TOTAL
TOTAL E&P PNG LIMITED

PAPUA LNG PROJECT

UPSTREAM ENVIRONMENTAL IMPACT STATEMENT

VOLUME 1: MAIN REPORT

Chapter 21: Glossary

TOTAL E&P PNG LIMITED

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21. Glossary

21.1 Acronyms and Abbreviations

€	Euro
µg/m^3	microgram per cubic meter
/d	per day
/y	per year
AASS	actual acid sulfate soils
AES	Avenell Engineering Systems Ltd
AIDS	Acquired Immunodeficiency Syndrome
AGRU	acid gas removal unit
ALARP	as low as reasonably practicable
ANZECC/ARMCANZ	Australian and New Zealand Environment and Conservation Council/Agriculture and Resource Management Council of Australia and New Zealand
ARI	average recurrence interval
AS	Australian Standard
AS/NZS	Australian/New Zealand Standard
asl	above sea level
AU$	Australian dollar
B	billion
bar	unit of pressure (100 kilopascals)
bbl	barrel
Bcf	billion cubic feet
bcpd	barrels condensate per day
bgl	below ground level
BHP	bottom hole pressure
BHT	bottom hole temperature
boe	barrel of oil equivalent
BOD	biological oxygen demand
BOP	blowout preventer
BSA	benefit sharing agreement
BTEX	benzene, toluene, ethylbenzene and xylene
Btu/scf	British thermal unit per standard cubic foot
BUR	Biennial Update Report

BVG	broad vegetation group
bwpd	barrels of water per day
°C	degrees Celsius
CALMET	California Meteorological Model
CALPUFF	California Puff Model
CAPEX	capital expenditures
CCR	central control room
CCS	carbon capture and sequestration
CCTV	closed circuit television
CEPA	Conservation and Environment Protection Authority (formerly DEC)
CFC	chlorofluorocarbon
CFU	colony-forming unit
CH_4	methane
CESMP	Construction Environmental and Social Management Plan
CHMP	Cultural Heritage Management Plan
CLO	Community Liaison Officer
CLUCA	Clan Land Use and Compensation Agreements
cm	centimeter
CO	carbon monoxide
CO_2	carbon dioxide
CO_2-e	carbon dioxide equivalent
COD	chemical oxygen demand
CHM	cultural heritage mitigation
CP	cathodic protection
CPF	central processing facility
CR	company rule
CVS	condensate valve station
dB	decibel(s)
DEC	Department of Environment and Conservation (now CEPA)
DNPM	Department of National Planning and Monitoring
DoH	Department of Health
DoP	Department of Petroleum
DPE	Department of Petroleum and Energy (now DoP)
DWT	deadweight tonnage
ED	embedded design control

EDP	emergency depressurization
EER	escape, evacuation and rescue
EHS	environmental, health and safety
EIA	environmental impact assessment
EIR	environmental inception report
EIS	environmental impact statement
EITI	Extractive Industries Transparency Initiative
EM	environmental mitigation
EMP	environmental management plan
EMS	environmental management system
ESBS	environmental and social baseline study
ESHIA	environmental, social, and health impact assessment
ESD	emergency shutdown
ESM	ecosystem services mitigation
FAO	Food and Agriculture Organization
FEED	front-end engineering design
FID	final investment decision
FIMS	Forest Inventory Mapping System
FPIC	free, prior, informed consent
FTE	full time equivalent
GEL	generally expected level
GHG	greenhouse gas
GIIP	good international industry practice
GIS	geographic information system
GPWG	Gulf Province Working Group
GRA	global restricted area
GS	general specification
GVS	gas valve station
H_2S	hydrogen sulfide
ha	hectare
HAZID	hazard identification
HDD	horizontal directional drilling
HDPE	high-density polyethylene
HP	high-pressure
HIV	human immunodeficiency virus

HV	high-voltage
Hz	hertz
hPa	hectopascals
HSE	health, safety, environment
IAQM	Institute of Air Quality Management
ICP	informed consultation and participation
IDLH	immediately dangerous to life and health
IFC	International Finance Corporation
IMO	International Maritime Organization
in	inch
IPCC	Intergovernmental Panel on Climate Change
IUCN	International Union for the Conservation of Nature
k	thousand
K	kina
kboe/d	thousand barrels of oil equivalent per day
kb/d	thousand barrels per day
kHZ	kilohertz (1,000 Hz)
kL	kiloliter
km/h	kilometer per hour
kW	kilowatt
kWh	kilowatt hour
L	liter
L/s	liters per second
Landco	landowner companies
LAT	lowest astronomical tide
LCM	loose cubic meter
LIDAR	light detection and ranging
LLG	local-level government
LNG	liquefied natural gas
LP	low pressure
LPG	liquefied petroleum gas
m	meter
M	million
m/s	meters per second
Mbbl	million US petroleum barrels

MEG	monoethylene glycol
MAESTRO	Management and Expectations Standards Towards Robust Operations
mg	milligram
mg/cm^2	milligrams per square centimeter
mg/L	milligrams per liter
mg/Sm^3	milligram per standard cubic meter
ML	megaliters
ML/d	megaliters per day
Mm^3	million cubic meters
MMscfd	million standard cubic feet per day
MP	medium-pressure
MSDS	material safety data sheet
Mt CO_2-e	million tonne of carbon dioxide equivalent
MTO	methanol to olefins
Mtpa	million ton per annum
MW	megawatt = one million (10^6) watts
MWh	megawatt hour
MWp	megawatt peak
NaHSO4	sodium bisulfate
NA2SO3	sodium sulfite
NFA	National Fisheries Authority
NGA	Australian National Greenhouse Accounts
NGO	nongovernmental organization
NMAG	Papua New Guinea National Museum and Art Gallery
NMSA	Papua New Guinea National Maritime and Safety Authority
NO_2	nitrogen dioxide
NOx	nitrogen oxides
NORM	naturally occurring radioactive material
NTU	nephelometric turbidity unit
OD	open drain network
OECD	Organization for Economic Cooperation and Development
OPEC	Organization of the Petroleum Exporting Countries
OPEX	operating expenditures
PAC	Project-affected community
PAH	polycyclic aromatic hydrocarbons

PAOI	Project area of influence
PAP	Project-affected person
PASS	Potential acid sulfate soils
PCCSP	Pacific Climate Change Science Program
PDL	petroleum development license
PGK	Papua New Guinean Kina
PL	pipeline license
POM	Port Moresby
PM_{10}	particulates with aerodynamic diameter less than 10 µm
$PM_{2.5}$	particulates with aerodynamic diameter less than 2.5 µm
PNG LNG	Papua New Guinea Liquefied Natural Gas (project)
PNGFA	Papua New Guinea Forest Authority
PPE	personal protective equipment
PPFL	petroleum processing facility license
PPL	petroleum prospecting license
ppm	parts per million
PRAEC	petroleum resource area economic corridor
PRL	petroleum retention license
PRL-3	petroleum retention license-3
PRL-15	petroleum retention license-15
PTS	permanent threshold shift
ROW	right of way
SEP	stakeholder engagement plan
SENVID	social, environmental aspects identification
SIA	social impact assessment
Sm^3	standard cubic meter
SIMOPS	simultaneous operations
SO_2	sulfur dioxide
SOx	sulfur oxides
sp.	singular of species
spp.	plural of species
SRU	sulfur recovery unit
STI	sexually-transmitted infection
t	metric tonne(s)
t CO_2-e	tonne of carbon dioxide equivalent

t/d	tonnes per day
TCEQ	Texas Commission on Environmental Quality
Tcf	trillion cubic feet
TEG	tri-ethylene glycol
TEP	Total Exploration & Production
TEP PNG	Total E&P PNG Limited
TOC	total organic carbon
TOTAL	TOTAL S.A. (see also TEP PNG)
Total E&P	a division of TOTAL S.A.
tpa	tonnes per annum
tph	tonnes per hour
TPH	total petroleum hydrocarbon
TSP	total suspended particles
TSPZ	Torres Strait Protected Zone
TSS	total suspended solids
TTS`	temporary threshold shift
TVD	true vertical depth
UN	United Nations
UNESCO	United Nations Educational, Scientific and Cultural Organization
US EPA	United States Environmental Protection Agency
USFDA	United States Food and Drug Administration
UXO	unexploded ordnance
V	vulnerable
VHF	very high frequency radio communication
VOC	volatile organic compound
VLO	Village Liaison Officer
WHO	World Health Organization
WHRU	waste heat recovery unit
WMA	wildlife management area
WTO	World Trade Organization
WWF	World Wildlife Fund

21.2 Glossary of Terms

abandonment	(oil & gas wells) wells are abandoned when they reach the end of production or they are dry holes. Cement plugs are placed in the borehole to prevent migration of fluids between different formations. Surface components are then decommissioned and removed from site. This term can also apply to abandonment of facilities during decommissioning.
abiotic	of or relating to the non-living components of an ecosystem; physical rather than biological; not involving biological activity.
abundance	(biological and other sciences) the quantity or amount of something present in a particular area, volume, or sample e.g., total numbers of individual animals or of taxonomic groups of animals.
acidify	to make acid; convert or change into an acid. To become acid; turn acidic.
acoustic	relating to sound or the sense of hearing.
ambient noise	environmental background noise not of direct interest during a measurement or observation.
anadromous	of a fish that spends most of its life feeding in the open ocean but that migrates to spawn in fresh water.
ancestral village	a village that is no longer in use and known through oral traditions.
anoxic	lacking in oxygen.
antifouling	preventing growth of marine organisms on the hull of a ship or boat. An antifouling agent, usually in the form of a paint, i.e., substances applied to the hulls of vessels to prevent attachment and growth of marine organisms that could affect the performance of the vessels and introduce exotic marine organisms.
arboreal	living in trees.
Aristolochiaceous	a plant belonging to the family Aristolochiaceae.
aspect	a particular part of a subject (see also ‘environmental aspect’).
associated facility	facilities that are not funded as part of the project and that would not have been constructed or expanded if the project did not exist and without which the project would not be viable.
A-weight	a frequency filter, the intention of which is to approximate the subjective response of human hearing. A-weighted sound pressure levels are designated as dB(A).
background	the circumstances, situation, or levels of a particular parameter prevailing at the time of assessment; natural or pre-existing level of a variable.
ballast	any heavy material carried by a ship or boat for ensuring proper stability, so as to avoid capsizing and to secure the greatest

	effectiveness of the propelling power; extra weight taken on to increase a ship's stability to prevent rolling and pitching. Most ships use seawater as ballast. Empty tank space is filled with inert (non-combustible) gas to prevent the possibility of fire or explosion.
barrel	(bbl) measure of crude oil equal to 42 US gallons, 35 Imperial gallons or 159 L.
baseline	an initial value of a measure, parameter or variable used as a starting point for comparison.
bathymetry	the measurement of underwater depth of ocean or sea floors or other large bodies of water.
benthic zone	the ecological region at the lowest level of a body of water, including the sediment surface and some sub-surface layers.
benthos	organisms that live at or associated with the seafloor. Examples include burrowing clams, sea grasses, sea urchins and acorn barnacles.
bentonite	a material composed of clay minerals, predominantly montmorillonite with minor amounts of other smectite group minerals, commonly used in drilling mud. Bentonite swells considerably when exposed to water, making it ideal for protecting formations from invasion by drilling fluids. It is widely used as a mud additive for viscosity and filtration control.
bilge water	water that collects in the bilges of a vessel and can become contaminated with chemicals or hydrocarbons from the engine room.
biocide	a chemical agent intended to destroy, deter, render harmless, or exert a controlling effect on any organism/s. In the oil and gas industry, biocides are added to water-based muds to control bacterial growth.
biodiversity	biological diversity; the variety of species (of plants, animals, etc.), their genes, and the ecosystems they comprise, in relation to a particular habitat. A high level of biodiversity is usually considered to be desirable and/or important.
biogenic/biogenous	produced or brought about by living organisms/producing or produced by living organisms.
blowout	uncontrolled release of formation fluids (water, crude oil and/or natural gas) from a well after pressure control systems have failed. I.e., when downhole pressure overcomes the weight of drilling fluid and rises in a well to the surface, combined with failure of blowout preventer. An underground blowout is where the overpressuring enters another formation higher in the well, but before it reaches the surface.
blowout preventer (BOP)	a large series of valves at the top of a well which can be closed successively to counteract the uncontrolled rise of oil or gas from a reservoir below.

burial platform	platforms where human remains are placed.
calcareous	made of calcium carbonate.
CALMET	a diagnostic meteorological model which reconstructs three-dimensional temperature and wind fields according to meteorological measurements, land use data and topography.
CALPUFF	a transport and dispersion model that advects ‘puffs’ of material from modelled sources, simulating dispersion and transformation processes.
carnivore	an organism that satisfies its nutrient requirements from a diet consisting mainly or exclusively of animal tissue.
carrying capacity	the number of people, animals, or crops which a region can support without environmental degradation.
cartilaginous	having a skeleton of cartilage.
casing	steel pipe threaded together to line the inside of a well bore, lowered into the open hole and cemented into place. Used to prevent the bore from caving in, to prevent water and other fluids from entering the bore, and to maintaining control of drilling fluids.
catadromous	fish that spawns in seawater but feeds and spends most of its life in estuarine or fresh water.
ceremonial site	a place where traditional ceremonies are or were carried out.
cetacean	the group of marine mammals that includes whales, dolphins and porpoises.
clay	a fine-grained earth/soil material, defined by AS1726-1993 as being composed of particles finer than 0.002 mm. When used as a soil texture group such soils contain at least 35% clay particles.
comb jellies	members of the phylum Ctenophora, a group of gelatinous forms feeding on smaller zooplankton.
commissioning	process of testing, checking and inspecting all systems and components of a newly constructed facility, plant or piece of equipment to verify that it is installed and functioning according to design specifications and operational requirements.
completion	(of an oil or gas well) all operations (tubing, installation of valves, wellhead, etc.) to enable production and bring a production well into operation.
compression (gas)	the act, process, or result of compressing; the state of being compressed; e.g., the containment of gas at a higher pressure than it exists in its natural state.
condensate	a low-density mixture of hydrocarbon liquids that generally occurs in association with natural gas. Its presence as a liquid phase depends on temperature and pressure conditions in the reservoir, allowing condensation of liquid from vapor.
conductor	the first casing string in a well.

construction	a project phase that comprises the building of an installation (i.e., gas processing facilities, pipelines etc).
contaminant	something which contaminates, i.e., renders impure via pollution. In ecology, a substance which may degrade an environment (e.g., soil or water) due to toxicity to humans, animals or plants, or detriment to beneficial uses.
contamination	making or being made contaminated; to pollute a substance with another substance. Considered to have occurred when the concentration of a specific element or compound is established as being greater than the normally expected (or quantified) background concentration.
continental shelf	an underwater landmass which extends from a continent; a broad expanse of seafloor sloping gently and seaward from the shoreline to the shelf-slope break at a depth of 100 to 200 m.
controlled discharge	release of a substance (e.g., wastewater) from a project area onto/into receiving land/water under conditions that meet a predetermined quality standard.
coral reef	a wave-resistant structure resulting from cementation processes and the skeletal construction of hermatypic corals, calcareous algae, and other calcium carbonate-secreting organisms.
cumulative impact	an impact that result from the successive, incremental, and/or combined effects of an action, project, or activity when added to other existing, planned, and/or reasonably anticipated future ones.
cutter suction dredger	dredger equipped with a rotating cutter head, for cutting and fragmenting harder soils and rock. The material is sucked up by means of dredge pumps, and discharged through a pipeline to a deposit area.
cuttings	(oil and gas drilling) rock fragments dislodged by the drill bit which are brought to the surface in the drilling mud.
decibel (dB)	a logarithmic unit used to express the ratio of two values of a physical quantity, often power or intensity. Used to described sound – the base 10 logarithmic function of the ratio of the pressure fluctuation to a reference pressure.
decommissioning	a project phase that comprises the removal, disposal or reuse of an installation when it is no longer required for its current purpose.
degradation	the process by which the inherent quality or value of something is being destroyed or diminished.
density	(botany, zoology, population geography) the quantity of plants, animals or people within a given area, or the average number of individuals per area sampled or assessed. For example, the number of animals or plants (individuals or taxa) per unit area.
denudational soil	soil formed from the weathering of the earth's surface

deposit feeder	an organism that derives its nutrition by consuming some fraction of a soft sediment.
detritus	particulate material that enters into a marine or aquatic system. If derived from decaying organic matter it is organic detritus.
diffusion	(physics) the intermingling of molecules/substances by the natural movement of their particles; the net movement of molecules from a region of high concentration to a region of low concentration (concentration gradient).
direct impacts	impacts that result from primary planned interactions between a planned Project activity and environmental, social and cultural heritage receptors, e.g., a Project will have discharges resulting in increased river turbidity.
dispersion	the act of dispersing; the state of being dispersed. A mixture of one substance dispersed in another medium, such as water or air. Ecology: the movement of individual animals, plants, etc., between sites; the pattern of distribution of individuals within a habitat.
distributaries	a branch of a river that does not return to the main stream after leaving it (as in a delta).
disturbance	the interruption of a settled condition. Ecology: a temporary change in environmental conditions causing a change or impact to an ecosystem.
diversity	the state of being diverse. A diversity index is a quantitative measure that reflects how many different types (e.g., species) there are in a dataset, and takes into account how evenly the individuals are distributed among those types. Biological diversity (biodiversity) is the variety of species (of plants, animals, etc.), their genes, and the ecosystems they comprise, in a particular habitat.
doline	see “sinkhole”
dosimetry	determination and measurement of the amount or dosage of radiation absorbed by a substance or living organism by means of a dosimeter.
drilling fluid (mud)	any of a number of liquid fluids and mixtures of fluids and solids (as solid suspensions) used to drill boreholes into the earth. Synonymous with ‘mud’ in general usage. May be classified (for example) as water-based or non-water-based.
drill string	a column, or string, of drill pipe, collars and other tools including the drill bit that transmits drilling fluid (via the mud pumps) and torque (via the kelly drive or top drive) to the drill bit.
early works	a project phase that comprises the preliminary or enabling works required to support full construction of an installation (e.g., roads, camps etc).
easement	the area of land legally acquired to contain the pipeline and over which the operator can exercise access restrictions, e.g., for safety and security, during operations.

ecoregion	an ecologically and geographically defined area comprised of distinct assemblages of flora and fauna
ecosystem	a community of living organisms and their interactions with each other and the physical environment.
ecosystem service	the benefits that people gain from functioning ecosystems.
El Niño	the warm phase of the El Niño Southern Oscillation associated with a band of warm ocean water that develops in the central and east-central equatorial Pacific.
ensonified	man-made underwater noise above background ambient levels as in an 'ensonified zone'.
environmental value	particular values or uses of the environment that are important for healthy ecosystems or for public benefit, safety or health and that require protection from the effects of pollution.
epibenthic	living on the surface of the seafloor.
epifauna	animals living on the surface of the seafloor or a riverbed, or attached to submerged objects or aquatic plants or animals.
euphotic zone	the upper region of a body of water into which light penetrates, allowing photosynthesis.
eutrophication	enrichment of waters with nutrients causing abundant aquatic plant growth and often leading to deficiencies in dissolved oxygen.
fault	(geology) a type of fracture (separation in a geologic formation) that divides a volume of rock into two or more pieces, along which there has been displacement.
fecundity	the number of eggs produced per female per unit time (often: per spawning season).
fly camp	used when referring to remote temporary camps.
flaring	burning off waste gas during well testing or emergency situations.
fluvial	of or found in a river.
foliar necrosis	Death or degeneration of a living organism's cells or tissues. In a plant, necrosis causes leaves, stems and other parts to darken and wilt. Necrosis weakens the plant and makes it more susceptible to other diseases and pests.
frequency (sound)	the pitch or number of oscillations per second of a sound wave, measured in cycles per second or hertz (Hz).
frugivore	an animal that eats fruit.
gastropod	a mollusc of the class Gastropoda; the slugs and snails (including sea snails).
gathering system	comprises a network of flowlines that take the gas and condensate from the wells to the processing facilities.

gradient	the degree of inclination of a slope. Physics: increase or decrease in the magnitude of a property, such as temperature, pressure or concentration, between one point or moment and another.
grazer	a predator that consumes organisms far smaller than itself (e.g., copepods graze on diatoms).
greenhouse gas	any gaseous compound in the atmosphere that is capable of absorbing and emitting infrared radiation, thereby trapping and holding heat in the atmosphere.
hazard	something that can cause harm; a situation that poses a level of threat to the environment, life, health or property.
heavy metals	a metal of relatively high density, or of high relative atomic weight. There is no universally agreed definition, however, heavy metals include (among others) cadmium (Cd), copper (Cu), lead (Pb), mercury (Hg), tin (Sn) and zinc (Zn).
herbivore	an organism that consumes plants as a main component of its diet.
herbivory	the act of animals feeding on plants
home range	the area in which an animal lives and moves on a periodic basis.
hybrid	the offspring resulting from combining the qualities of two organisms of different breeds, varieties, species or genera through sexual reproduction.
hydrocarbon	any of the class of organic compounds containing only hydrogen and carbon, such as any of those which are the chief compounds in petroleum and natural gas.
hydrocarbon, volatile	a hydrocarbon which evaporates readily at normal temperatures and pressures, i.e., with a low boiling point (high vapour pressure). Normally taken to mean those with ten (or less) carbon atoms per molecule.
hydrostatic test/ing	(often abbreviated as hydrotest/ing) a method by which pressure vessels such as pipelines, gas cylinders and fuel tanks can be tested for strength and leaks. Hydro-testing involves filling the vessel or pipe system with a liquid, usually water, and pressurisation of the vessel to a specified test pressure.
impact	a marked effect or influence. Negative or positive effect/s caused directly or indirectly by an event or activity, or by the release of a substance into the environment, causing a change in the biological, physical and/or socio-economic environment.
indirect impacts	impacts that are subsequent to the primary planned interactions between the Project and its environmental, social and cultural heritage receptors, e.g., a Project will have discharges resulting in increased river turbidity with subsequent potential impact on health of fish species and economic livelihood of fishing dependent villagers.

induced impacts	successive impacts that have no direct relationship to a planned Project activity, but may nonetheless result from flow on activities associated with the Project, e.g., in-migration, increased hunting.
influx	an arrival or entry of large numbers of people.
injection well	a well in which fluids are injected rather than produced; the primary objective is usually to maintain reservoir pressure. Injection may be of water or gas. For example, the separated gas from production wells may be reinjected into the upper gas section of the reservoir.
in-migration	process of moving into or coming to live in a new region or community.
in situ	in the original place.
intangible heritage	the practices, representations, expressions, knowledge and skills that individuals recognize as part of their cultural heritage.
interstitial	of, forming, or occupying interstices; living in the pore spaces among sedimentary grains in a soft sediment.
introduced species	plants, animals, pathogens and other organisms that are living outside their native distributional range and have arrived there predominately due to anthropogenic activity either deliberately or accidentally.
invasive species	species that may be introduced or native and spread and out-compete other species.
invertebrates	animals without a backbone or bony skeleton.
ion	an electrically charged atom, group, or molecule, formed as a result of loss or gain or one or more electrons.
isopleth	a line or curve of equal values; a line on a graph showing the occurrence or frequency of a phenomenon as a function of two variables.
keystone species	a species that has a critical role in maintaining the structure of an ecological community.
leachate	water that has percolated through a solid or semi-solid material (e.g., soil or mine waste) and leached out some of the constituent impurities.
lek/lekking	an aggregation of male animals gathered to engage in competitive displays, lekking, to entice visiting females.
LIDAR	Acronym for light detection and ranging. A remote-sensing technique that uses laser to measure distances to reflective surfaces.
macrofauna	small animal organisms found in the soil or on the sea floor, normally including fauna of greater than 0.5 mm size.
magnitude	a qualitative measure that considers the severity, size, scale, duration or extent of an impact.

marine pest	an exotic marine flora or fauna species carried by a vector (e.g., ballast water or hull biofouling) from a donor site to a recipient site, where it successfully establishes a self-reproducing population that is problematic ecologically and/or economically.
Metazoa	all multicellular animals.
metocean	(offshore and coastal engineering) a syllabic abbreviation of the words 'meteorology' and 'oceanography'. Metocean conditions include weather and climate, along with aspects of physical oceanography such as water level fluctuations, bathymetry, stratification, currents, salinity, etc. Metocean studies assess such conditions, often in relation to a project.
microclimate	the climate of a very small or restricted area, especially when this differs from the climate of the surrounding area.
microhabitat	a habitat which is of a small or limited extent and which differs in character from some surrounding, more extensive habitat.
micro-organism	a microscopic organism; includes viruses, bacteria, yeasts and fungi, and others.
micronekton	small (typically 20 to 100 mm) animal organisms that swim and move independently of water currents.
mitigation	action(s) taken to avoid or reduce the impact of an activity on the environment, cultural and/or socio-economic interests.
motile	moving or capable of moving spontaneously.
mud (drilling fluid)	any of a number of liquid fluids and mixtures of fluids and solids (as solid suspensions) used to drill boreholes into the earth. Synonymous with ‘drilling fluid’ in general usage. May be classified (for example) as water-based or non-water-based.
natural regeneration	The process by which vegetation returns from self-sown seeds or vegetative sources (i.e., without human intervention and towards a comparable vegetation type). Under commercial conditions this is usually preceded by rehabilitative actions which facilitate natural regeneration processes and maximize success, these may include actions such as stabilization of the substrate, recontouring and re-spreading of topsoil.
nearshore	refers to the waters from the highest astronomical tide to the 15-m depth contour. The habitat includes coral reefs and seagrass beds, beaches and intertidal habitats (e.g. mudflats).
nutrients	those constituents required by organisms for maintenance and growth.
offshore	refers to the areas of marine water that are seaward of the nearshore environment, and generally encompasses areas of deeper water beyond the 15-m depth contour.

omnivorous	being able to gain nutrition from more that one source/category (e.g., an organism capable of being both carnivorous and herbivorous).
onshore Project area	refers to any of the following Project aspects occurring onshore; PRL-15, the onshore part of the proposed export pipeline corridor, or the river transport corridor.
operations	a project phase that comprises the operation of a facility or installation, when the core business or purpose of that asset is realized.
operator	oil and gas: the owner of the right to drill or produce a well, or the entity contractually charged with drilling of a test well and production of subsequent wells. The company that serves as the overall manager and decision-maker of a drilling project. The company which organises the exploration and production programs in a permit on behalf of all the interest holders in the permit.
ordinance	military weapons, ammunition and associated equipment.
oxidation	the act or process of being oxidised; loss of electrons or increase in oxidation state by a molecule, atom or ion; particularly used to refer to the addition of oxygen to elements.
oxygen scavenger	a material in which one or more reactive compounds can combine with oxygen to reduce or remove oxygen.
ozone depleting substance	chemicals that destroy the earth's ozone layer.
parameter	any constituent variable quality; a characteristic, feature or measurable factor forming one of a set that defines a system or sets the conditions of its operation.
patchiness	a condition in which organisms occur in aggregations.
pedological development	state of modification of parent rock or sediment, particularly the relative distinctness of soil horizons.
pelagic	of, relating to, or living in open oceans or seas; living at or near the surface of the ocean, far from land, especially relating to fish.
permeability (*k*)	(fluid mechanics and earth sciences) a measure of the ability of a porous material (often, a rock or an unconsolidated material) to allow fluids to pass through it.
permit	oil and gas industry: an area of specified size within a sedimentary basin which is licenced or allocated to a company or companies by the government for the purpose of exploring for and producing oil and gas.
permanent threshold shift	the permanent reduction in hearing sensitivity caused by irreversible damage to the sensory hair cells of the ear.
pH	a figure expressing the acidity or alkalinity of a solution on a logarithmic scale on which 7 is neutral, lower values are more acid and higher values more alkaline.

photic zone	the depth zone in the ocean extending from the surface to that depth permitting photosynthesis.
phylogenetic	(biology) relating to the evolutionary development and diversification of a species or group of organisms, or of a particular feature of an organism.
phytoplankton	the plant component of plankton; plankton consisting of microscopic plants; the photosynthesising organisms residing in the plankton.
phytotoxic	poisonous to plants.
pipestring	a series of line pipe lengths welded together into a single length, prior to lowering the string into a trench or onto the seafloor
plankton	the mass of small and microscopic animal and plant organisms that float or drift in the sea or fresh water and are incapable of moving against water currents, especially at or near the surface; consisting chiefly of diatoms, protozoans, small crustaceans, and the eggs and larval stages of larger animals.
population growth	increase in the number of individuals in a population.
potamodromous	fish that move and complete their lifecycle entirely within freshwater.
potential impact	the possible outcome resulting from the exposure of a receptor or value to an activity.
produced water	water produced from a wellbore that is not a treatment fluid; water produced as a byproduct along with the oil and gas, where water is present within the oil/gas reservoir with or underlying the hydrocarbons.
production	(oil and gas industry) 1. The phase that occurs after successful exploration and development and during which hydrocarbons are drained from an oil or gas field; an activity of the petroleum industry that deals with bringing well fluids to the surface and separating them and with storing, gauging, and otherwise preparing the product for transport. 2. the amount of oil or gas produced in a given period.
receptor	an entity (which may include individual/s or communities of flora or fauna, as well as individuals, households or communities of people) or a value of environmental or conservation significance, that is exposed to a stressor.
remediation	the action of remedying something, in particular of reversing or stopping environmental damage. Ecology: the restoration of an environment, land or water contaminated by pollutants, to a state suitable for other, beneficial uses.
reservoir	a place where fluid collects. Geology: a subsurface body of rock or formation having sufficient porosity and permeability to store and transmit fluids, such as hydrocarbons within the pore spaces between individual grains.

residual (impact)	those impacts that remain after the effective implementation of avoidance, mitigation and management measures, which are designed to reduce the magnitude or severity of the impact.
resilience	the capacity to recover from an impact.
restricted-range species	terrestrial species which have a total historical breeding range of less than 50,000 km^2.
riparian	relating to wetlands adjacent to rivers and streams.
sensitivity (of a receptor)	a qualitative measure of the susceptibility of a social receptor to change.
shoal	a place where a body of water is shallow; a sandbank or sandbar on the floor of a body of water, especially one which shows at low water.
silt	sediment with particles finer than sand and coarser than clay.
significant impact	an impact with a residual rating of Moderate or above.
sinkhole	a cavity in the ground, especially in a limestone formation, caused by water erosion and providing a route for surface water to disappear underground.
social receptor	the individuals, organizations, groups or resources that can be affected by Project activities.
soniferous	producing or conducting sound.
soil capacity	capacity of soil to support productive land use, e.g., horticulture.
soil structure	the arrangement of soil into aggregates and the pore spaces between them.
soil development status	state of soil evolution from parent geological material.
species richness	the number of different species represented in a sample, taxonomic group, ecological community, landscape or region. Species richness is simply a count of species, and it does not take into account the abundances of the species or their relative abundance distributions.
spectrum	a quantity expressed as a function of frequency, either as a narrowband spectrum (e.g., 1 Hz bands) or as aggregated bands (e.g., third-octave bands).
spring tide	the large rise and fall of the tide at or soon after the new or the full moon, when there is the greatest difference between high and low water; the phase of the tidal cycle when tidal range is at a maximum.
spirit/ritual site	a place used for ritual practices and/or that has spiritual significance.
substrate	an underlying substance or layer; the surface or material on or from which an organism lives, grows, or obtains its nourishment; e.g., the material comprising a seafloor (e.g., sand, mud, rock).

suspended solids (SS)	small solid particles which remain in suspension in water as a colloid or due to the motion of the water. Used as one indicator of water quality.
tangible heritage	cultural heritage values that have a physical; presence and can be seen and/or touched (e.g., archaeological sites, landscape features and material items such as heirlooms).
taxa	plural of taxon.
taxon	a taxonomic group of any rank, such as species, family, or class.
temporary threshold shift	temporal and reversible elevation of the auditory threshold. A temporary reduction in hearing sensitivity caused by exposure to sound.
terrestrial	on or relating to dry land.
toxicity	the inherent potential or capacity of a material to cause adverse effects in a living organism; the degree to which a substance can damage an organism.
train	a series of parts; order. Gas processing: a production pathway and related infrastructure with its own process area.
tributary	a river or stream flowing into a larger river or lake.
tsunami	a large, often destructive sea wave or series of waves caused by an underwater earthquake, landslide, or volcanic eruption.
turbidity	a measure of the relative clarity of a liquid, particularly water, as a result of the amount of suspended particulate matter present, such as sediment particles, algae, plankton, microbes, and other substances. One indicator of water quality.
venting	provision of an outlet for air, gas or liquid.
volant	of an animal able to fly or glide.
volatile	(of a substance) easily evaporated at normal temperatures; passing off readily in the form of vapor.
vulnerability	the diminished capacity of an individual or group to anticipate, cope with, resist and recover from the impact of a natural or man-made change.
well control	technologies and methods used to maintain pressure on open hydrocarbon formations (i.e., exposed to the wellbore) to prevent or direct the flow of formation fluids into the wellbore, to control pressures in a predictable manner, and to prevent blowout.
wellhead	the system of connections, spools, valves, gauges and assorted adapters installed at the exit from a production well that provide pressure control of the well.
zoonotic disease	a disease that can be transmitted from animals to people.

zooplankton	the mass of small and microscopic animal organisms that float or drift in the sea or fresh water and are incapable of moving against water currents.