Permit

Environmental Protection Act 1994

Environmental authority EPPR00384513

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

Environmental authority number: EPPR00384513

Environmental authority takes effect on 29 May 2019

Environmental authority holder(s)

Name(s)	Registered address
RATCH-AUSTRALIA TOWNSVILLE PTY LIMITED	Level 7 111 Pacific Highway NORTH SYDNEY NSW 2060 Australia

Environmentally relevant activity and location details

Environmentally relevant activity/activities	Location(s)
Prescribed ERA, ERA 14 - Electricity Generation, 1: Generating electricity by using gas at a rated capacity of 10MW electrical or more	Lot 1/RP726908
Prescribed ERA, ERA 08 - Chemical Storage, 5: storing 200 cubic metres or more of chemicals that are liquids, other than chemicals mentioned in items 1 to 3, under subsection (1)(d)	Lot 1/RP726908

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:

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- 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 Planning Act 2016 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.

Clancy Mackaway
Department of Environment and Science
Delegate of the administering authority
Environmental Protection Act 1994

Date issued: 29 May 2019

Enquiries:
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Queensland Government

Obligations under the Environmental Protection Act 1994

In addition to the requirements found in the conditions of this environmental authority, the holder must also meet their obligations under the EP Act, and the regulations made under the EP Act. For example, the holder must comply with the following provisions of the Act:

- general environmental duty (section 319)
- duty to notify environmental harm (section 320-320G)
- offence of causing serious or material environmental harm (sections 437-439)
- offence of causing environmental nuisance (section 440)
- offence of depositing prescribed water contaminants in waters and related matters (section 440ZG)
- offence to place contaminant where environmental harm or nuisance may be caused (section 443)

Conditions of Environmental Authority

Schedule A – Activity	
Condition Number	**Condition**
Prevent and /or Minimise Likelihood of Environmental Harm	
(A1)	In carrying out the environmentally relevant activities, you[1] must take all reasonable and practicable measures to prevent and / or to minimise the likelihood of environmental harm being caused. Any environmentally relevant activity, that, if carried out incompetently, or negligently, may cause environmental harm, in a manner that could have been prevented, shall be carried out in a proper manner in accordance with the conditions of this approval. NOTE: This approval authorises the environmentally relevant activity. It does not authorise environmental harm unless a condition contained within this approval explicitly authorises that harm. Where there is no condition or the approval is silent on a matter, the lack of a condition or silence shall not be construed as authorising harm.
Maintenance of Measures, Plant and Equipment	
(A2)	The holder must: ▪ install all measures, plant and equipment necessary to ensure compliance with the conditions of this environmental authority; and ▪ maintain such measures, plant and equipment in a proper and efficient condition; and ▪ operate such measures, plant and equipment in a proper and efficient manner.
Records	
(A3)	Record, compile and keep all monitoring results required by this document and present this information to the administering authority when requested, in a specified format.
(A4)	Records must be kept for five years, and must include the following information: ▪ date of pickup of waste; ▪ description of waste; ▪ cross reference to relevant waste transport documentation; ▪ quantity of waste; ▪ origin of the waste; ▪ destination of the waste; and ▪ intended fate of the waste, for example, type of waste treatment, reprocessing or disposal. NOTE: Records of documents maintained in compliance with a waste tracking system established under the Environmental Protection Act 1994 or any other law for regulated waste will be deemed to satisfy this condition.

[1] Words underlined are currently defined in Schedule J – Definitions or the Environmental Protection Act 1994 and/or its subordinate legislation.

Schedule B – Air	
Nuisance	
(B1)	The release of noxious or offensive odours or any other noxious or offensive airborne contaminants resulting from the activity must not cause a nuisance at any odour sensitive place.
The release of Contaminants to the Atmosphere	
(B2)	The release of contaminants to the atmosphere from a point source must only occur from these release points identified in Schedule B - Table 1 and must be directed vertically upwards without any impedance or hindrance.
(B3)	Contaminants must be released to the atmosphere from a release point at a height and a flow rate not less than the corresponding height and velocity stated for that release point in Schedule B - Table 1.
(B4)	Contaminants must not be released to the atmosphere from a release point at a mass emission rate/concentration, as measured at a monitoring point, in excess of that stated in Schedule B –Table 1 and monitored not less frequently than Schedule B Table 1**.**

Schedule B -Table 1 (Release of contaminants)

Release Point Number	Minimum Release Height (metres)	Minimum Velocity (m/sec)[b]	Contaminant Release	Maximum Release Limit[b]	Sampling Frequency
Release Point 1-Heat recovery boiler stack	35	17	Nitrous oxides as Nitrogen dioxide	[a] 65 mg/Nm^3	Once every six months for the first 18 months of operation, and once every two years thereafter.
Release Point 1 - Heat recovery boiler stack	35	17	Sulfur dioxide	3 mg/Nm^3	Once every six months for the first 18 months of operation.
Release Point 2 — Bypass stack	35	17			

a Measured as a dry flue gas at a reference level of 15% oxygen.

b Monitoring undertaken to assess compliance with contaminant release limits must be undertaken when the plant is at its Maximum Continuous Rating.

(B5)	When requested by the Administering Authority, contaminant monitoring and recording must be undertaken to investigate any complaint of contamination, and the results notified within 14 days to the administering authority. If you can provide evidence through monitoring that the limits in Schedule B Table 1 are not being exceeded then you shall not be in breach of condition (B4) with regards to any release of the contaminants listed in Schedule B Table 1. When monitoring is requested the following must be complied with:

	monitoring provisions for the release points listed in Schedule B -Table 1 must comply with the Australian Standard AS 4323.1 - 1995 'Stationary source emissions Method 1:Selection of sampling positions'. the following tests must be performed for each required determination specified in Schedule B -Table 1: gas velocity and volume flow rate; temperature water vapour concentration (moisture content), Where practicable samples must be taken when emissions are expected to be at maximum rates. During the sampling period the following additional information must be gathered: production rate at the time of sampling; raw materials used; number of equipment and mixing vessels operating; operating or mixing temperature; product made; and reference to the actual test methods and accuracy's.
Schedule C -Water	
Release to Waters	
(C1)	Contaminants must not be released from the site to any waters or the bed and banks of any waters.
Stormwater Management	
(C2)	There must be no release of Stormwater runoff that has been in contact with any contaminants at the site to any waters, roadside gutter or Stormwater drain.
Pond Conditions	
(C3)	Suitable banks and/or diversion drains must be installed and maintained to exclude stormwater runoff from entering any ponds or other structures used for the storage or treatment of contaminants or wastes.
Wastewater Management	
(C4)	All wastewaters generated under this authority must be either: a. directed to the QNI Yabulu Refinery via a pipeline; and/or b. Temporarily held on site in a suitable storage tank, designed and constructed to an Australian Standard that deals with strength and structural integrity of that tank or container with adequate bunded area (to a maximum quantity no greater than 4.5 ML); and/or c. Transferred to a storage pond which will be subjected to Schedule H of this permit.

Schedule D -Noise and Vibration	
Noise Nuisance	
(D1)	Noise from activities must not cause an environmental nuisance at any noise affected premises.
(D2)	All noise from activities must not exceed the levels specified in Schedule D -Table 1 at any noise affected premises.

Schedule D -Table 1 (Noise limits)

Noise level dB(A) measured as	Monday to Saturday			Sundays and public holidays		
	7am - 6pm	6pm-10pm	10pm-7am	9am-6pm	6pm-10pm	10pm-9am
	Noise measured at a 'Noise sensitive place'					
$L_{A10, adj,10 mins}$	55	50	45	55	50	45
$L_{A1, adj,10 mins}$	60	55	50	60	55	50
	Noise measured at a 'Commercial place'					
$L_{A10, adj,10 mins}$	55	50	45	55	50	45
$L_{A1, adj,10 mins}$	60	55	50	60	55	50

Noise Monitoring	
(D3)	When requested by the Administering Authority, noise monitoring must be undertaken to investigate any complaint of noise nuisance, and the results notified within 14 days to the administering authority. Monitoring must include: ▪ $L_{A10, adj,10 mins}$ ▪ $L_{A1, adj,10 mins}$ ▪ the level and frequency of occurrence of impulsive or tonal noise; ▪ atmospheric conditions including wind speed and direction; ▪ effects due to extraneous factors such as traffic noise; and ▪ location, date and time of recording.
(D4)	The method of measurement and reporting of noise levels must comply with the latest edition of the Environmental Protection Agency's Noise Measurement Manual.
Schedule E -Waste	
Waste Handling	
(E1)	All regulated waste removed from the site must be removed by a person who holds a current approval to transport such waste under the provisions of the Environmental Protection Act 1994.

Schedule F -Land	
Preventing Contaminant Release to Land	
(F1)	Contaminants must not be released to land.
(F2)	Spillage of all chemicals and fuels must be contained within an on-site containment system and controlled in a manner that prevents environmental harm. NOTE: All petroleum product storage's must be designed, constructed and maintained in accordance with AS 1940 -Storage and Handling of Flammable and Combustible Liquids.
Schedule G -Community	
Complaint Response	
(G1)	All complaints received must be recorded including investigations undertaken, conclusions formed and action taken. This information must be made available to the administering authority on request.
Schedule H - structures	
Assessment of Consequence Category	
(H1)	The consequence category of any structure must be assessed by a suitably qualified and experienced person in accordance with the Manual for assessing consequence categories and hydraulic performance of structures (ESR/2016/1933[2]) at the following times: a) prior to the design and construction of the structure, b) prior to any change in its purpose or the nature of its stored contents.
(H2)	A consequence assessment report and certification must be prepared for each structure assessed and the report may include a consequence assessment for more than one structure.
(H3)	Certification must be provided by the suitably qualified and experienced person who undertook the assessment, in the form set out in the Manual for assessing consequence categories and hydraulic performance of structures (ESR/2016/1933).
Design and Construction of a Regulated Structure	
(H4)	All regulated structures must be designed by, and constructed[3] under the supervision of, a suitably qualified and experienced person in accordance with the requirements of the *Manual for assessing consequence categories and hydraulic performance of structures (ESR/2016/1933)*.

[2]This is the publication number, which can be used as a search term to find the latest version of the publication at www.des.qld.gov.au.

[3]Certification of design and construction may be undertaken by different persons.

(H5)	Construction of a regulated structure is prohibited unless: a) the holder has submitted a consequence category assessment report and certification to the administering authority; and b) certification for the design**,** design plan and the associated operating procedures has been certified by a suitably qualified and experienced person in compliance with the relevant condition of this authority.
(H6)	Certification must be provided by the suitably qualified and experienced person who oversees the preparation of the design plan in the form set out in the *Manual for assessing consequence categories and hydraulic performance of structures (ESR/2016/1933)*, and must be recorded in the Register of Regulated Structures.
(H7)	Regulated structures must: a) be designed and constructed in compliance with the *Manual for assessing consequence categories and hydraulic performance of structures (ESR/2016/1933);* b) be designed and constructed with due consideration given to ensuring that the design integrity would not be compromised on account of: i) floodwaters from entering the regulated dam from any watercourse or drainage line; and ii) wall failure due to erosion by floodwaters arising from any watercourse or drainage line. c) have the floor and sides of the dam designed and constructed to prevent or minimise the passage of the wetting front and any entrained contaminants through either the floor or sides of the dam during the operational life of the dam and for any period of decommissioning and rehabilitation of the dam.
(H8)	Certification by the suitably qualified and experienced person who supervises the construction must be submitted to the administering authority on the completion of construction of the regulated structure, and state that: a) the 'as constructed' drawings and specifications meet the original intent of the design plan for that regulated structure b) construction of the regulated structure is in accordance with the design plan.
Notification of Affected Persons	
(H9)	All affected persons must be provided with a copy of the emergency action plan in place for each regulated structure a) prior to the operation of the new regulated structure; and b) if the emergency action plan is amended, within 5 business days of it being amended.

Operation of a Regulated Structure	
(H10)	Operation of a regulated structure is prohibited unless the holder has submitted to the administering authority in respect of regulated structure, all of the following: a) one paper copy and one electronic copy of the design plan and certification of the 'design plan' in accordance with condition (H5); b) a set of 'as constructed' drawings and specifications; c) certification of the 'as constructed drawings and specifications' in accordance with condition (H8); d) where the regulated structure is to be managed as part of an integrated containment system for the purpose of sharing the DSA volume across the system, a copy of the certified system design plan; e) the requirements of this authority relating to the construction of the regulated structure have been met; f) the holder has entered the details required under this authority, into a Register of Regulated Structures; and g) there is a current operational plan for the regulated structure.
(H11)	Each regulated structure must be maintained and operated, for the duration of its operational life until decommissioned and rehabilitated, in compliance with the current operational plan and, if applicable, the current design plan and associated certified 'as constructed' drawings.
Mandatory Reporting Level	
(H12)	Conditions H13 to H16 inclusive only apply to Regulated Structures which have not been certified as low consequence category for 'failure to contain – overtopping'.
(H13)	The Mandatory Reporting Level (the MRL) must be marked on a regulated dam in such a way that during routine inspections of that dam, it is clearly observable.
(H14)	The holder must, as soon as practicable but within forty-eight (48) hours of becoming aware, notify the administering authority when the level of the contents of a regulated dam reaches the MRL.
(H15)	The holder must, immediately on becoming aware that the MRL has been reached, act to prevent the occurrence of any unauthorised discharge from the regulated dam.
(H16)	The holder must record any changes to the MRL in the Register of Regulated Structures.
Design Storage Allowance	
(H17)	The holder must assess the performance of each regulated dam or linked containment system over the preceding November to May period based on actual observations of the available storage in each regulated dam or linked containment system taken prior to 1 July of each year.

(H18)	By 1 November of each year, storage capacity must be available in each regulated dam (or network of linked containment systems with a shared DSA volume), to meet the Design Storage Allowance (DSA) volume for the dam (or network of linked containment systems).
(H19)	The holder must, as soon as practicable but within forty-eight (48) hours of becoming aware that the regulated dam (or network of linked containment systems) will not have the available storage to meet the DSA volume on 1 November of any year, notify the administering authority.
(H20)	The holder must, immediately on becoming aware that a regulated dam (or network of linked containment systems) will not have the available storage to meet the DSA volume on 1 November of any year, act to prevent the occurrence of any unauthorised discharge from the regulated dam or linked containment systems.
Annual Inspection Report	
(H21)	Each regulated structure must be inspected each calendar year by a suitably qualified and experienced person.
(H22)	At each annual inspection, the condition and adequacy of all components of the regulated structure must be assessed and a suitably qualified and experienced person must prepare an annual inspection report containing details of the assessment and include a recommendations section, with any recommended actions to ensure the integrity of the regulated structure or a positive statement that no recommendations are required**.**
(H23)	The suitably qualified and experienced person who prepared the annual inspection report must certify the report in accordance with the *Manual for assessing consequence categories and hydraulic performance of structures (ESR/2016/1933)*.
(H24)	The holder must within 20 business days of receipt of the annual inspection report, provide to the administering authority: a) The recommendations section of the annual inspection report; and b) If applicable, any actions being taken in response to those recommendations; and c) If, following receipt of the recommendations and (if applicable) recommended actions, the administering authority requests a copy of the annual inspection report from the holder, provide this to the administering authority within 10 business days of receipt of the request.

Decommissioning and Rehabilitation	
(H25)	Regulated structures must not be abandoned but be either: a) decommissioned and rehabilitated to achieve compliance with condition (H26); or b) be left in-situ for a use by the landholder provided that: i) it no longer contains contaminants that will migrate into the environment; and ii) it contains water of a quality that is demonstrated to be suitable for its intended use(s); and c) the holder of the environmental authority and the landholder agree in writing that the; i) dam will be used by the landholder following the cessation of the environmentally relevant activity(ies); and ii) landholder is responsible for the dam, on and from an agreed date.
(H26)	Before surrendering this environmental authority the site must be rehabilitated to meet the following acceptance criteria: a) any land contamination resulting from storage pond activities is remediated and rehabilitated b) the areas are: i. non-polluting ii. a stable landform iii. re-profiled to contours consistent with the surrounding landform c) surface drainage lines are re-established d) top soil is reinstated; and e) either: i. groundcover, that includes suitable native species of vegetation for the location and not pest species, is growing; or ii. an alternative soil stabilisation methodology that achieves effective stabilisation is implemented and maintained. f) to meet the following final acceptance criteria measured either against the highest ecological value adjacent land use or the pre-disturbed land use: i. greater than or equal to 70% of native ground cover species richness ii. greater than or equal to the total per cent of ground cover iii. less than or equal to the per cent species richness of plant pest species; and iv. where the adjacent land use contains, or the pre-clearing land use contained, one or more regional ecosystem(s), then at least one regional ecosystem(s) from the same broad vegetation group, and with the equivalent biodiversity status or a biodiversity status with a higher conservation value as any of the regional ecosystem(s) in either the adjacent land or pre-disturbed land, must be present.

Register of Regulated Structures	
(H27)	A Register of Regulated Structures must be established and maintained by the holder for each regulated structure.
(H28)	The holder must provisionally enter the required information in the Register of Regulated Structures when a design plan for a regulated dam is submitted to the administering authority.
(H29)	The holder must make a final entry of the required information in the Register of Regulated Structures once compliance with condition (H10) has been achieved.
(H30)	The holder must ensure that the information contained in the Register of Regulated Structures is current and complete on any given day.
(H31)	All entries in the Register of Regulated Structures must be approved by the chief executive officer for the holder of this authority, or their delegate, as being accurate and correct.
(H32)	The holder must, at the same time as providing the annual return, supply to the administering authority a copy of the records contained in the Register of Regulated Structures, in the electronic format required by the administering authority.
Financial Assurance	
(H33)	The construction of the evaporation pond must not be commenced 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 316C of the *Environmental Protection Act 1994*.
Schedule I – Protecting Biodiversity Values	
Impacts to prescribed environmental matters	
(I1)	Significant residual impacts to prescribed environmental matters are not authorised under this environmental authority or the *Environmental Offsets Act 2014.*

Schedule J – Definitions	
Definitions Relevant to Schedules A to G and Schedule I	
Words and phrases used throughout this licence are defined below: Where a definition for a term used in this approval is sought and the term is not defined within this approval the definitions provided in the Environmental Protection Act 9994, its regulations, and Environmental Protection Policies shall be used.	
administering authority	Means: (a) for a matter, the administration and enforcement of which has been devolved to a local government under section 514—the local government; or (b) for another matter—the chief executive.
authority	means an environmental authority.
commercial place	means a place used as an office or for business or commercial purposes.
dwelling	means any of the following structures or vehicles that is principally used as a residence: - a house, unit, motel, nursing home or other building or part of a building; - a caravan, mobile home or other vehicle or structure on land; - a water craft in a marina.
land	in the "land schedule" of this document means land excluding waters and the atmosphere
$L_{A10,\ adj,10\ mins}$	means the A-weighted sound pressure level, (adjusted for tonal character and impulsiveness of the sound) exceeded fog 10% of any 10 minute measurement period, using Fast response.
$L_{A1,\ adj,10\ mins}$	means the A-weighted sound pressure level, (adjusted for tonal character and impulsiveness of the sound) exceeded for 1 % of any 10 minute measurement period, using Fast response.
mg/Nm^3	means milligrams per normal cubic meter.
noise affected premises	means a "noise sensitive place" or a "commercial place"
noise sensitive place	Means: - a dwelling, mobile home or caravan park, residential marina or other residential premises; or - a motel, hotel or hostel; or - a kindergarten, school, university or other educational institution; or - a medical centre or hospital; or - a protected area; or

	- a park or gardens. and includes the cartilage of such place.
noxious	means harmful or injurious to health or physical wellbeing.
odour sensitive place	means: ▪ a dwelling, mobile home or caravan park, residential marina or other residential place; ▪ a motel, hotel or hostel; ▪ a kindergarten, school, university or other educational institution; ▪ a medical centre or hospital; ▪ a protected area; ▪ a park or gardens; or ▪ a place used as an office or for business or commercial purposes. and includes the curtilage of any such place.
offensive	means causing offence or displeasure; is disagreeable to the sense; disgusting, nauseous or repulsive.
prescribed environmental matters	has the meaning in section 10 of the Environmental Offsets Act 2014, limited to the matters of State environmental significant listed in schedule 2 of the Environmental Offsets Regulation 2014.
protected area	means: - a protected area under the Nature Conservation Act 1992; or - a marine park under the Marine Parks Act 1992; or - a World Heritage Area.
regulated waste	has the meaning in section 64 of the Environmental Protection Regulation 2008.
significant residual impact	has the meaning in section 8 Environmental Offsets Act 2014.
site	means the place to which this environmental authority relates.
this authority	means this environmental authority.
waters	includes all or any part of a river, stream, lake, lagoon, pond, swamp, wetland, unconfined surface water, unconfined water in natural or artificial watercourses, bed and banks of a watercourse, dams, non-tidal or tidal waters (including the sea), stormwater channel, stormwater drain, roadside gutter, stormwater run-off, and groundwater.
you	means the holder of this Environmental Authority.

Definitions Relevant to Schedule H	
Affected person	is someone whose drinking water can potentially be impacted as a result of discharges from a dam or their life or property can be put at risk due to dwellings or workplaces being in the path of a dam break flood.
Annual exceedance probability or AEP	the probability that at least one event in excess of a particular magnitude will occur in any given year.
Annual inspection report	means an assessment prepared by a suitably qualified and experienced person containing details of the assessment against the most recent consequence assessment report and design plan (or system design plan); (a) against recommendations contained in previous annual inspections reports; (b) against recognised dam safety deficiency indicators; (c) for changes in circumstances potentially leading to a change in consequence category; (d) for conformance with the conditions of this authority; (e) for conformance with the 'as constructed' drawings; (f) for the adequacy of the available storage in each regulated dam, based on an actual observation or observations taken after 31 May each year but prior to 1 November of that year, of accumulated sediment, state of the containment barrier and the level of liquids in the dam (or network of linked containment systems); (g) for evidence of conformance with the current operational plan.
Assessed or assessment	by a suitably qualified and experienced person in relation to a consequence assessment of a dam, means that a statutory declaration has been made by that person and, when taken together with any attached or appended documents referenced in that declaration, all of the following aspects are addressed and are sufficient to allow an independent audit of the assessment: (a) exactly what has been assessed and the precise nature of that determination; (b) the relevant legislative, regulatory and technical criteria on which the assessment has been based; (c) the relevant data and facts on which the assessment has been based, the source of that material, and the efforts made to obtain all relevant data and facts; and (d) the reasoning on which the assessment has been based using the relevant data and facts, and the relevant criteria.
Associated works	in relation to a dam, means: (a) operations of any kind and all things constructed, erected or installed for that dam; and (b) any land used for those operations.
Authority	means an environmental authority.

Certification	means assessment and approval must be undertaken by a suitably qualified and experienced person in relation to any assessment or documentation required by this Manual, including design plans, 'as constructed' drawings and specifications, construction, operation or an annual report regarding regulated structures, undertaken in accordance with the Board of Professional Engineers of Queensland Policy Certification by RPEQs (ID: 1.4 (2A)).
Certifying, certify or certified	have a corresponding meaning as 'certification'.
Construction or constructed	in relation to a dam includes building a new dam and modifying or lifting an existing dam, but does not include investigations and testing necessary for the purpose of preparing a design plan.
Consequence	in relation to a structure as defined, means the potential for environmental harm resulting from the collapse or failure of the structure to perform its primary purpose of containing, diverting or controlling flowable substances.
Consequence 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 the *Manual for assessing consequence categories and hydraulic performance of structures (ESR/2016/1933)*.
Dam	means a land-based structure or a void that contains, diverts or controls flowable substances, and includes any substances that are thereby contained, diverted or controlled by that land-based structure or void and associated works.
Dam crest volume	means the volume of material (liquids and/or solids) that could be within the walls of a dam at any time when the upper level of that material is at the crest level of that dam. That is, the instantaneous maximum volume within the walls, without regard to flows entering or leaving (for example, via spillway).
Design plan	is a document setting out how all identified consequence scenarios are addressed in the planned design and operation of a regulated structure.
Design storage allowance or DSA	means an available volume, estimated in accordance with the *Manual for assessing consequence categories and hydraulic performance of structures (ESR/2016/1933)* published by the administering authority, must be provided in a dam as at 1 November each year in order to prevent a discharge from that dam to an annual exceedance probability (AEP) specified in that Manual.
Emergency action plan	means documentation forming part of the operational plan held by the holder or a nominated responsible officer, that identifies emergency conditions that sets out procedures and actions that will be followed and taken by the dam owner and operating personnel in the event of an emergency. The actions are to minimise the risk and consequences of failure, and ensure timely warning to affected persons and the implementation of protection measures. The plan must require dam owners to annually review and update contact information where required.
Flowable substance	means matter or a mixture of materials which can flow under any conditions potentially affecting that substance. Constituents of a flowable substance can include water, other liquids fluids or solids, or a mixture that includes water and any other liquids fluids or solids either in solution or suspension.

Holder	Means any person who is the holder of, or is acting under, that environmental authority
Hydraulic performance	means the capacity of a regulated dam to contain or safely pass flowable substances based on the design criteria specified for the relevant consequence category in the *Manual for assessing consequence categories and hydraulic performance of structures (ESR/2016/1933)*.
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.
Mandatory reporting level or MRL	means a warning and reporting level determined in accordance with the criteria in the *Manual for assessing consequence categories and hydraulic performance of structures (ESR/2016/1933)* published by the administering authority.
Manual	means the *Manual for assessing consequence categories and hydraulic performance of structures (ESR/2016/1933)* published by the administering authority, as amended from time to time.
modifying	(see definition of 'construction')
Operational plan	includes: (a) normal operating procedures and rules (including clear documentation and definition of process inputs in the DSA); (b) contingency and emergency action plans including operating procedures designed to avoid and/or minimise environmental impacts including threats to human life resulting from any overtopping or loss of structural integrity of the regulated structure.
Register of Regulated Structures	includes**:** (a) Date of entry in the register; (b) Name of the structure, its purpose and intended/actual contents; (c) The consequence category of the dam as assessed using the *Manual for assessing consequence categories and hydraulic performance of structures (ESR/2016/1933)*; (d) Dates, names, and reference for the design plan plus dates, names, and reference numbers of all document(s) lodged as part of a design plan for the dam; (e) Name and qualifications of the suitably qualified and experienced person who certified the design plan and 'as constructed' drawings; (f) For the regulated dam, other than in relation to any levees – i. The dimensions (metres) and surface area (hectares) of the dam measured at the footprint of the dam; ii. Coordinates (latitude and longitude in GDA94) within five metres at any point from the outside of the dam including its storage area iii. Dam crest volume (megalitres);

	iv. Spillway crest level (metres AHD). v. Maximum operating level (metres AHD); vi. Storage rating table of stored volume versus level (metres AHD); vii. Design storage allowance (megalitres) and associated level of the dam (metres AHD); viii. Mandatory reporting level (metres AHD); (g) The design plan title and reference relevant to the dam; (h) The date construction was certified as compliant with the design plan; (i) The name and details of the suitably qualified and experienced person who certified that the constructed dam was compliant with the design plan; (j) Details of the composition and construction of any liner; (k) The system for the detection of any leakage through the floor and sides of the dam; (l) Dates when the regulated dam underwent an annual inspection for structural and operational adequacy, and to ascertain the available storage volume for 1 November of any year; (m) Dates when recommendations and actions arising from the annual inspection were provided to the administering authority; (n) Dam water quality as obtained from any monitoring required under this authority as at 1 November of each year.
Regulated structure	means any structure in the significant or high consequence category as assessed using the *Manual for assessing consequence categories and hydraulic performance of structures (ESR/2016/1933)* published by the administering authority. A regulated structure does not include: ▪ 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;
Spillway	means a weir, channel, conduit, tunnel, gate or other structure designed to permit discharges form the dam, normally under flood conditions or in anticipation of flood conditions.
Structure	means dam or levee.
Suitably qualified and experienced person	in relation to regulated structures means a person who is a Registered Professional Engineer of Queensland (RPEQ) under the provisions of the *Professional Engineers Act 2002*, and has demonstrated competency and relevant experience: - for regulated dams, an RPEQ who is a civil engineer with the required qualifications in dam safety and dam design - for regulated levees, an RPEQ who is a civil engineer with the required qualifications in the design of flood protection embankments. Note: It is permissible that a suitably qualified and experienced person obtain subsidiary certification from an RPEQ who has demonstrated competence and

	relevant experience in either geomechanics, hydraulic design or engineering hydrology.
System design plan	means a plan that manages an integrated containment system that shares the required DSA and/or ESS volume across the integrated containment system.
Void	means any constructed, open excavation in the ground.
Watercourse	has the meaning in Schedule 4 of the *Environmental Protection Act 1994* and means: 1) a river, creek or stream in which water flows permanently or intermittently— (a) in a natural channel, whether artificially improved or not; or (b) in an artificial channel that has changed the course of the watercourse. 2) Watercourse includes the bed and banks and any other element of a river, creek or stream confining or containing water.