

## 14.1 Shortened Forms

Term	Definition
°	Degree(s)
°C	Degree(s) Celsius
"	Inches
%	Percent
µg/cm	Microgram(s) Per Centimetre
µg/L	Microgram(s) Per Litre
µg/m	Microgram(s) Per Metre
µg Sn/kg	Microgram of Tin (found in TBT paints) Per Kilogram
µm	Micrometer(s)
3D	Three Dimensional
4WD	Four Wheel Drive
A\$	Australian Dollars
AASS	Actual Acid Sulphate Soils
ABS	Australian Bureau of Statistics
ACHM	Australian Cultural Heritage Management Pty Ltd
ACMC	Aboriginal Cultural Material Committee
AFMA	Australian Fisheries Management Authority
AFZ	Australian Fishing Zone
AGRU	Acid Gas Removal Unit
AHD	Australian Height Datum
AIMS	Australian Institute of Marine Science
ALARP	As Low As Reasonably Practical - a standard for risk reduction Formal demonstration of ALARP is required within HSE Cases or in Environmental Plans required under the Petroleum (Submerged Lands) (Management of Environment) Regulations 1999.
aMDEA	Activated Methyl Diethanolamine
AMOSC	Australian Marine Oil Spill Centre
AMSA	Australian Maritime Safety Association
ANZECC	Australia and New Zealand Environment and Conservation Council
AOC	Accidentally Oily Contaminated (water)
APASA	Asia-Pacific Applied Science Associates
APPEA	Australian Petroleum Production and Exploration Association
AQIS	Australian Quarantine and Inspection Service
ARMCANZ	Agriculture and Resource Management Council of Australia and New Zealand
AS/NZS	Australian/New Zealand Standard
ASS	Acid Sulfate Soils
BAMIEA	Burrup and Maitland Industrial Estates Agreement
BOM	Bureau of Meteorology
bpd	Barrels Per Day
BPMAB	Burrup Peninsula Management Advisory Board

BPP	Benthic Primary Producer
BPPH	Benthic Primary Producer Habitat
BTEX	Benzene, Toluene, Ethylbenzene and Xylene (volatile organic compounds)
C5+	Pentane Plus
CaCl <sub>2</sub>	Calcium Chloride
CALM	Western Australian Department of Conservation and Land Management (now the Department of Environment and Conservation)
CAMBA	China Australia Migratory Bird Agreement
CCTV	Closed-Circuit Television
CCD	Current Coral Distribution
CD	Chart Datum
CDF	Canadian Department of Fisheries
CH <sub>4</sub>	Methane
CHL	Current Historical Loss
CHMP	Cultural Heritage Management Plan
cm/s	Centimetre(s) Per Second
CMS	The Convention on the Conservation of Migratory Species of Wild Animals
CO	Carbon Monoxide
CORMIX	Cornell Mixing Zone Expert System
CO <sub>2</sub>	Carbon Dioxide
CO <sub>2</sub> e	Carbon Dioxide Equivalent
CO <sub>2</sub> CRC	Cooperative Research Centre for Greenhouse Gas Technologies
CSIRO	Commonwealth Science and Industrial Research Organisation
Cwth	Commonwealth
dB	Decibel
dB (A)	Decibel with 'A' Weighting
dB re 1µPa	Energy level for sound pressure levels
dB re 1µPa <sup>2</sup> /Hz	Energy level for sound pressure levels over a specified frequency
DEC	Department of Environment and Conservation
DEH	Commonwealth Department of the Environment and Heritage
DEM	Digital Elevation Model
DFWA	Department of Fisheries (Government of) Western Australia
DIA	Department of Indigenous Affairs
DNA	Deoxyribonucleic Acid
DoE	Department of Environment (now the Department of Environment and Conservation)
DoIR	Department of Industry and Resources
Domgas	Domestic Gas
DPA	Dampier Port Authority
DPI	Department for Planning and Infrastructure
DSDMP	Dredging and Dredge Spoil Disposal Management Plan
EC	Electrical Conductivity
e.g.	For example
EOM	Extractable Organic Matter
EMP	Environmental Management Plan
ENM	Environmental Noise Model
EPs	Environment Plans
EPA	Environmental Protection Authority
EP Act	<i>Environmental Protection Act 1986</i> (Western Australia)
EPBC Act	<i>Environment Protection and Biodiversity Conservation Act 1999</i> (Commonwealth)

ERP	Emergency Response Plan
ERS	Environmental Risk Solutions
FESA	Fire and Emergency Services
FWKO	Free Water Knock Out
g/L	Gram(s) per Litre
g/m <sup>2</sup>	Gram(s) per Metre Squared
g/m <sup>2</sup> /day	Gram(s) per Metre Squared Per Day
g/m <sup>2</sup> /month	Gram(s) per Metre Squared Per Month
g/m <sup>2</sup> /yr	Gram(s) per Metre Squared Per Year
g/s	Gram(s) per Second
GEHA	Government Employee Housing Association
GIS	Geographic Information Systems
g m <sup>-2</sup> d <sup>-1</sup>	Gram(s) per Metre Squared per Day
GWP	Global Warming Potential
H <sub>2</sub> S	Hydrogen Sulfide
ha	Hectare(s)
HCD	Historical Coral Distribution
HOCNF	Harmonised Offshore Chemical Notification Format
hr	Hour(s)
HSE	Health, Safety and Environment
HWM	High Water Mark
Hz	Hertz
IALA	International Association of Lighthouse Authorities
ICOMOS	International Council on Monuments and Sites
ID	Identification
IMO	International Maritime Organisation
IPCC	Intergovernmental Panel on Climate Change
IRPA	Individual Risk Per Annum
ISDN	Integrated Services Digital Network
IUCN	International Union for the Conservation of Nature
JAMBA	Japan Australia Migratory Bird Agreement
KCl	Potassium Chloride
kg	Kilogram(s)
kg/l	Kilogram(s) Per Litre
kg/m <sup>2</sup> /month	Kilogram(s) Per Metre Squared Per Month
kg/m <sup>3</sup>	Kilogram(s) Per Metre Cubed
kg/yr	Kilogram(s) Per Year
kl	Kilolitre(s)
km	Kilometre(s)
km <sup>2</sup>	Kilometre(s) Squared
km/hr	Kilometre(s) Per Hour
kPaG	Kilopascal Gauge
kW	Kilowatt(s)
l	Litre(s)
l/s	Litre(s) per second
LA <sub>Max</sub>	LAMax assigned noise level means a noise level which is not to be exceeded at any time.
LA <sub>1</sub>	LA1 assigned noise level which is not to be exceeded for more than 1% of the time.
LA <sub>10</sub>	LA10 assigned noise level which is not to be exceeded for more than 10% of the time.
LAT	Lowest Astronomical Tide

LC50	Lethal Concentration 50
LNG	Liquefied Natural Gas
LOS	Level of Service
LPG	Liquid Petroleum Gas
LWM	Low Water Mark
m	Metre(s)
m/s	Metre(s) Per Second
m <sup>3</sup>	Metre(s) Cubed
m <sup>3</sup> /day	Metre(s) Cubed Per Day
m <sup>3</sup> /hr	Metre(s) Cubed Per Hour
m <sup>3</sup> /yr	Metre(s) Cubed Per Year
m AHD	Metre(s) Australian Height Datum
MARPOL	International Convention for the Prevention of Pollution from Ships
mbgs	Metre(s) Below Ground Surface
MEG	Monoethylene Glycol
mg Chl-a/m <sup>3</sup>	Milligram(s) Chlorophyll-a Per Metre Squared
mg/cm <sup>2</sup>	Milligram(s) Per Centimetre Squared
mg/cm <sup>2</sup> /d	Milligram(s) Per Centimetre Squared Per Day
mg/l	Milligram(s) Per Litre
mg/m <sup>3</sup>	Milligram(s) Per Metre Cubed
MLA	Member of Legislative Assembly
MLC	Member of Legislative Council (WA)
mm	Millimetre(s)
Mm <sup>3</sup>	Million Metres Cubed
mmbbl	Million Barrels (Oil Reserves)
MMRF	Monash Mult-Regional Forecasting
MODU	Mobile Offshore Drilling Unit
MOF	Material Offloading Facility
mol %	Molar Percentage
MP	Member of Parliament
MRWA	Main Roads Western Australia
Mtpa	Million Tonnes Per Annum
N <sub>2</sub> O	Nitrous Oxide; a colourless, odourless gas which is also known more commonly as laughing gas
NO <sub>x</sub>	Oxides of Nitrogen; group of highly reactive gases which contain Nitrogen and Oxygen in varying amounts.
NaCl	Sodium Chloride
NDGC	National Geophysical Data Center
NDE	Non-Destructive Examination
NEPM	National Environment Protection Measure
NES	National Environmental Significance
NGO	Non Government Organisation
nm	Nautical miles
NODGDM	National Ocean Disposal Guidelines for Dredged Material
NOEC	No Effect Concentration
NORMS	Naturally Occurring Radioactive Material
NPV	Net Present Value
NRU	Nitrogen Rejection Unit
NSW	New South Wales
NT	Northern Territory

NWBM	Non Water Based Mud
NWSTF	North West Slope Trawl Fishery
NWSV	North West Shelf Venture
O <sub>3</sub>	Ozone
OEMP	Operation Environmental Management Plan
OSCP	Oil Spill Contingency Plan
OSPARCOM	Oslo-Paris Commission
P <sub>1</sub>	Primary Risk
P <sub>2</sub>	Secondary Risk
P <sub>3</sub>	Tertiary Risk
pa	Per Annum
PAH	Polycyclic Aromatic Hydrocarbons
PASS	Potential Acid Sulfate Soil
PDC	Pilbara Development Commission
PEC	Predicted Environmental Concentration
PER	Public Environment Report / Public Environmental Review
PFTIMF	Pilbara Fish Trawl (Interim) Managed Fishery
PHI	Predicted High Impact
PMI	Predicted Medium Impact
PM <sub>10</sub>	Includes the smaller particles in the atmosphere (particulate matter), less than 10 micrometers in diameter.
PM <sub>2.5</sub>	Particulate matter less then 2.5 microns in diameter
PNEC	Predicted No Effect Concentration
ppb	Parts per billion
ppm	Parts per million
PRRT	Petroleum Resource Rent Tax
P(SL)A	Petroleum (Submerged Lands) Act
PTMF	Pilbara Trap Managed Fishery
Pty Ltd	Propriety Limited
Qld	Queensland
ROV	Remote Operated Vehicle
RVP	Reid Vapour Pressure
SIA	Social Impact Assessment
SIMAP	Spill Impact Mapping and Assessment Program
SKM	Sinclair Knight Merz
SMFG	Size Managed Fish Grounds
SO <sub>2</sub>	Sulfur Dioxide
SO <sub>x</sub>	Oxides of sulfur; gases with varying amounts of sulfur and oxygen.
SOPEP	Ship-Board Oil Pollution Emergency Plan
sp.	Species (singular)
spp.	Species (plural)
SSIV	Subsea Isolation Valve
SST	Sea Surface Temperatures
STD	Subscriber Trunk Dialling
subsp.	Subspecies
TAFE	Technical and Further Education
TBT	Tri-butyl-tin
tcf	Trillion cubic feet
TDS	Total Dissolved Solids
tpa	Tonnes Per Annum

TPH	Total Petroleum Hydrocarbons
TSEP	Trunkline System Expansion Project
TSS	Total Suspended Solids
UK	United Kingdom
UKOOA	United Kingdom Offshore Operators Association
UNCLOS	United Nations Convention on the Law of the Sea
UNEP	United Nations Environment Programme
US\$	United States Dollars
USA	United States of America
USEPA	United States Environmental Protection Agency
VOC	Volatile Organic Compounds
w/w	Weight to Weight
WA	Western Australia
WAMF	Western Australian Mackerel Fishery
WANCFS	Western Australian North Coast Shark Fishery
WAPC	Western Australian Planning Commission
WAXA	Western Australian Exercise Area
WBM	Water Based Mud
WET	Whole Effluent Toxicity
WestMAC	Western Trawl Fisheries Management Advisory Committee
WHO	World Health Organisation
Woodside	Woodside Energy Limited
WTBF	Western Tuna and Billfish Fishery
WWF	World Wildlife Fund

## 14.2 Glossary

Term	Definition
Ancillary Facilities	Supporting structures.
Aquifer	Layer of rock that holds water and allows water to percolate through it.
Australian Standard (AS)	An Australian Standard which provides criteria and guidance on design, materials, fabrication, installation, testing, commissioning, operation, maintenance, re-qualification and abandonment.
Ballast	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.
Bathymetry	Related to water depth – a bathymetry map shows the depth of water at a given location on the map.
Benthos/Benthic	Related to the seafloor, and includes organisms living in or on the sediment/rocks on the seafloor.
Biodiversity	Relates to the level of biological diversity of an environment, or the variability among living organisms.
Biota	Collective terms for all the flora and fauna of a region or area.
Box Corer	A sediment sampling device typically used in deep-sea research.
Calcareous Conglomerate	A rock made of fragments of rocks and pebbles and cemented by calcium carbonate.
Calcrete	Soil cemented by calcium carbonate.
Caprock	An overlying rock layer that is more resistant to weathering than formations located beneath it.
Codes and Standards	Codes are requirements promulgated by industry groups and enforced by law. Standards are practices recommended by industry groups or individual companies that are regularly followed and are controlled by a process for reviewing and approving exceptions.
Colluvium	Loose sediments that accumulate at the base of a hill.
Condensate	Hydrocarbons that are gaseous in a reservoir but condense to form a liquid as they rise to the surface where the pressure is much less.
Cuttings	Inert pieces of rock, gravel and sand removed from the well during the drilling process.

Decibel (dB)	This is a measure of the overall noise level of sound across the audible spectrum with a frequency weighting (that is, 'A' weighting) to compensate for the varying sensitivity of the human ear to sound at different frequencies.
Dolerite	Medium grained igneous rock with composition similar to basalt. Usually found in dykes or sills.
Dredging	The deepening and/or widening of a waterway using a machine that removes materials by scooping or sucking the sediments.
Dyke	A tabular igneous intrusion that cuts across adjacent rock structures.
Environment	The surroundings of an organism including the other biota with which it interacts.
Environmental Management Plan	A procedure that identifies potential environmental impacts and methodologies necessary to mitigate them.
Epibenthic Sled	A semi-quantitative bottom-sampling device designed to trawl just above the bottom at the sediment water interface (the epibenthic zone). The sled occasionally (inadvertently) digs into the bottom, so an infaunal sample is also collected.
Ethnographic	Derived from scientific description and classification of the various cultural and racial groups of mankind.
Fauna	Collectively, the animal life of a particular region.
Ferromagnesian Laths	Minerals containing iron and magnesium in the shape of planks with one end sharpened.
Flaring	The process by which gas is burnt in a safe and controlled manner.
Flora	Collectively the plant life of a particular region.
Flowline	A pipe which allows flow to be contained between two places.
Gabbro	A dark, coarse grained igneous rock.
Gametes	Reproductive cells; eggs or sperms.
Geotechnical	Referring to the use of scientific methods and engineering principles to acquire, interpret, and apply knowledge of earth materials for solving engineering problems.
Granite	A coarse-grained igneous rock consisting of the following minerals: quartz, feldspar and very commonly mica.
Granophyre	Fine grained granitic material.
Greenhouse Gases	Emissions of gases such as carbon dioxide, methane, nitrous oxide that affect the radiation transfer through the atmosphere and significantly influence the greenhouse gas effect.
Grey water	Water resulting from washing or cooking.
Habitat	The specific place where a particular organism lives.
Hydrocarbons	A class of liquid, solids or gas organic compounds containing only carbon and hydrogen, the basis of almost all petroleum products.
HYDROMAP	Three-dimensional hydrodynamic model
Igneous	Rocks formed by the solidification of molten rock or magma.
Indonesian Throughflow	An ocean current that transports water between the Pacific Ocean and the Indian Ocean through the Indonesian Archipelago.
Invertebrate	Lacking a spinal column (for example, crabs, jellyfish).
Lithic	Pertaining to or consisting of stone.
Manifold	A pipe that has several lateral outlets to or from other pipes.
Methane	Odourless, colourless, flammable gas that consists of carbon and hydrogen and is a major part of natural gas.
Mitigation	Management measures which minimise and manage undesirable consequences.
National/International Standards	Published standards such as the Australian and New Zealand Guidelines for Fresh and Marine Water Quality (includes sediment quality guidance) and the (Australian) National Environmental Protection Measures for Air Quality and Air Toxics.
Particulate Matter	Particles in the atmosphere; including: smoke, dirt, dust, spores, pollens, heavy metals and so on.
Pelagic	Living in the open sea (for example, fish that swim and feed in the open ocean, near the surface or well above the seabed).
pers. comm.	Personal communication.
Pigging	The process of inserting 'pigs' into a pipeline to remove deposits which could obstruct or retard flow through a pipeline. This process is during all phases in the life of a pipeline for many different reasons.
Pigs	Pipeline Integrity Gauge. A cylindrical device inserted into a pipeline to inspect the pipe or to sweep the line clean of water, rust or other foreign matter.
Pollution	Degradation or impairment of the purity of the environment by causing a condition that is hazardous to the public, safety, aesthetics, or welfare or to the biota.

Protected Species	Species considered rare, endangered, vulnerable or of restricted distribution and protected by specific national or international legislation; other species protected by specific national or international instruments, for example, migratory species, shore birds (JAMBA and CAMBA)
Proterozoic	Period in the Earth's history from 2.5 billion years ago to 540 million years ago.
Reservoir	A rock or formation which holds hydrocarbons within the pore spaces between individual grains.
Risk	The probability that a consequence will occur.
Safeguards	Preventative measures that reduce the likelihood of an event.
Screening Level	Level of a substance in the sediment below which toxic effects on organisms are not expected.
Shale Shakers	Vibrating screens used to separate cuttings from the drill muds.
Slugcatcher	A device that removes slugs of liquid from natural gas pipelines. Slugcatchers dissipate the energy of the liquid slugs that intermittently propagate through a gas pipeline.
Slugs	Liquids that can interfere with the proper operation of the pipeline and related equipment such as compressors, regulators, filters, meters and valves. The liquids normally found include hydrocarbon condensations, lubrication oils, produced water, and chemicals used in production, treatment, compression or dehydration of the gas.
SSFATE	Sedimentation process modelling system
Subsea Gathering System	Comprises infrastructure to collect and transfer reservoir fluids including subsea wells, manifolds and flowlines.
Terrestrial	The land as distinct from the water.
Topsoil	The upper layer of soil.
Trolling	Angling by drawing a baited line behind a moving vessel.
Turbidity	Measure of the clarity of a water body.
Void Ratio	The ratio of the volume of void space to the volume of solids of the soil
Well	A hole drilled into a hydrocarbon bearing reserve.
Zooplankton	Zooplankton are small, often microscopic, animals that generally follow the ocean currents, feeding on phytoplankton or other zooplankton. They are often the larval stages of larger marine animals, and typically include: Krill, copepod, polychaete, amphipods and shrimp.