damage to the extent that the protection afforded by the 1969 Civil Liability Convention is inadequate.	Providing provisions for compensation to states or persons who suffer from pollution damage, if required.
Resource Use		
United Nations Convention on the Law of the Sea (UNCLOS) (1982)	The convention defines the rights and responsibilities of nations with respect to their use of the world's oceans, establishing guidelines for businesses, the environment and the management of marine natural resources.	Minimizing impacts to marine resources and the marine environment.
International Tropical Timber Agreement (ITTA) (Geneva, ITTA2 1994, ITTA3 2006).	The convention promotes the expansion and diversification of international trade in tropical timber from sustainably managed and legally harvested forests, and promotes the sustainable management of tropical timber-producing forests.	Managing access to the Project area to prevent illegal forestry.
Labor		
International Labor Organization conventions (1976 – 2000)	These conventions collectively provide protection to workers against anti-union discrimination and encourage collective bargaining. They aim to suppress the use of forced labor in all its forms, set a minimum age for employment and support action against child labor, encourage equal remuneration for men and women, and consider the rights of migrant workers.	Respecting worker's rights in employment of local and international workers.
UN Convention on the Rights of the Child, Article 32.1	This human rights convention sets out the civil, political, economic, social, health and cultural rights of children. The convention defines a child as any human being under the age of eighteen, unless the age of majority is attained earlier under a state's own domestic legislation.	
UN Convention on the Protection of the Rights of all Migrant Workers and Members of their Families	The convention takes into account the principles embodied in the basic instruments of the United Nations concerning human rights and those of the International Labor Organization. The convention defines a migrant worker as 'a person who is to be engaged, is engaged or has been engaged in a remunerated activity in a State of which he or she is not a national'.	

Table 2.4 – International Conventions (cont'd)

Title	Description/Objective	Relevance to the Project
Human and Civil Rights		
International Covenant on Civil and Political Rights (1966)	The covenant recognizes that the inherent dignity and the equal and inalienable rights of all members of the human family are the foundation of freedom, justice and peace in the world.	Providing opportunities for men and women from all races, backgrounds and abilities.
International Covenant on Economic, Social and Cultural Rights (1966)	The covenant commits its parties to work toward the granting of economic, social, and cultural rights to the Non-Self-Governing and Trust Territories, and individuals, including labor rights and the right to health, the right to education, and the right to an adequate standard of living.	Providing opportunities for men and women from all races, backgrounds and abilities are provided by the Project.
Convention on the Elimination of All Forms of Discrimination Against Woman (1979)	The convention takes an important place in bringing women into the focus of human rights concerns. The spirit of the convention is rooted in the goals of the United Nations.	
International Convention on the Elimination of All Forms of Racial Discrimination (1965)	The convention proclaims that everyone is entitled to all the rights and freedoms set out therein, without distinction of any kind, in particular as to race, color or national origin.	
Convention on the Rights of Persons with Disabilities (2006)	The convention is intended to protect the rights and dignity of persons with disabilities. Parties to the convention are required to promote, protect, and ensure the full enjoyment of human rights by persons with disabilities and ensure that they enjoy full equality under the law.	

2.4.2 Equator Principles and IFC Performance Standards

The Equator Principles (2013) comprise a risk management framework that financial institutions have adopted for determining, assessing and managing environmental and social risk in projects, and are primarily intended to provide a minimum standard for due diligence to support responsible risk decision-making. They provide a means for financial institutions to ensure that the projects they finance are developed in a manner that is socially responsible and consistent with sound environmental management practices. Papua New Guinea is a non-designated country under the Equator Principles for which compliance with applicable IFC performance standards (IFC, 2012) and World Bank Group environmental, health and safety guidelines (IFC, 2007a) is required.

The IFC performance standards '…are designed to help avoid, mitigate, and manage risks and impacts (while also enhancing development opportunities) as a way of doing business in a sustainable way' (IFC, 2012). The performance standards apply to all clients seeking direct investment from the IFC and other international finance institutions also apply them.

The IFC performance standards address stakeholder engagement and disclosure obligations of the client in relation to project-level activities. In the case of IFC's direct investments (including project and corporate finance provided through financial intermediaries), IFC requires its clients to apply the performance standards to manage environmental and social risks and impacts so that development opportunities are enhanced.

The standards are:

- Performance Standard 1: Assessment and Management of Environmental and Social Risks and Impacts.
- Performance Standard 2: Labor and Working Conditions.
- Performance Standard 3: Resource Efficiency and Pollution Prevention.
- Performance Standard 4: Community Health, Safety, and Security.
- Performance Standard 5: Land Acquisition and Involuntary Resettlement.
- Performance Standard 6: Biodiversity Conservation and Sustainable Management of Living Natural Resources.
- Performance Standard 7: Indigenous Peoples.
- Performance Standard 8: Cultural Heritage.

The IFC performance standards are supplemented by environmental, health and safety guidelines, known as the EHS Guidelines, that provide performance levels and criteria for general and industry-specific good international industry practice, specifically in relation to management of EHS risks or issues that may arise due to certain project activities.

The World Bank Group, of which IFC is one of five member organizations, requires borrowers or clients to apply the relevant levels or measures of the EHS Guidelines. When host country regulations differ from the levels and measures presented in the EHS Guidelines, projects are required to achieve whichever is more stringent.

The EHS guidelines provide, for example, criteria for acceptable air quality emissions, noise levels and drinking water quality. See Table 2.5 for EHS Guidelines that are likely to be relevant to the Project. Some of those draw on World Health Organization guidelines, also referred to in Table 2.5 where relevant.

Table 2.5 – Relevant IFC General and Industry-specific EHS and Other Guidelines

IFC Guideline	Description
General EHS Guidelines (IFC, 2007a)	♦ Environmental (2007). ♦ Community Health and Safety (2007). ♦ Construction and Decommissioning (2007).
Industry-specific EHS Guidelines	♦ Shipping (IFC, 2007b). ♦ Waste Management Facilities (IFC, 2007c). ♦ Water and Sanitation (IFC, 2007d). ♦ Onshore Oil and Gas Development (IFC, 2007e). ♦ Offshore Oil and Gas Development (IFC, 2015). ♦ Ports, Harbors, and Terminals (IFC, 2017). ♦ Construction Materials Extraction (IFC, 2007f). ♦ Telecommunications (IFC, 2007g).
Other Guidelines	♦ Good Practice Handbook on Cumulative Impact Assessment and Management: Guidance for the Private Sector in Emerging Markets (IFC, 2013). ♦ Stakeholder Engagement: A Good Practice Handbook for Companies Doing Business in Emerging Markets (IFC, 2007h). ♦ Good Practice Note: Addressing the Social Dimensions of Private Sector Projects (IFC, 2003). ♦ Projects and People: A Handbook for Addressing Project-Induced In-Migration (IFC, 2009a).

Table 2.5 – Relevant IFC General and Industry-specific EHS and Other Guidelines (cont'd)

Other Guidelines (cont'd)	♦ Good Practice Handbook on Cumulative Impact Assessment and Management: Guidance for the Private Sector in Emerging Markets (IFC, 2013). ♦ Stakeholder Engagement: A Good Practice Handbook for Companies Doing Business in Emerging Markets (IFC, 2007h). ♦ Good Practice Note: Addressing the Social Dimensions of Private Sector Projects (IFC, 2003). ♦ Projects and People: A Handbook for Addressing Project-Induced In-Migration (IFC, 2009a). ♦ Addressing Grievances from Project Affected Communities (IFC, 2009b) ♦ UN Guiding Principles on Business and Human Rights and IFC Sustainability Framework (UN, 2012). ♦ Air quality guidelines (WHO, 2005). ♦ Guidelines for community noise (WHO, 1999). ♦ Guidelines for drinking water quality (WHO, 2017).

2.4.3 Other Guidelines

Good international industry practice guidelines also relevant to the EIS include:

- Biodiversity and ecosystem services fundamentals. Guidance documents for the oil and gas industry (IPIECA, 2016).
- Oil spill preparedness and response guidelines (IPIECA, 2015a and b).
- Integrating Human Rights into Environmental, Social and Health Impact Assessments: A Practical Guide for the Oil and Gas Industry (IPIECA and DIHR, 2013).
- A Guide to Social Impact Assessment in the Oil and Gas Industry (IPIECA, 2004).
- Health Impact Assessment: A guide for the oil and gas industry (IPIECA and IOGP, 2016).
- Human Rights Due Diligence Process: A practical guide to implementation for oil and gas companies (IPIECA, 2012a).
- Indigenous Peoples and the Oil and Gas Industry: Context, Issues and Emerging Good Practice (IPIECA, 2012b).

2.5 TEP PNG Standards and Specifications

TEP PNG is the proponent of this EIS. TOTAL, as TEP PNG's ultimate parent company, sets high corporate social responsibility standards for itself, its affiliates, its suppliers and contractors, and accordingly has taken a set of commitments, developed standards and specifications:

- TOTAL Group Code of Conduct (TOTAL, 2018), further elaborated under:
  - TOTAL Group Guide on Human Rights (TOTAL, 2015).
  - TOTAL Charter of Principles and Guidelines Regarding Indigenous and Tribal Peoples (CH-GR-SBS-001).
- TOTAL Fundamental Principles of Purchasing (TOTAL, 2016).
- TOTAL Safety Health Environment Quality Charter (TOTAL, 2014).
- Integrating Climate into TOTAL's strategy (TOTAL, 2018).
- TOTAL and Biodiversity, Commitments and actions (TOTAL, 2018).

TOTAL standards and specifications, based upon the good international industry practice referred to in Section 2.4, which have underpinned the Project design and EIS process, include:

- TOTAL General Specification: Environmental Requirements for Project Design and E&P Activities (GS EP ENV 001).
- TOTAL General Specification: Environmental specification for onshore pipeline construction (GS EP ENV 011).
- TOTAL General Specification: Environmental Baseline and Monitoring Studies: Onshore Sites (GS EP ENV 111).
- TOTAL General Specification: Environmental Baseline and Monitoring Studies: Offshore and Nearshore Sites (GS EP ENV 112).
- TOTAL General Specification: Environmental Impact Assessment of E&P Activities (GS EP ENV 120).
- TOTAL General Specification: Social Baseline Study (GS EP SDV 101).
- TOTAL General Specification: Social Impact Assessment (GS EP SDV 102).

  TOTAL General Specification: Human Rights Impact Assessment (GS EP SDV 103).
- TOTAL General Specification, Landfill design and operation for E&P sites (GS EP SDV 421).
- TOTAL General Specification, Hygiene on onshore bases and offshore living quarters (GS EP MED 062).
- TOTAL General Specification, Temporary construction camps and associated facilities (onshore) (GS EP CIV 403).
- TOTAL General Specification, Onshore permanent accommodation base and associated facilities (GS EP CIV 407).

In line with TOTAL's commitments, TEP PNG has a non-compromising attitude towards health, safety and environment. TEP PNG also places its societal commitment at the core of its responsibility as an industrial operator.

The related commitments have been detailed in the following documents (Attachment 2.1):

- TEP PNG Health Safety and Environment Charter (L0-CHT-MAN-01-R0).
- TEP PNG Biodiversity and Ecosystem Services Charter (L0-CHT-MAN-02-R0).
- TEP PNG Societal Policy (L1–POL–MAN–05-R0).

2.6 References

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WHO, 1999. Guidelines for Community Noise. World Health Organization (WHO), Geneva.

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WHO. 2017. World Health Organization. Guidelines for Drinking-water Quality: Fourth Edition Incorporating the First Addendum. Geneva.

Attachment 2.1
TEP PNG Health, Safety and Environment Charter, Biodiversity and Ecosystem Services Charter, and Societal Policy

TOTAL

TOTAL E&P PNG LIMITED

HEALTH, SAFETY AND ENVIRONMENT CHARTER

THE TOTAL GROUP AND TOTAL E&P PNG LIMITED HAVE A NON-COMPROMISING ATTITUDE TOWARDS HEALTH, SAFETY AND ENVIRONMENT.
WE ARE THEREFORE COMMITTED TO:

- **HEALTH AND SAFETY OF PERSONNEL.**
- **ENVIRONMENTAL PROTECTION.**

……

As a Papua New Guinean company, we shall fulfil our commitment to the nation working in a transparent and open manner with all stakeholders to continuously improve HSE for all.

We consider that a high standard of HSE performance by everyone working for or with us is critical to the success of our business. Accordingly, we expect our suppliers and partners to share and enforce our values and goals.

TO DEVELOP A STRONG HSE CULTURE, WE ARE DETERMINED TO FOSTER:

- Transparency and communication within the company and with the authorities, our partners, and our stakeholders.
- Management's leadership through exemplarity.
- Active supervision of all HSE matters promoting HSE as a core value of our business.
- Commitment from all personnel to our 12 'Golden Rules', 'Stop Card' and 'One-MAESTRO HSE Principles'.
- Vigilance and professionalism of everyone at all times.

October 2018

Jean-Marc Noiray
Managing Director

IN ORDER TO ACHIEVE OUR STANDARDS WE SHALL, IN ALL OUR ACTIVITIES:

- Develop ambitious, measurable HSE objectives and key performance indicators as a means of measuring and improving our performance.
- Maintain a culture in which each person is clearly aware of his or her own responsibility in HSE matters, and acts in accordance to our Golden Rules.
- Commit ourselves to an open, honest and long-term dialogue with our stakeholders.
- Comply with National Acts and Regulations and with Total group policies.
- Perform appropriate HSE assessments in order to identify, minimise and manage the risks to personnel, the environment and assets.
- Plan and supervise the execution of all our activities considering HSE as a paramount priority.
- Protect the environment (forest, land, sea, ecosystems…) in all our operations and prevent pollution.
- Promote the selection of industrial and business partners on the basis of their internal HSE Management System and their ability to comply with our HSE policy.
- Maintain and develop the competencies of our personnel through appropriate trainings.
- Ensure effective preparedness for any emergency situation.
- Maintain a high level of reporting and analysis for every anomaly and incident that may occur, in order to implement corrective actions.
- Continuously improve our management system through regular monitoring, audits and inspections, and ensure its implementation.

……

In order for everyone to share a strong HSE culture within Total E&P PNG limited, the involvement, the vigilance and exemplarity of each one are required.

Yumi olgeta mas wok bung wantaim sapos yumi laik gat strongpela pasin bilong HSE insait long Total E&P PNG Limited.

TOTAL

TOTAL E&P PNG LIMITED

BIODIVERSITY and ECOSYSTEM SERVICES CHARTER

Commitment

Total E&P PNG Limited (TEP PNG), as operator of the Papua LNG Project (the "Project"), recognises that it is operating in an area of high biodiversity and ecosystem services ("BES") values. TEP PNG shall endeavour to safeguard these values for the long term, and is seeking to achieve a **No Net Loss of Natural Habitat** and a **Net Positive Impact on Critical Habitat**-qualifying biodiversity. TEP PNG will comply with all national legislation, align with International Finance Corporation ("IFC") Performance Standards, and follow Total group's *Code of Conduct*, *Safety Health Environment and Quality Charter* and *Biodiversity Policy* in operating the Project. TEP PNG's ambition is to be recognised as a leading operator in Papua New Guinea for its management of the Project's impacts on BES values.

Approach

TEP PNG will plan and conduct all of its Project onshore and offshore activities in alignment with IFC Performance Standards requirements, in particular following the **Mitigation Hierarchy** to:

- **Avoid** impacts to BES values wherever feasible;
- **Minimise** any unavoidable impacts on BES values;
- **Restore** or **rehabilitate** impacts on BES values;
- **Offset** any unavoidable significant residual impacts on BES values; and
- **Improve the knowledge** of BES by supporting research initiatives.

TEP PNG will partner with local and international experts throughout the Project to maximise opportunities for stakeholders' participation and input.

Implementation, monitoring and reporting

TEP PNG will follow the above approach throughout the Project life cycle and, for any offsets, as long as Project impacts remain. TEP PNG will develop this approach in a Project BES Strategy, which will be implemented through a Biodiversity Action Plan that is integrated into the Company's Environmental and Social Management System.

March 2019

Jean-Marc Noiray
Managing Director

TOTAL
COMMITTED TO BETTER ENERGY

Total E&P PNG Limited
SOCIETAL POLICY

Ambition

While respecting the laws and regulations of Papua New Guinea, Total group values and international standards, Total E&P PNG Limited ("TEP PNG") ambition is to act and be recognized as:

- An industrial operator with a strategy centered on respect, listening, dialogue and stakeholder involvement;
- An accountable operator exemplary in its management of impacts related to its activities;
- A partner in the sustainable social and economic development of its host Local Communities and Papua New Guinea;
- A company that is setting the benchmark for the promotion of access to energy.

Commitments and undertaking

Stakeholders and Local Communities

TEP PNG commits to developing transparent and constructive relationships with its stakeholders.

TEP PNG will act as a good neighbour and strive to understand and respect local communities' rights, traditions, customs, culture and dignity while conducting its operations in a safe and environmentally responsible manner.

TEP PNG will work closely with local stakeholders to ensure early, regular and Informed Participation, through an on-going presence in communities. Local communities' and landowners' consent is to be pursued through Good Faith Negotiation: key components thereof being informed consultation and participation of potentially affected people and the obtaining of free, prior and informed consent of directly affected communities.

Impacts Management

TEP PNG commits to limiting the negative socio-economic impacts of its operations within its Area of Influence, and will design such activities with a view:

- to avoiding the likelihood that they will have significant adverse impacts on directly affected communities;
- and, when it is not possible to avoid such impacts, to minimising, mitigating and compensating for any unavoidable impacts, in consultation with affected communities and people through appropriate Information Disclosure.

Socio-economic Development

TEP PNG shall contribute to the socio-economic development of the people of its Area of Influence in particular and of Papua New Guinea in general.

As a partner in the sustainable social and economic development of host communities, TEP PNG seeks to act as a catalyst, maximising the positive impacts of its presence by:

- Preferably recruiting locally and relying on national and local contractors to the extent compatible with its operational constraints;
- Developing training programs and providing support to small and medium enterprises and other key economic actors;
- Contributing to human development by reinforcing the health and education of directly affected communities and vulnerable people, and strengthening local skills and capacities;
- Promoting the value of the historical, natural and cultural heritage of Local Communities and Papua New Guinea;
- In all its development initiatives, TEP PNG wishes to promote partnership with stakeholders including civil society, international organisations, national, provincial and district administrations and authorities.

May 2016
Philippe Blanchard
Managing Director

TOTAL E&P PNG LIMITED