

Permit

Environmental Protection Act 1994

Environmental authority EA0000802

This environmental authority is issued by the administering authority under Chapter 5 of the Environmental Protection Act 1994.

Environmental authority number: EA0000802

Environmental authority takes effect on 01 November 2017

Environmental authority holder(s)

Name(s)	Registered address
SANTOS LIMITED	Ground Floor, Santos Centre 60 Flinders Street ADELAIDE SA 5000
Vamgas Pty Ltd	GF Santos House 91 King William Street ADELAIDE SA 5000
Santos Australian Hydrocarbons Pty Ltd	Ground Floor, Santos Centre 60 Flinders Street ADELAIDE SA 5000
DELHI PETROLEUM PTY. LTD.	25 Conyngham Street GLENSIDE SA 5065 Australia
LATTICE ENERGY LIMITED	Level 3 135 Coronation Drive MILTON QLD 4064
Santos Petroleum Pty Ltd	Ground Floor, Santos Centre 60 Flinders Street ADELAIDE SA 5000

Environmentally relevant activity and location details

Environmentally relevant activity/activities	Location(s)
Resource Activity, Non-Scheduled, Petroleum Activity, Petroleum Pipeline Licence - PPL	PPL2025

Additional information for applicants

Environmentally relevant activities

The description of any environmentally relevant activity (ERA) for which an environmental authority (EA) is issued is a restatement of the ERA as defined by legislation at the time the EA is issued. Where there is any inconsistency between that description of an ERA and the conditions stated by an EA as to the scale, intensity or manner of carrying out an ERA, the conditions prevail to the extent of the inconsistency.

An EA authorises the carrying out of an ERA and does not authorise any environmental harm unless a condition stated by the EA specifically authorises environmental harm.

A person carrying out an ERA must also be a registered suitable operator under the Environmental Protection Act 1994 (EP Act).

Contaminated land

It is a requirement of the EP Act that an owner or occupier of contaminated land give written notice to the administering authority if they become aware of the following:

Environmental authority

- the happening of an event involving a hazardous contaminant on the contaminated land (notice must be given within 24 hours); or
- a change in the condition of the contaminated land (notice must be given within 24 hours); or
- a notifiable activity (as defined in Schedule 3) having been carried out, or is being carried out, on the contaminated land (notice must be given within 20 business days);

that is causing, or is reasonably likely to cause, serious or material environmental harm.

For further information, including the form for giving written notice, refer to the Queensland Government website www.qld.gov.au, using the search term 'duty to notify'.

Take effect

Please note that, in accordance with section 200 of the EP Act, an EA has effect:

- a) if the authority is for a prescribed ERA and it states that it takes effect on the day nominated by the holder of the authority in a written notice given to the administering authority-on the nominated day; or
- b) if the authority states a day or an event for it to take effect-on the stated day or when the stated event happens; or
- c) otherwise-on the day the authority is issued.

However, if the EA is authorising an activity that requires an additional authorisation (a relevant tenure for a resource activity, a development permit under the Sustainable Planning Act 2009 or an SDA Approval under the State Development and Public Works Organisation Act 1971), this EA will not take effect until the additional authorisation has taken effect.

If this EA takes effect when the additional authorisation takes effect, you must provide the administering authority written notice within 5 business days of receiving notification of the related additional authorisation taking effect.

If you have incorrectly claimed that an additional authorisation is not required, carrying out the ERA without the additional authorisation is not legal and could result in your prosecution for providing false or misleading information or operating without a valid environmental authority.

Department of Environment and Heritage Protection
Delegate of the administering authority
Environmental Protection Act 1994

Enquiries:
Petroleum and Gas Unit
Department of Environment and Heritage Protection
Phone: 3330 5715
Email: petroleumandgas@ehp.qld.gov.au

Date issued: 02 November 2017

Legislative Requirements and Conditions of Environmental Authority

Legislative Requirements

- RLR006 (a) The applicant for the environmental authority is the holder of, or an applicant for a Pipeline Licence (PPL) tenure type issued under the Petroleum and Gas (Production and Safety) Act 2004.
- (b) The petroleum activities are authorised petroleum activities for the purposes of the Petroleum and Gas (Production and Safety) Act 2004.
- (c) The petroleum activity does not include extending an existing pipeline by more than 150 kilometres under a petroleum authority.
- (d) The petroleum activity does not include constructing a new pipeline of more than 150 kilometres under a petroleum authority.
- (e) The petroleum activities do not occur in coastal waters of Queensland.
- (f) The petroleum activity is not, or will not be, carried out under an environmental authority under which any of the following is, or is to be, authorised:
- (a) the injection of a waste fluid or gas for gas storage into a natural underground reservoir or aquifer
 - (b) a regulated dam
 - (c) the carrying out of the following environmentally relevant activities (ERAs):
 - (i) ERA 8 - Chemical Storage
 - (ii) ERA 60(1a) - (1d) - Regulated waste disposal
 - (iii) ERA 60(2d) - (2h) - General waste disposal > 10,000t/year
 - (iv) ERA 63(1a)(ii) - (1b)(ii), (1c) - (1g) - Sewage treatment with a total daily peak design capacity of greater than 21 equivalent persons (EP) which releases to other than an infiltration trench or irrigation scheme or where the sewage treatment activities have a total combined daily peak design capacity exceeding 1500 equivalent persons (EP)

(v) ERA 64(2a) and (2b) and (4a) and (4b) - Water treatment where desalination of more than 0.5ML of water is treated, allowing the release of waste to waters other than seawater; or carrying out, in a day, advanced treatment of 5ML or more of water, allowing the release of waste only to seawater; or to waters other than seawater.

RLR010 General obligations under the Environmental Protection Act 1994

Responsibilities under the Environmental Protection Act 1994

Separate to the requirements of standard conditions, the holder of the environmental authority must also meet their obligations under the Environmental Protection Act 1994, and the regulations made under that Act. For example, the holder must be aware of the following provisions of the Environmental Protection Act 1994.

General environmental duty

Section 319 of the Environmental Protection Act 1994 states that we all have a general environmental duty. This means that we are all responsible for the actions we take that affect the environment. We must not carry out any activity that causes or is likely to cause environmental harm unless we take all reasonable and practicable measures to prevent or minimise the harm. To decide what meets your general environmental duty, you need to think about these issues:

- the nature of the harm or potential harm
- the sensitivity of the receiving environment
- the current state of technical knowledge for the activity
- the likelihood of the successful application of the different measures to prevent or minimise environmental harm that might be taken
- the financial implications of the different measures as they would relate to the type of activity.

It is not an offence not to comply with the general environmental duty, however maintaining your general environmental duty is a defence against the following acts:

- (a) an act that causes serious or material environmental harm or an environmental nuisance
- (b) an act that contravenes a noise standard
- (c) a deposit of a contaminant, or release of stormwater run-off, mentioned in section 440ZG.

More information is available on the Department of Environment and Heritage Protection website

www.ehp.qld.gov.au.

Duty to notify

Section 320 of the Environmental Protection Act 1994 explains the duty to notify. The duty to notify applies to all persons and requires a person or company to give notice where serious or material environmental harm is caused or threatened. Notice must be given of the event, its nature and the circumstances in which the event happened. Notification can be verbal, written or by public notice depending on who is notifying and being notified.

The duty to notify arises where:

- a person carries out activities or becomes aware of an act of another person arising from or connected to those activities which causes or threatens serious or material environmental harm
- while carrying out activities a person becomes aware of the happening of one or both of the following events:
 - the activity negatively affects (or is reasonably likely to negatively affect) the water quality of an aquifer
 - the activity has caused the unauthorised connection of 2 or more aquifers.

For more information on the duty to notify requirements refer to the guideline Duty to notify of environmental harm (EM467).

Notifiable activities

It is a requirement under the Environmental Protection Act 1994 that if an owner or occupier of land becomes aware that a Notifiable Activity (as defined by Schedule 4 of the Environmental Protection Act 1994) is being carried out on the land or that the land has been affected by a hazardous contaminant, they must, within 22 business days after becoming so aware, give notice to the administering authority.

Some relevant offences under the Environmental Protection Act 1994

Non-compliance with a condition of an environmental authority (section 430)

Section 430 of the Environmental Protection Act 1994 requires that a person who is the holder of, or is acting under, an environmental authority must not wilfully contravene, or contravene a condition of the authority.

Environmental authority holder responsible for ensuring conditions complied with (section 431)

Section 431 of the Environmental Protection Act 1994 requires that the holder of an environmental authority must ensure everyone acting under the authority complies with the conditions of the authority. If another person acting under the authority commits an offence against section 430, the holder also commits an offence, namely, the offence of failing to ensure the other person complies with the conditions.

Causing serious or material environmental harm (sections 437–39)

Material environmental harm is environmental harm that is not trivial or negligible in nature. It may be great in extent or context or it may cause actual or potential loss or damage to property. The difference between material and serious harm relates to the costs of damages or the costs required to either prevent or minimise the harm or to rehabilitate the environment. Serious environmental harm may have irreversible or widespread effects or it may be caused in an area of high conservation significance. Serious or material environmental harm excludes environmental nuisance.

Causing environmental nuisance (section 440)

Environmental nuisance is unreasonable interference with an environmental value caused by aerosols, fumes, light, noise, odour, particles or smoke. It may also include an unhealthy, offensive or unsightly condition because of contamination.

Depositing a prescribed water contaminant in waters (section 440ZG)

Prescribed contaminants include a wide variety of contaminants listed in Schedule 9 of the Environmental Protection Act 1994.

It is your responsibility to ensure that prescribed contaminants are not left in a place where they may or do enter a waterway, the ocean or a stormwater drain. This includes making sure that stormwater falling on or running across your site does not leave the site contaminated. Where stormwater contamination occurs you must ensure that it is treated to remove contaminants. You should also consider where and how you store material used in your processes onsite to reduce the chance of water contamination.

Placing a contaminant where environmental harm or nuisance may be caused (section 443)

A person must not cause or allow a contaminant to be placed in a position where it could reasonably be expected to cause serious or material environmental harm or environmental nuisance.

Some relevant offences under the Waste Reduction and Recycling Act 2011

Littering (section 103)

Litter is any domestic or commercial waste and any material a person might reasonably believe is refuse, debris or rubbish. Litter can be almost any material that is disposed of incorrectly. Litter includes cigarette butts and drink bottles

dropped on the ground, fast food wrappers thrown out of the car window, poorly secured material from a trailer or grass clippings swept into the gutter. However, litter does not include any gas, dust, smoke or material emitted or produced during, or because of, the normal operations of a building, manufacturing, mining or primary industry.

Illegal dumping of waste (section 104)

Illegal dumping is the dumping of large volumes of litter (200L or more) at a place. Illegal dumping can also include abandoned vehicles.

Responsibilities under other legislation

An environmental authority pursuant to the Environmental Protection Act 1994 does not remove the need to obtain any additional approval for the activity that might be required by other State and/or Commonwealth legislation. Other legislation for which a permit may be required includes but is not limited to the:

- Aboriginal Cultural Heritage Act 2003
- Contaminated land provisions of the Environmental Protection Act 1994
- Fisheries Act 1994
- Forestry Act 1959
- Nature Conservation Act 1992
- Petroleum and Gas (Production and Safety) Act 2004 / Petroleum Act 1923
- Queensland Heritage Act 1992
- Sustainable Planning Act 2009
- Water Supply (Safety and Reliability) Act 2008
- Water Act 2000

Applicants are advised to check with all relevant statutory authorities and comply with all relevant legislation.

An environmental authority for petroleum activities is not an authority to impact on water levels or pressure heads in groundwater aquifers in or surrounding formations. There are obligations to minimise or mitigate any such impact under other Queensland Government and Commonwealth Government legislation.

Condition

General

- RSG042 (S) All plant and equipment reasonably necessary to ensure compliance with the standard conditions must be installed.
- RSG043 (S) All measures reasonably necessary to ensure compliance with the standard conditions must be implemented.
- RSG046 (S) Chemicals and fuels on the relevant tenures must be stored in, or serviced by, an effective containment system that meets Australian Standards, where such a standard is relevant.
- RSG049 (S) All low hazard dams must be monitored for early signs of loss of structural or hydraulic integrity as specified in the initial hazard assessment.
- RSG057 (S) All reasonable steps must be taken to ensure the petroleum activities comply with the eligibility criteria for the activity
- RSG061 (S) All plans and procedures required to be developed must be implemented.
- RSG062 (S) All plant and equipment must be maintained and operated in their proper and effective condition.
- RSG067 (S) Measures must be implemented so that waste is managed in accordance with the waste and resource management hierarchy and the waste and resource management principles
- RSG070 (S) All monitoring must be undertaken by a suitably qualified person

RSG071 (S) All laboratory analyses and tests must be undertaken by a laboratory that has NATA accreditation for such analyses and tests, except as otherwise authorised in writing by the administering authority

RSG075 (S) The following types of petroleum activities are not authorised:

- (a) processing or storing petroleum or petroleum by-products that are not necessarily associated with pipeline construction or operation
- (b) extracting earthen materials (other than drilling waste rock or trench spoil) of more than 100,000t/year
- (c) extracting by dredging more than 1000t/year of material from the bed of naturally occurring surface waters
- (d) construction of power lines (either above or below ground) outside the right of way necessary for the pipeline.

RSG076 (S) Petroleum activities that cause significant disturbance to land must not be carried out until financial assurance has been given to the administering authority as security for compliance with the environmental authority and any costs or expenses, or likely costs or expenses, mentioned in section 298 of the Environmental Protection Act 1994

RSG077 (S) Contaminants must not be directly or indirectly released to land or air except for those releases authorised by standard conditions RSL010, RSG082, RSG083, RSL012, RSL044, RSW033, RSW047, RSN051, RSN050 and RSL051.

RSG078 (S) All plans, procedures and reports must:

- (a) be certified by a suitably qualified person
- (b) be kept on record for a minimum of 5 years.

RSG080 (S) Petroleum activities involving significant disturbance to land or which have the potential to cause environmental harm can only commence after the development of written contingency procedures which address the risks of non-compliance with RSG093, RSG076, RSS010, RSG077, RSL040, RSL041 and RSL042 standard conditions.

- RSG081 (S) The contingency procedures must include, but not necessarily be limited to:
- (a) environmental nuisance and complaint management procedures including:
 - (i) a description of the petroleum activities that might result in non-compliance with RSG093, RSG076, RSS010, RSG077, RSL040, RSL041 and RSL042 standard conditions and what mitigation measures are required to be implemented; and
 - (ii) the action that will be undertaken when a member of the public makes a valid complaint.
 - (b) management procedures including details of what actions will be taken to protect environmental values and minimise potential environmental harm from petroleum activities as a result of floods, severe storms and fires
 - (c) environmental emergency management procedures including details of the response and mitigation measures that will be actioned to reduce negative impacts to environmental values in the event of a non-compliance with RSG093, RSG076, RSS010, RSG077, RSL040, RSL041 and RSL042 standard conditions.
- RSG082 (S) For waste fluids that can be stored in a container that is other than a low hazard dam, the container must either be an above ground container or a structure which contains the wetting front
- RSG083 (S) Waste, including waste fluids, must be transported off-site for lawful re-use, remediation, recycling or disposal unless the waste is specifically authorised by standard conditions RSL012, RSL044, RSW047 and RSL051 to be disposed of or used on-site.
- RSG084 (S) Prior to any changes in petroleum activities which would result in an increase to the maximum disturbance since the last financial assurance calculation was submitted, the holder of the environmental authority must submit, and the administering authority must have approved, an application to amend the financial assurance.
- RSG085 (S) Pipeline planning must be in accordance, to the greatest practicable extent, with the relevant section of the *APIA Code of Environmental Practice: Onshore Pipelines* (2009) and/or AS 2885.1:2012

- RSG086 (S) Pipeline construction must be in accordance, to the greatest practicable extent, with the relevant section of the *APIA Code of Environmental Practice: Onshore Pipelines* (2009) and/or AS 2885.1:2012.
- RSG087 (S) The hazard category of any dam or levee to be used in carrying out petroleum activities must be assessed in accordance with the Queensland Government Manual for Assessing Hazard Categories and Hydraulic Performance of Dams.
- RSG088 (S) Low hazard dams must be:
- (a) constructed, operated and maintained in accordance with accepted engineering standards currently appropriate for the purpose for which the dam is intended to be used; and
 - (b) designed with a floor and sides made of material that will contain the wetting front and any entrained contaminants within the bounds of the containment system during both its operational life and including any period of decommissioning and rehabilitation.
- RSG089 (S) When no longer required all low hazard dams must be decommissioned to no longer accept inflow from the petroleum activities and be either:
- (a) rehabilitated; or
 - (b) agreed to in writing by the administering authority and the landholder to remain in situ following the cessation of the petroleum activity(ies) associated with the dam, with the contained water of a quality suitable for the intended ongoing uses(s) by that landholder.
- RSG090 (S) Pipeline operation and maintenance must be in accordance, to the greatest practicable extent, with the relevant section of the *APIA Code of Environmental Practice: Onshore Pipelines* (2009) and/or AS 2885.3:2012
- RSG091 (S) Written procedures must be developed to ensure operations and maintenance of the pipeline complies with the conditions of the environmental authority

- RSG092 (S) Notwithstanding standard condition RSG071, where there are no NATA accredited laboratories available to test for a specific analyte or substance, then duplicate samples must be sent to separate laboratories for independent testing or evaluation
- RSG093 (S) In addition to the requirements under section 320A of the *Environmental Protection Act 1994*, the administering authority must be notified in writing within 5 business days of any event which has resulted in the contingency procedures required by standard conditions RSG080 and RSG081 being activated
- RSG094 (S) The annual return must include an Update Report detailing activities during the annual return period, demonstrating:
- (a) significant disturbance during the period
 - (b) rehabilitation undertaken
 - (c) a list of all valid complaints relating to environmental issues made including the date, source, reason for the complaint and a description of investigations undertaken in resolving the complaint
 - (d) the results of all monitoring undertaken.

Condition

Acoustic

- RSN045 (S) A Blast Management Plan must be developed for each blasting activity in accordance with Australian Standard 2187.
- RSN046 (S) Blasting operations must be designed to not exceed an airblast overpressure level of 120 dB (linear peak) at any time, when measured at or extrapolated to any sensitive place.

- RSN047
(S) Noise must be measured in accordance with the prescribed standards in the *Environmental Protection Regulation 2008*.
- RSN050
(S) Blasting operations must be designed to not exceed a ground-borne vibration peak particle velocity of 10mm/s at any time, when measured at or extrapolated to any sensitive place

Condition

Air

- RSA005
(S) The method of measurement of ambient air quality or point source contaminant releases to air must comply with the Queensland Air Quality Sampling Manual and/or Australian Standard 4323.1:1995 Stationary source emissions method 1: Selection of sampling positions, whichever is appropriate for the relevant measurement

Condition

Land

- RSL010
(S) Sediment and erosion control measures to prevent soil loss and deposition beyond significantly disturbed land must be implemented and maintained.
- RSL012
(S) Green waste may be used on-site for rehabilitation and/or sediment and erosion control purposes.
- RSL037
(S) Only low impact petroleum activities can be undertaken within Category A Environmentally Sensitive Areas (ESAs), or Category B ESAs or Category C ESAs other than state forests or timber reserves, or within the ESAs' primary protection zone.

RSL038 (S) Non-linear infrastructure is permitted within the secondary protection zone of ESAs provided the location is justified given other constraints and can not be avoided and it can be demonstrated that there will be no negative impacts on the ESA

RSL039 (S) Records demonstrating compliance with standard condition RSL038 must be kept.

RSL040 (S) Only low impact petroleum activities are permitted in a designated precinct of a Strategic Environmental Area.

RSL041 (S) Petroleum activities must:

- (a) firstly, avoid, then minimise, then mitigate any negative impacts on areas of vegetation or other areas of ecological value
- (b) minimise disturbance to land that may otherwise result in land degradation
- (c) minimise isolation, fragmentation or dissection of tracts of vegetation that would lead to a reduction in the current level of ecosystem functioning or ecological connectivity
- (d) minimise clearing of mature or hollow bearing trees.

RSL042 (S) Where significant disturbance to land is to occur, records demonstrating compliance with standard condition RSG078 must be kept

RSL043 (S) The measures required by standard conditions RSW042 and RSL010 must be in accordance, to the greatest practicable extent, with the International Erosion Control Association (IECA) Best Practice Erosion and Sediment Control (BPESC) document and/or the Australian Pipeline Industry Association (APIA) Code of Environmental Practice: Onshore Pipelines (2009).

RSL044 (S) Treated sewage effluent or greywater can be released to land provided it:

- (a) meets or exceeds secondary treated class B standards for a treatment system with a daily peak design capacity of between 150 EP and 1500 EP; or
- (b) meets or exceeds secondary treated class C standards for a treatment system with a daily peak design capacity of less than 150 EP; and
- (c) is released within fenced and signed contaminant release area(s) and does not result in pooling or run-off or aerosols or spray drift or vegetation die-off.

- RSL045 Notwithstanding condition RSG085, pipeline construction corridors must:
(S)
- (a) be minimised in width to the greatest practicable extent
 - (b) not exceed 40m in width
 - (c) not include turn around and work areas associated with pipeline construction that exceed 50m in width
 - (d) be preferentially located alongside existing linear infrastructure.

- RSL046 Prior to any significant disturbance to land:
(S)
- (a) an ecological assessment of areas with native vegetation that are to be significantly disturbed, must be conducted in accordance with the Queensland Government's Biocondition, a Condition Assessment Framework for Terrestrial Biodiversity in Queensland, Assessment Manual; and
 - (b) an assessment of the impacts that will occur as a result of significant disturbance to land must be undertaken.

- RSL047 Measures to prevent fauna entrapment must be implemented during the
(S) construction of pipelines in pipe sections and pipeline trenches and operation of dams

- RSL048 (S) Pipeline trenches must be backfilled and topsoils reinstated within 3 months after pipe laying.
- RSL049 (S) Reinstatement and revegetation of the pipeline right of way must commence within 6 months after completion of petroleum activities for the purpose of pipeline construction.
- RSL050 (S) Backfilled, reinstated and revegetated pipeline trenches and right of way must be:
- (a) a stable landform
 - (b) re-profiled to a level consistent with surrounding soils
 - (c) re-profiled to original contours and established drainage lines
 - (d) vegetated with groundcover which is not a declared pest species, and which is established and self- sustaining.
- RSL051 (S) Flush water may be released to land provided that it meets the requirements of standard condition RSW047.
- RSL052 (S) After decommissioning, all significantly disturbed land caused by the carrying out of the petroleum activity(ies) must be rehabilitated to meet the following final acceptance criteria:
- (a) any contaminated land (e.g. contaminated soils) is remediated and rehabilitated
 - (b) rehabilitation is undertaken in a manner such that any actual or potential acid sulfate soils on the area of significant disturbance are treated to prevent or minimise environmental harm in accordance with the Instructions for the Treatment and Management of Acid Sulfate Soils (2001)
 - (c) for land that is not being cultivated by the landholder:
 - (i) groundcover, that is not a declared pest species is established and self-sustaining
 - (ii) vegetation of similar species richness and species diversity to pre-selected analogue sites is established and self-sustaining

(d) for land that is to be cultivated by the landholder, cover crop is revegetated, unless the landholder will be preparing the site for cropping within 3 months of petroleum activities being completed.

RSL053 Monitoring of performance indicators must be carried out on rehabilitation
(S) activities until final acceptance criteria in standard condition RSL052 have been met for the rehabilitated area.

Condition

Social

RSS009 If requested by the administering authority in relation to investigating a valid
(S) complaint, monitoring must be undertaken within 10 business days.

RSS010 Petroleum activities must not cause environmental nuisance from dust, odour,
(S) light, smoke or noise at a sensitive place, other than where an alternative arrangement is in place

Condition

Water

RSW029 The methods of surface water sampling must comply with that set out in the
(S) Queensland Government's Monitoring and Sampling Manual 2009 - Environmental Protection (Water) Policy 2009.

RSW033 Petroleum activities must not result in water turbidity increases of more than
(S) 10% in high ecological value waters outside contained construction or maintenance areas

- RSW042
(S) Measures must be implemented and maintained to minimise stormwater entry onto significantly disturbed land
- RSW043
(S) Petroleum activities that require earthworks, vegetation clearing and/or placing fill, other than that associated with the construction of linear infrastructure, are not permitted in or within:
- (a) 200 metres of any wetland, lake or spring; or
 - (b) 100 metres of the outer bank of any other watercourse.
- RSW044
(S) The construction and/or maintenance for linear infrastructure that will result in significant disturbance to a wetland, lake, spring or watercourse must be conducted in accordance with the following order of preference. Conducting works:
- (a) firstly, in times where there is no water present
 - (b) secondly, in times of no flow
 - (c) thirdly, in times of flow, but in a way that does not impede low flow.
- RSW045
(S) The construction and/or maintenance for linear infrastructure that will result in significant disturbance to a lake, spring or watercourse must be designed and undertaken by a suitably qualified person in accordance with the guideline *Activities in a watercourse, lake or spring associated with a resource activity or mining operations*
- RSW046
(S) The construction and/or maintenance for linear infrastructure that will result in significant disturbance to a wetland must be designed and undertaken by a suitably qualified person taking into consideration sections 5 and 6 of the guideline *Activities in a watercourse, lake or spring associated with a resource activity or mining operations*

- RSW047 (S) Trench water, hydrostatic testing water or water from low point drains, may be released to land provided that it:
- (a) can be demonstrated to meet the acceptable standards for release to land
 - (b) is released in a way that does not cause visible scouring or erosion.
- RSW048 (S) If hydrostatic testing water quality does not or can not be treated to meet the requirements of standard condition RSW047, it must be managed in accordance with standard conditions RSG082 or RSG083.
- RSW049 (S) The methods of groundwater sampling must comply with the Australian Government's *Groundwater Sampling and Analysis - A Field Guide* (2009:27 GeoCat #6890.1)

Definition

- RD003 Acceptable standards for release to land means
- (a) electrical conductivity (EC) not exceeding 3000µS/cm
 - (b) sodium adsorption ratio (SAR) not exceeding 8
 - (c) and for hydrostatic testing water, water from low point drains and flush water, total heavy metals for each element listed meets the respective short term trigger value in Table 4.2.6. - Heavy metals and metalloids in Australian and New Zealand Guidelines for Fresh and Marine Water Quality (ANZECC) 2000.
- RD004 Accepted engineering standards in relation to dams, means those standards of design, construction, operation and maintenance that are broadly accepted within the profession of engineering as being good practice for the purpose and application being considered. In the case of dams, the most relevant documents would be publications of the Australian National Committee on Large Dams (ANCOLD), guidelines published by Queensland government departments and relevant Australian and New Zealand Standards.
- RD006 Acid sulfate soil(s) means a soil or soil horizon which contains sulfides or an acid soil horizon affected by oxidation of sulfides.

- RD009 Administering authority has the meaning in Schedule 4 of the Environmental Protection Act 1994.
- RD013 Alternative arrangement means a written agreement about the way in which a particular environmental nuisance impact will be dealt with at a sensitive place, and may include an agreed period of time for which the arrangement is in place. An alternative arrangement may include, but is not limited to, a range of nuisance abatement measures to be installed at the sensitive place, or provision of alternative accommodation for the duration of the relevant nuisance impact.
- RD014 Analogue site(s) means an area of land which contains values and characteristics representative of an area to be rehabilitated prior to disturbance. Such values must encompass land use, topographic, soil, vegetation, vegetation community attributes and other ecological characteristics. Analogue sites can be the pre-disturbed site of interest where significant surveying effort has been undertaken to establish benchmark parameters.
- RD015 Analyte(s) means a chemical parameter determined by either physical measurement in the field or by laboratory analysis.
- RD018 Annual return period means the most current 12-month period between two anniversary dates.
- RD024 Aquifer means an identifiable stratigraphic formation that has the potential to produce useful flows of water.
- RD030 Australian Standard 2187 means Australian Standard 2187.0:1998 Explosives-Storage, transport and use, Part 0, Australian Standard 2187.1:1998 Explosives-Storage, transport and use Part 1 and Australian Standard 2187.2:2006 Explosives-Storage and use, Part 2 or any updated versions that becomes available from time to time.
- RD031 Australian Standard 2885 means Australian Standard 2885.0:2008 Pipelines - Gas and Liquid Petroleum General Requirements, Australian Standard 2885.0-2008/Amdt 1-2012 Pipelines - Gas and Liquid Petroleum General Requirements, Australian Standard 2885.1:2012 Pipelines - Gas and Liquid Petroleum Design and Construction and Australian Standard 2885.3:2012 Pipelines - Gas and Liquid Petroleum Operation and Maintenance, or any updated versions that become available from time to time.

- RD037 Bed of any waters, has the meaning in Schedule 12 Part 2 of the Environmental Protection Regulation 2008.
- RD043 Business day has the meaning in section 36 of the Acts Interpretation Act 1954.
- RD044 Category A Environmentally Sensitive Area means any area listed in Schedule 12, Section 1 of the Environmental Protection Regulation 2008.
- RD045 Category B Environmentally Sensitive Area means any area listed in Schedule 12, Section 2 of the Environmental Protection Regulation 2008.
- RD047 Category C ESA means any of the following areas:
- (a) nature refuges as defined in the conservation agreement for that refuge under the Nature Conservation Act 1992
 - (b) State forests or timber reserves as defined under the Forestry Act 1959
 - (c) resources reserves under the Nature Conservation Act 1992
 - (d) an area validated as 'essential habitat' or 'essential regrowth habitat' from ground-truthing surveys in accordance with the Vegetation Management Act 1999 for a species of wildlife listed as endangered, vulnerable, rare or near threatened under the Nature Conservation Act 1992
 - (e) 'of concern regional ecosystems' identified in the database called 'RE description database' containing regional ecosystem numbers and descriptions
 - (f) threshold regional ecosystems as defined and listed in Appendix 6 of the Queensland Biodiversity Offsets Policy
 - (g) critically limited regional ecosystems as defined and listed in Appendix 5 of the Queensland Biodiversity Offsets Policy.
- RD050 Certified in relation to any matter other than a design plan, 'as constructed' drawings or an annual report regarding dams means, a Statutory Declaration by a suitably qualified person or suitably qualified third party accompanying the written document stating:
- (a) the person's qualifications and experience relevant to the function
 - (b) that the person has not knowingly included false, misleading or incomplete information in the document
 - (c) that the person has not knowingly failed to reveal any relevant information or document to the administering authority
 - (d) that the document addresses the relevant matters for the function and is factually correct; and
 - (e) that the opinions expressed in the document are honestly and reasonably held.

- RD056 Clearing has the meaning in the dictionary of the Vegetation Management Act 2000.
- RD059 Coastal waters has the meaning in section 440ZH of the Environmental Protection Act 1994 and means the coastal waters of the state, and includes other waters within the limits of the state that are subject to the ebb and flow of the tide.
- RD068 Cultivated means used for cropping or gardening.
- RD069 Daily peak design capacity for sewage treatment works, has the meaning in Schedule 2, section 63(4) of the Environmental Protection Regulation 2008 as the higher equivalent person (EP) for the works calculated using each of the formulae found in the definition for EP.
- RD072 Dam(s) means a land-based structure or a void that is designed to contain, divert or control flowable substances, and includes any substances that are thereby contained, diverted or controlled by that land-based structure or void and associated works. A dam does not mean a fabricated or manufactured tank or container, designed and constructed to an Australian Standard that deals with strength and structural integrity of that tank or container.
- RD073 Declared pest species has the meaning in the Land Protection (Pest and Stock Route Management) Regulation 2003 and is a live animal or plant declared to be a declared pest under section 36 (Declaring Pests by Regulation) or section 37(2) (Declaring Pest under Emergency Pest Notice) of that Act and includes reproductive material of the animal or plant.
- RD075 Decommissioning in relation to pipelines means the actions undertaken in accordance with the requirements of Australian Standard 2885, as amended from time to time, to prepare the pipeline and peripheral facilities for pending suspension or abandonment.
- RD080 Designated precinct has the meaning in Part 5 section 15(3) of the Regional Planning Interests Regulation 2014:
(a) for a strategic environmental area mentioned in section 4(1)-the area identified as a designated precinct on the strategic environmental area map for the strategic environmental area; or

(b) if a strategic environmental area is shown on a map in a regional plan - the area identified on the map as a designated precinct for the strategic environmental area.

RD086 Documents has the meaning in section 36 of the Acts Interpretation Act 1954.

RD090 Ecological connectivity is a measure of ecological condition and means the flow or connection of organisms and ecological processes across landscapes at multiple scales. Ecological connectivity has a positive relationship with landscape connectivity and habitat connectivity and effects vary between species. It includes connectivity by stepping stone or contiguous bioregional/local corridor networks.

RD093 Ecosystem functioning means the interactions between and within living and nonliving components of an ecosystem and generally correlates with the size, shape and location of the vegetation community.

RD095 Eligibility criteria for an environmentally relevant activity, has the meaning in section 112 of the *Environmental Protection Act 1994*.

RD099 Environmental attribute has the meaning in section 11(2) of the *Regional Planning Interests Act 2014*.

RD101 Environmental harm has the meaning in section 14 of the *Environmental Protection Act 1994*.

RD104 Environmental nuisance has the meaning in section 15 of the *Environmental Protection Act 1994*.

RD106 Environmental value(s) has the meaning in section 9 of the *Environmental Protection Act 1994*.

RD108 Environmentally relevant activity or ERA has the meaning in section 18 of the *Environmental Protection Act 1994*.

RD112 Equivalent person or EP has the meaning under section 3 of the Planning Guidelines For Water Supply and Sewerage, 2005, published by the Queensland Government. It

is calculated in accordance with Schedule 2, Section 63(4) of the Environmental Protection Regulation 2008 where:

(a) $EP = V/200$ where V is the volume, in litres, of the average dry weather flow of sewage that can be treated at the works in a day; or

(b) $EP = M/2.5$ where M is the mass, in grams, of phosphorus in the influent that the works are designed to treat as the inlet load in a day.

- RD121 Financial assurance for an environmental authority, means financial assurance given for the authority under Chapter 5, part 12, division 2 of the *Environmental Protection Act 1994*.
- RD133 Green waste means waste that is grass cuttings, trees, bushes, shrubs, material lopped from trees, untreated timber or other waste that is similar in nature but does not include declared pest species.
- RD134 Greywater means wastewater generated from domestic activities such as laundry, dishwashing, and bathing. Greywater does not include sewage.
- RD137 Hazard category means a category, either low, significant or high, into which a dam is assessed as a result of the application of tables and other criteria in Manual for Assessing Hazard Categories and Hydraulic Performance of Dams, published by the Queensland Government, as amended from time to time.
- RD139 High ecological value waters means Queensland waters that are scheduled waters under the Environmental Protection (Water) Policy 2009 as high value ecological waters.
- RD151 Lake means:
- (a) a lagoon, swamp or other natural collection of water, whether permanent or intermittent; and
 - (b) the bed and banks and any other element confining or containing the water.
- RD157 Levee means an embankment that only provides for the containment and diversion of stormwater or flood flows from a contributing catchment, or containment and diversion of flowable materials resulting from releases from other works, during the progress of those stormwater or flood flows or those releases; and does not store any significant volume of water or flowable substances at any other times.

- RD160 Linear infrastructure means powerlines, pipelines, roads and access tracks.
- RD165 Low hazard dam means any dam that is not classified as high or significant as assessed using the Manual for Assessing Hazard Categories and Hydraulic Performance of Dams, published by the Queensland Government and which contains contaminants in concentrations which exceed or will exceed, during the dam's operational life, the values or range shown in Table 3 of the manual.
- RD168 Low impact petroleum activities means petroleum activities which do not result in the clearing of native vegetation, cause disruption to soil profiles through earthworks or excavation or result in significant disturbance to land which cannot be rehabilitated immediately using hand tools after the activity is completed. Examples of such activities include but are not necessarily limited to soil surveys (excluding test pits), topographic surveys, cadastral surveys and ecological surveys, may include installation of monitoring equipment provided that it is within the meaning of low impact and traversing land by car or foot via existing access tracks or routes or in such a way that does not result in permanent damage to vegetation.
- RD184 Month is defined in s36 of the Acts Interpretation Act 1954.
- RD185 NATA accreditation means accreditation by the National Association of Testing Authorities Australia.
- RD189 Non-linear infrastructure means infrastructure that is other than a powerline, a pipeline, a road, an access track and includes only the following:
- (a) workers camps
 - (b) maintenance facilities
 - (c) no-release sewage treatment plants
 - (d) laydown areas
 - (e) structures (i.e. dams or levees)
 - (f) tanks
 - (g) sediment and erosion control measures
 - (h) above ground containers and chemical / fuel storages
 - (i) water pumps and generators
 - (j) stockpiles
- RD193 Outer bank has the meaning in section 5A of the Water Act 2000.

- RD195 Performance indicator(s) means a quantitative measure against which success can be assessed and audited in a consistent, objective and repeatable manner.
- RD203 Primary protection zone means an area within 200m from the boundary of any Category A, B or C ESA.
- RD215 Regulated dam(s) means any dam in the significant or high hazard category as assessed using the Manual for Assessing Hazard Categories and Hydraulic Performance of Dams, published by the Queensland Government, as amended from time to time.
- RD217 Rehabilitation or rehabilitated means the process of reshaping and revegetating land to restore it to a stable landform and in accordance with acceptance criteria and, where relevant, includes remediation of contaminated land. For the purposes of pipeline rehabilitation, rehabilitation includes reinstatement, revegetation and restoration
- RD221 Reinstated or reinstatement means the process of bulk earth works and structural replacement of pre- existing conditions of a site (i.e. soil surface topography, watercourses, culverts, fences and gates and other landscape(d) features) and is detailed in the APIA Code of Environmental Practice: Onshore Pipelines (2009).
- RD223 Release, releases, released has the meaning in Schedule 4 of the Environmental Protection Act 1994.
- RD229 Restoration means the replacement of structural habitat complexity, ecosystem processes, services and function from a disturbed or degraded site to that of a pre-determined or analogue site. For the purposes of pipelines, restoration applies to final rehabilitation after pipeline decommissioning.
- RD231 Revegetation or revegetating or revegetate means to actively re-establish vegetation through seeding or planting techniques in accordance with site specific management plans.
- RD233 Right of way means the linear construction footprint required to install pipelines.

RD236 Secondary protection zone in relation to a Category A or Category B ESA means an area within 100 metres from the boundary of the primary protection zone.

RD238 Secondary treated class B standards means treated sewage effluent or greywater which meets the following standards:

- (a) total phosphorous as P, maximum 20mg/L
- (b) total nitrogen as N, maximum 30mg/L
- (c) 5-day biochemical oxygen demand (inhibited) (e.g. release pipe from sewage treatment plant), maximum 20mg/L
- (d) suspended solids, maximum 30mg/L
- (e) pH, range 6.0 to 8.5
- (f) e-coli, 80th percentile based on at least 5 samples with not less than 30 minutes between samples, 1000cfu per 100mL, maximum 10 000cfu per 100mL.

RD239 Secondary treated class C standards means treated sewage effluent or greywater which meets the following standards:

- (a) total phosphorous as P, maximum 20mg/L
- (b) total nitrogen as N, maximum 30mg/L
- (c) 5-day biochemical oxygen demand (inhibited) (e.g. Release pipe from sewage treatment plant), maximum 20mg/L
- (d) suspended solids, maximum 30mg/L
- (e) pH, range 6.0 to 8.5
- (f) e-Coli, 80th percentile based on at least 5 samples with not less than 30 minutes between samples, 10 000cfu per 100mL, maximum 100 000cfu per 100mL.

RD241 Sensitive place means:

- (a) a dwelling (including residential allotment, mobile home or caravan park, residential marina or other residential premises, motel, hotel or hostel)
- (b) a library, childcare centre, kindergarten, school, university or other educational institution
- (c) a medical centre, surgery or hospital
- (d) a protected area
- (e) a public park or garden that is open to the public (whether or not on payment of money) for use other than for sport or organised entertainment
- (f) a work place used as an office or for business or commercial purposes, which is not part of the petroleum activity(ies) and does not include employees accommodation or public roads
- (g) for noise, a place defined as a sensitive receptor for the purposes of the Environmental Protection (Noise) Policy 2008.

RD248 Significantly disturbed or significant disturbance or significant disturbance to land or areas means disturbance to land as defined in Schedule 12, section 4 of the Environmental Protection Regulation 2008.

RD249 Species diversity means the diversity within an ecological community that incorporates both species richness and the evenness of species' abundances.

RD250 Species richness means the number of different species in a given area.

RD252 Spring(s) has the meaning in Schedule 4 of the Water Act 2000.

RD254 Stable in relation to land, means landform dimensions are or will be stable within tolerable limits now and in the foreseeable future. Stability includes consideration of geotechnical stability, settlement and consolidation allowances, bearing capacity (trafficability), erosion resistance and geochemical stability with respect to seepage, leachate and related contaminant generation.

RD266 Strategic environmental area has the meaning in section 11(2) of the Regional Planning Interests Act 2014.

RD267 Structure means dam or levee.

RD272 Suitably qualified person means a person who has qualifications, training, skills and experience relevant to the nominated subject matter and can give authoritative assessment, advice and analysis to performance relative to the subject matter using the relevant protocols, standards, methods or literature.

RD281 Top soil means the surface (top) layer of a soil profile, which is more fertile, darker in colour, better structured and supports greater biological activity than underlying layers. The surface layer may vary in depth depending on soil forming factors, including parent material, location and slope, but generally is not greater than about 300mm in depth from the natural surface.

RD284 Trench spoil means soil from the pipeline trench.

- RD286 Valid complaint means a complaint that is not considered by the administering authority or the holder of the environmental authority to be frivolous, vexatious or based on mistaken belief.
- RD289 Waste and resource management hierarchy is defined in section 9 of the Waste Reduction and Recycling Act 2011.
- RD291 Waste and resource management principles is defined in section 4(2)(b) of the Waste Reduction and Recycling Act 2011.
- RD298 Watercourse is defined in Schedule 4 of the Environmental Protection Act 1994.
- RD301 Waters refers to all or any part of a creek, river, stream, lake, lagoon, swamp, wetland, spring, unconfined surface water, unconfined water in natural or artificial watercourses, bed and bank of any waters, non-tidal or tidal waters (including the sea), stormwater channel, stormwater drain, roadside gutter, stormwater run-off, and underground water.
- RD309 Wetland means a wetland as defined under the Queensland Wetlands Program and are areas of permanent or periodic/intermittent inundation, with water that is static or flowing fresh, brackish or salt, including areas of marine water, the depth of which at low tide does not exceed 6 metres. To be classified as a wetland, the area must have one or more of the following attributes:
- (a) at least periodically, the land supports plants or animals that are adapted to and dependent on living in wet conditions for at least part of their life cycle; or
 - (b) the substratum is predominantly undrained soils that are saturated, flooded or ponded long enough to develop anaerobic conditions in the upper layers; or
 - (c) the substratum is not soil and is saturated with water, or covered by water at some time.
- For the purposes of petroleum activities, wetlands do not include springs and watercourses and those wetlands that are defined in the Wetland Mapping and Classification Methodology (2005) published by the Queensland Government as:
- (a) H2M1 Riverine or ex-riverine (lacustrine) water bodies associated with dams and weirs located in a channel
 - (b) H2M3p Ponded pastures
 - (c) H2M5 Palustrine/lacustrine water bodies where ecological character has changed due to gross mechanical disturbance (e.g. cropping)
 - (d) H2M6 Palustrine/lacustrine water bodies that have been converted, completely or mostly, to a ring tank or other controlled storage

(e) H2M7 Riverine water bodies that have been converted mostly to canals or irrigation channels

(f) H3C1 Artificial stand-alone water storages not within a natural water body or channel; or

(g) H3C2 Artificial Channel drain/canal - bore drains, swales, bores and irrigation channel overflows/ponding.

Explanatory note: This definition has been amended from the Queensland Wetlands Program definition so that low value wetlands and man-made water bodies are excluded.

RD313 Year(s) is defined in section 36 of the Acts Interpretation Act 1954.