Queensland Government

Department of
Environment and Heritage Protection

To: Dalby Bio-Refinery Limited
C/- Mark Rigby and Associates Pty Ltd
PO Box 480
ROBINA QLD 4226

Email: mrigby@mraenvironmental.com.au

Your reference: MRA 16-087
Our reference: 222895

Application details

I refer to the application that was received by the administering authority on 08-NOV-2016 to delete odour emission criteria for Release Point C4 – Dryer in Schedule B Table 1 of your environmental authority EPPR00727213.

Land description: Jandowae Road DALBY Q 4405 Lot 1 Plan RP126296.

Decision

Your application has been approved and your amended environmental authority (reference EPPR00727213) is attached.

Should you have any further enquiries, please contact Lindsay Splatt on telephone (07) 4529 8308.

Yours sincerely

Ruth Brown	06/01/2017
Signature	Date

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

Enclosed

Permit - environmental authority (reference EPPR00727213)

Lindsay Splatt
Industry and Development Assessment
PO Box 731
TOOWOOMBA QLD 4350
Phone: (07) 4529 8308
Fax: (07) 4529 8388
Email: Lindsay.Splatt@ehp.qld.gov.au
Website **www.ehp.qld.gov.au**
ABN 46 640 294 485

Permit[1]

Environmental Protection Act 1994

Environmental authority

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

Permit[1] number: EPPR00727213

Environmental authority takes effect 6 January 2017

The anniversary date of this environmental authority remains 28 July each year. An annual return and the payment of the annual fee will be due each year on this day.

Environmental authority holder(s)

Name	Registered address
Dalby Bio-Refinery Limited	United Petroleum Pty Ltd 200 Hoddle Street ABBOTSFORD VIC 3067

Environmentally relevant activity and location details

Environmentally relevant activity(ies)	Location(s)
15—Fuel burning — using fuel burning equipment that is capable of burning at least 500kg of fuel in an hour 5—Alcohol production — producing more than 200m3 of alcohol in a year 60-(1b) Waste disposal — operating a facility for disposing of, in a year, the following quantity of waste mentioned in subsection (1)(a)— 50,000t to 100,000t 8-(3) Chemical storage — storing more than 500m3 of chemicals of class C1 or C2 combustible liquids under AS 1940 or dangerous goods class 3 under subsection (1)(c) 8-(5) Chemical storage — storing 200m3 or more of chemicals that are liquids, other than chemicals mentioned in items 1 to 3, under subsection (1)(d)	Jandowae Road DALBY Q 4405 - Lot 1 Plan RP126296

[1] Permit includes licences, approvals, permits, authorisations, certificates, sanctions or equivalent/similar as required by legislation

RB.

Additional information for applicants

Environmentally relevant activities

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

An environmental authority authorises the carrying out of an ERA and does not authorise any environmental harm unless a condition stated by the authority 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 land give written notice to the chief executive if they become aware of the following:

- a notifiable activity (as defined in Schedule 3) that is being, or has been, carried out on the land (notice must be given within 20 business days)
- an event involving a hazardous contaminant on the land, or a change in the condition of the contaminated land, that is causing, or is reasonably likely to cause, serious or material environmental harm (notice must be given within 24 hours).

For further information, including the form for giving written notice, refer to the Queensland Government website http://www.qld.gov.au/ (using the search term 'managing contaminated land').

Ruth Brown

Signature

06/01/2017

Date

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

Enquiries:
Department of Environment and Heritage Protection
GPO Box 2454
BRISBANE QLD 4001
Phone: 1300 130 372
Fax: 07 3330 6037
palm@ehp.qld.gov.au

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)

The environmentally relevant activities conducted at the location as described above must be conducted in accordance with the following site specific conditions of approval.

Conditions of environmental authority

SCHEDULE A - ACTIVITY

Prevent and /or minimise likelihood of environmental harm

(A1) In carrying out the environmentally relevant activities, you 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:

(i) install all measures, plant and equipment necessary to ensure compliance with the conditions of this environmental authority;

(ii) maintain such measures, plant and equipment in a proper and efficient condition; and

(iii) operate such measures, plant and equipment in a proper and efficient manner.

Alterations

(A3) No change, replacement or operation of any plant or equipment is permitted if the change, replacement or operation of the plant or equipment increases, or is likely to substantially increase, the risk of environmental harm above that expressly provided by this environmental authority. An example of a substantial increase in the risk of environmental harm is an increase of 10% or more in the quantity of the contaminant to be released into the environment.

Calibration

(A4) All instruments and measuring devices used for the measurement or monitoring of any parameter under any condition of this environmental authority must be calibrated, and appropriately operated and maintained.

(A5) A competent person(s) must conduct any monitoring required by this environmental authority.

Site based management plan

(A6) From commencement of the activity, a Site Based Management Plan (SBMP) must be implemented. The SBMP must identify all sources of environmental harm, including but not limited to the actual and potential release of all contaminants, the potential impact of these sources and what actions will be taken to prevent the likelihood of environmental harm being caused. The SBMP must also provide for the review and 'continual improvement' in the overall environmental performance of all Environmentally Relevant Activities that are carried out.

The site based management plan must address the following matters:

(i) Environmental commitments - a commitment by senior management to achieve environmental goals.

(ii) Identification of environmental issues and potential impacts.

(iii) Control measures for routine operations to minimise likelihood of environmental harm.

(iv) Contingency plans and emergency procedures for non-routine situations (including for example the management and containment of contaminated firewater).

(v) Organisational structure and responsibility.

(vi) Effective communication.

(vii) Monitoring of the contaminant releases.

(viii) Conducting environmental impact assessments.

(ix) Staff training

(x) Record keeping

(xi) Periodic review of environmental performance and continual improvement.

Records

(A7) 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.

(A8) All records required by this approval must be kept for 5 years.

Visitors

(A9) Visitors (including contractors) to the site must be under the reasonable supervision of a relevant staff member where it is reasonably necessary to ensure compliance by the holder of their obligations arising under this environmental authority.

END OF CONDITIONS FOR SCHEDULE A

SCHEDULE B - AIR

Nuisance

(B1) Notwithstanding any other condition of this development approval, 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.

Odour Management - General

(B2) The holder must maintain effective odour management response and response procedures that include as a minimum provision for:

(i) field assessment of odour in a proper and competent manner during operations and in response to complaints;

(ii) reporting of results to the plant manager or other person responsible for plant operations;

(iii) recording of assessment results and responses;

(iv) initiation of modification of plant equipment and/or operation upon becoming aware of: any operation or event causing a nuisance; and field observation of offensive or noxious odours at any odour sensitive place;

(v) investigation of any material odour sources, including monitoring of odour concentrations and emission rates upon a written request of the administering authority to investigate any complaint concerning noxious or offensive odour that is not frivolous, vexatious or based on mistaken belief; and

(vi) continual improvement in odour management.

NOTE: Proper and competent field assessment of odour includes assessment and recording in accordance with documented procedures by persons not desensitised to the odour, for example a method of ranking observations against a predetermined scale such as in The German VDI 3940 "Determination of Odourants in Ambient Air by Field Inspection"; or measurement of concentration of specific odourous compound(s) identified as being emitted from the activity (if such are readily identifiable and measurable at concentrations below relevant recognised odour detection thresholds for the compound(s)).

Dryer Emission Control Plant

(B3) Effluent gases and vapours from the C4 Dryer must be effectively collected by the extraction systems serving the plant and must be treated by a thermal oxidizer or an alternate emission control technology to effectively minimize the release of odours and ensure compliance with condition B1 and B18.

(B4) Monitoring at a suitable frequency and keeping of records of a range of parameters that indicate effective operation of the thermal oxidiser or alternate emission control technology must be undertaken, for example, recording of temperatures of flue gases leaving the chamber of the thermal oxidiser. Records must be marked to show the true calendar date and time of day. Where

monitoring indicates impaired operational performance likely to cause non-compliance, standby systems or corrective measures are to operate or else safe shut down of the dryer plant must be carried out.

Wastewaters

(B5) Wastewaters and any other potentially odourous materials in any open pond or vessel or place must be treated or managed so as to not cause an environmental nuisance at any odour sensitive place.

Odour Management - Fugitive Odour Emissions

(B6) The holder of this environmental authority must ensure that all reasonable and practicable measures are taken in the design and operation of the plant to minimise fugitive odour emissions. Reasonable and practicable measures include but are not limited to:

(i) implementation of a monitoring program to regularly leak test all componentry including pumps, piping and controls, vessels and tanks;

(ii) operating, maintenance and management practices to be implemented to mitigate fugitive odour sources; and

(iii) identification of all sensitive receptors that potentially could be affected by fugitive emissions and weather conditions likely to contribute to an odour nuisance.

Monitoring — Odour Complaint Investigation

(B7) In the event of a complaint about odour from an odour sensitive place, that constitutes noxious or offensive odour being made to the administering authority that the administering authority considers is not frivolous or vexatious, the holder of this environmental authority must undertake monitoring to investigate any complaint of odour nuisance upon receipt of a written request from the administering authority to carry out such monitoring.

(B8) The monitoring referred to in condition B7 must include but is not limited to any specific relevant monitoring included in the request and evaluation of the performance of the previously identified odour sources including but not limited to the refining operations, loading areas used for distillers grain and wastewater pond/s. The evaluation should include an inspection of potential odour sources and associated emission control systems, and a review of existing monitoring data.

(B9) All determinations of odour concentrations released to air must be performed by a person or body possessing appropriate experience and qualifications to perform the required measurements.

(B10) All determinations of odour concentration and volumetric flow rate, must be measured when the refinery is operating at maximum production throughput.

(B11) All determinations of ambient air and contaminant releases to the atmosphere must be made in accordance with methods prescribed in the most recent version of the Environmental Protection Agency's Air Quality Sampling Manual. If monitoring requirements for specific contaminants are not described in the Environmental Protection Agency's Air Quality Sampling Manual, monitoring protocols must be in accordance with:

(i) for odour, Australian and New Zealand Standard AS/NZS 4323.3:2001: *Stationary source emissions - Determination of odour concentration by dynamic olfactometty;* and

(ii) for other contaminants, a method as approved by New South Wales EPA, Victorian EPA or United States EPA.

Commissioning of Dryer

(B12) Within three months of commissioning the dryer, the holder of this authority must conduct air emission monitoring to demonstrate compliance with air emission limits listed in Schedule B Table 1.

Dust nuisance

(B13) The release of dust and / or particulate matter resulting from the activity must not cause an environmental nuisance at any dust sensitive place.

(B14) Exceedence of any of the following levels when measured at any dust sensitive place is an environmental nuisance for the purposes of condition B2.

(i) Dust deposition of 120 milligrams per square metre per day, when monitored in accordance with Australian Standard AS 3580.10 of 1991; or

(ii) A concentration of particulate matter with an aerodynamic diameter of less than 10 micrometre (pm) (PM10) suspended in the atmosphere of 50 micrograms per cubic metre over a 24 hour averaging time, at a dust sensitive place downwind of the site, when monitored in accordance with:

(a) Australian Standard AS 3580.9.6 'Ambient air - Particulate matter - Determination of suspended particulate PM10 high-volume sampler with size-selective inlet - Gravimetric method'; or

(b) any alternative method of monitoring PM10 which may be permitted by the 'Air Quality Sampling Manual' as published from time to time by the administering authority.

(B15) When requested by the Administering Authority, dust and particulate monitoring must be undertaken to investigate any complaint of environmental nuisance caused by dust and / or particulate matter, and the results notified within 14 days to the administering authority following completion of monitoring. Monitoring must be carried out at a place(s) relevant to the potentially affected dust sensitive place and at upwind control sites and must include:

(i) for a complaint alleging dust nuisance, dust deposition; and

(ii) for a complaint alleging adverse health effects caused by dust, the concentration per cubic metre of particulate matter with an aerodynamic diameter of less than 10 micrometre (µm) (PM10) suspended in the atmosphere over a 24hr averaging time.

The release of contaminants to the atmosphere

(B16) The release of contaminants to the atmosphere from a point source must only occur from those release points identified in Schedule B - Table 1 and must be directed vertically upwards without any impedance or hindrance.

(B17) 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.

(B18) 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	Minimum velocity (m/sec)	Contaminant release	Maximum release	Sampling frequency
SC2- CO^2 scrubber	15	5	Odour	25,000 ou.m^3/s	Quarterly
SC2- CO^2 scrubber	15	5	VOC	6 g/s	Quarterly
A10- Ethanol loadout	6	4.5	VOC	1 g/s	-
C4- Dryer	25	18	particulate matter	100 mg/Nm^3	Quarterly
C4- Dryer	25	18	VOC	1 g/s	Quarterly
C4- Dryer	25	18	NOx	5.6 g/s	Quarterly
S1 - Steam generation boiler	10	12	NOx	1 g/s	Annual
S2 - Steam generation boilers	10	12	NOx	1 g/s	Annual

(B19) Sampling frequency for each release point listed in Schedule B — Table 1 can be conducted annually, if the holder of the environmental authority provides the administering authority evidence of compliance for six (6) consecutive results.

(B20) 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 B2 with regards to any release of the contaminants listed in Schedule B - Table 1. When monitoring is requested the following must be complied with:

(i) 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'.

(ii) the following tests must be performed for each required determination specified in Schedule B Table 1:
   a) gas velocity and volume flow rate;
   b) temperature; and
   c) water vapour concentration (moisture content).

(iii) where practicable samples must be taken when emissions are expected to be at maximum rates.

(iv) during the sampling period the following additional information must be gathered:
a) production rate at the time of sampling;
b) raw materials used;
c) number of equipment and mixing vessels operating;
d) operating or mixing temperature;
e) product made; and
f) reference to the actual; test methods and accuracy's.

Fugitive Emissions

(B21) The ducting and extraction systems that transfer effluent gases from one location to another must be constructed, operated and maintained so as to minimise any leakage of effluent gases and vapours to the atmosphere occurring from these sources.

(B22) In the event of emissions of contaminants occurring from industrial plant or ducting and extraction systems that transfer effluent gases from one location to another, the fault or omission that resulted in that emission must be corrected as soon as practicable.

Fuel Burning

(B23) The only type of fuel to be burnt in the boilers and dryers is natural gas.

(B24) The sulphur content of any fuel burned in industrial fuel burning equipment is not to exceed 0.5 percent by weight.

(B25) The only type of fuel to be burnt in the stand-by generator is natural gas or fuel oil.

Trafficable Areas

(B26) Trafficable areas must be maintained using all reasonable and practicable measures to minimise the release of wind blown dust or traffic generated dust to the atmosphere. Reasonable and practicable measures may include but are not limited to sealing with bitumen or other suitable material, keeping surfaces clean, use of water sprays, adoption and adherence to speed limits, use of dust suppressants and wind breaks.

Material Processing

(B27) All raw material (grain) handling systems for example grain silos and conveyors must be enclosed to prevent the fugitive dust emissions.

(B28) The product material (distiller's grain) storage area must be maintained using all reasonable and practicable measures to minimise the release of wind blown dust to the atmosphere.

Air Contaminant Control Equipment

(B29) All exhaust gases leaving the liquefaction, fermentation and yeast tanks must be treated by a wet scrubber prior to being released to the atmosphere.

Minimisation of Airborne Microorganisms

(B30) The holder of this environmental authority must take all reasonable and practicable measures to minimise the release of microorganisms to the atmosphere from the fermentation plant and any other exhaust streams.

Spontaneous Combustion of the Biomass

(B31) The holder of this environmental authority must use all reasonable and practicable measures to prevent spontaneous combustion of the biomass stockpile from occurring.

Greenhouse Gas Emissions

(B32) The holder of this environmental authority must develop and implement a greenhouse gas reduction strategy for the plant. The strategy must include items but not limited to the company's policy on greenhouse gas emissions, an energy efficiency program, a continuous improvement program, better control systems and the CO2 recovery plan.

END OF CONDITIONS FOR SCHEDULE B

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.

General

(C2) The maintenance and cleaning of vehicles and any other equipment or plant must be carried out in areas from where contaminants cannot be released off site.

(C3) Any spillage of wastes, contaminants or other material must be cleaned up as quickly as practicable on site.

Stormwater management

(C4) There must be no release of stormwater runoff that has been in contact with any contaminants off site.

Stormwater Management Plan

(C5) The holder of this environmental authority, must develop and implement a Stormwater Management Plan which details how the holder of this environmental authority will effectively and appropriately manage the ongoing carrying out of the environmentally relevant activities so as to prevent or minimises environmental harm.

(C6) The Stormwater Management Plan must provide detail on the works to be implemented and the timetable proposed to address at least the following issues:

- (i) prevention of incident stormwater and stormwater runoff from contacting wastes or contaminants, and
- (ii) diversion of upstream runoff away from areas containing wastes or contaminants, and
- (iii) minimisation of the size of contaminated areas without water, and
- (iv) cleaning of contaminated areas without water, and
- (v) Installation of pollution control equipment such as oil separators, silt and rubbish traps, and stormwater diversion systems, sedimentation ponds and settling pits; and
- (vi) sampling and monitoring of contaminated stormwater released from the place to which this environmental authority relates and assessment of the impact of any such release on the receiving environment
- (vii) reporting the results of the monitoring of stormwater releases and any assessment of the impact of the releases on the receiving environment to the administering authority.

If the soil is to be exposed or disturbed as a result of the activities conducted the Stormwater Management Plan must also address the following:

(i) minimisation of the amount of soil to be exposed or disturbed by staging works;
(ii) if acid sulphate soils are present at the place to which this environmental authority relates or placed on the place to which this environmental authority relates, appropriate management practices to minimise likelihood of environmental harm being caused, for example submergence and treatment with lime;
(iii) revegetation of exposed or disturbed areas
(iv) installation of sediment control measures such as settling basins; and
(v) diversion of upstream runoff from exposed or disturbed areas.

(C7) An up to date copy of the Stormwater Management Plan and any subsequent amendment of the Stormwater Management Plan must be kept at the place to which this environmental authority relates and be available for examination by an authorised person on request.

(C8) The holder of this environmental authority must not implement a Stormwater Management Plan or amend a Stormwater Management Plan where such implementation or amendment would result in a contravention of any condition of this environmental authority.

Consumable Chemicals and Petroleum Product Storage

(C9) All chemicals and petroleum products must be stored in bunded areas in accordance with the relevant Australian Standards where applicable.

(C10) All tanker loading / unloading areas must be bunded so that the capacity of the bund is sufficient to contain one hundred and ten percent (110%) of the largest tank, compartment or package of any tanker or other vehicle using the area.

Contaminant Releases to Groundwaters.

(C11) The release of contaminants to ground waters must not cause environmental harm.

(C12) The release of contaminants to ground waters is not considered to cause environmental harm if ground water monitoring shows that the release does not result in any statistically significant adverse change of these contaminants over background values at locations hydraulically down gradient of the evaporation pond.

Groundwater Monitoring.

(C13) A groundwater monitoring network must be installed for the evaporation pond. The network must be:

(i) installed and maintained by a person possessing appropriate qualifications and experience in the fields of hydrogeology and groundwater monitoring program design to be able to competently make recommendations about these matters; and

(ii) include a sufficient number of 'bore(s) of compliance' that are located not more than 150 metres from the evaporation pond or the flood bund boundary whichever is the closer, and provides the following:

(a) representative ground water samples from the uppermost aquifer;

(b) background groundwater quality in hydraulically up-gradient or background bore(s) that have not been affected by any release of contaminants to groundwaters; and

(c) the quality of groundwater down gradient of any release of contaminants to groundwater including groundwater passing the relevant bore(s) of compliance.

(C14) Groundwater monitoring must be conducted in accordance with Schedule C - Table 1: Groundwater Monitoring Program and records kept of contaminant releases to ground waters. All determinations of contaminant releases must be:

(i) made in accordance with methods prescribed in the latest edition of the Environmental Protection Agency Water Quality Sampling Manual;
(ii) conducted at least at a monthly frequency and locations determined by the groundwater
(iii) monitoring network; and
(iv) followed by assessment whether or not there has been any statistically adverse change compared to previous data at locations hydraulically down gradient of the dams

Schedule C - Table 1: Groundwater Monitoring program

Monitoring bores	Quality characteristics and Units	Frequency
MB1	Conductivity (in µS/cm) and pH	monthly
MB2	Conductivity (in µS/cm) and pH	monthly
MB3	Conductivity (in µS/cm) and pH	monthly
MB4	Conductivity (in µS/cm) and pH	monthly

(C15) Suitable banks and/or diversion drains must be installed and maintained to exclude stormwater runoff from entering the evaporation pond or other structures used for the storage or treatment of contaminants or wastes.

(C16) The size of the evaporation pond must be sufficient to contain the run-off expected from a 24 hour storm with an average recurrence interval of 1 in 5 years.

(C17) Erosion protection measures and sediment control measures must be implemented and maintained to minimise erosion and the release of sediment.

END OF CONDITIONS FOR SCHEDULE C

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)

Sound pressure level dB(a) measured as	Monday to Saturday			Sundays and public holidays		
	6:30am - 6pm	6pm - 8pm	8pm — 6:30am	9am - 6pm	6pm - 8pm	8pm - 9am
	Noise limits at a 'Noise sensitive place'					
$L_{A10, adj, 10 mins}$	40	35	30	40	35	30
$L_{A1, adj, 10 mins}$	45	40	35	45	40	35
	Noise limits at a 'Commercial place'					
$L_{A10, adj, 10 mins}$	45	40	35	45	40	35
$L_{A1, adj, 10 mins}$	50	45	40	50	45	40

(D3) When requested by the Administering Authority, noise monitoring must be undertaken by an independent, appropriately qualified acoustic consultant on behalf of the operator of the ethanol plant to investigate any complaint of noise nuisance, and the results notified within 14 days to the administering authority. Monitoring must include:

(i) $L_{A 10, adj 10 mins}$;
(ii) $L_{A1, adj 10 mins}$;
(iii) the frequency of occurrence of impulsive or tonal noise;
(iv) atmospheric conditions including wind speed and direction;
(v) effects due to extraneous factors such as traffic noise; and
(vi) location, date and time of recording.

NOTE: where the results of noise monitoring are provided under a notification given to the administering authority under the *Environmental Protection Act 1994,* then notification of noise monitoring results under (D3) is not also required.

(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.

Noise Evaluation Prior to Commencement

(D5) Prior to operation, a noise evaluation must be carried out to determine the measures necessary to ensure the facility will be operated in compliance with the noise limits prescribed in the approval.

(D6) Without limiting the matters that may be considered in the noise evaluation, the following conditions must be complied with in carrying out the noise evaluation:

(i) A comprehensive description of all plant and equipment that is part of the development, including its location, time and period of operation and frequency of use shall be provided. Overall sound power level in dB(A) (reference 10^{-12}W) and octave bands with centre frequencies 63 Hz to 8kHz shall be specified. Alternately, operating sound pressure level in dB(A) and octave bands measured at specified distances shall be given, provided that the equipment is operating under similar conditions to those intended and conditions of the simulated tests, including building dimensions, equipment mounting, any internal or external acoustical treatment, any directivity and operating conditions (e.g. r.p.m., kW) are specified and compared to the proposed installation and demonstrated as comparable.

(ii) The sources of noise, including equipment operated and activities undertaken, that are reasonably likely to contribute to noise emissions that will or may cause environmental nuisance from the carrying out of the development:

  (a) must be identified and documented; and

  (b) where those sources of noise are impulsive and/or tonal in character, the degree of impulsiveness and/or tonality, must also be determined and documented. This shall include one-third octave band noise spectra. Any low frequency components between 10 to 200 Hz shall be identified using the Linear noise weighting network.

(iii) The level of noise caused by the carrying out of the development at those noise affected premises must be predicted. Such noise levels must be predicted for at least:

  (a) the $L_{A\ 10,\ adj,\ 10\ mins}$ (i.e. the A-weighted sound pressure level, (adjusted for tonal character and impulsiveness of the sound) exceeded for 10% of any 10 minute measurement period, using Fast response;

  (b) the $L_{A\ 1,\ adj,\ 10\ mins}$ (i.e. 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 any predominant sources of noise that exhibit tonal and/or impulsive characteristics, one third octave band spectra; and

  (c) for any predominant sources of noise that exhibit tonal and/or impulsive characteristics, one third octave band spectra.

(iv) The prediction of noise must be undertaken at all potentially affected locations to effectively determine the likely effects of the noise on the noise affected premises and must include:

  (a) times representative of those periods of the day when the environmentally relevant activity will or may be carried out; and

  (b) predictions during those conditions conducive to noise propagation to potentially affect noise sensitive places and/or commercial places, for example when wind is blowing towards such places, or, if temperature inversion is likely to increase noise levels at such places, when such an inversion is evident; and

  (c) in cases where the noise released from the carrying out of the activity has a directional component, for example where noise is emitted inside a building and is predominantly released though an opening in a building facade, those locations where the level of noise experienced is likely to be greatest.

(v) Identification and details of the reasonable and practicable measures that will be implemented to ensure compliance with the noise limits prescribed in the noise schedule must be provided. The reasonable and practicable measures must include but are not necessarily limited to work methods, practices and procedures, operation of plant and/or equipment, including alternate plant and/or equipment, and noise controls, including control at source and modification of the sound propagation path.

(vi) The reasonable and practicable measures to manage noise levels must be documented, including reasons for preferring the options identified.

(vii) The cumulative level of noise that would be expected to result at the noise affected premises following implementation of the identified reasonable and practicable measures proposed must be predicted. Such predictions may be based on any reliable and relevant method including measurement of noise source(s) at a reference distance, calculation of sound power and directivity in accordance with a relevant Australian Standard, modelling with a recognised model (for example, ENM or Sound Plan) and measurement during a trial (for example at the pilot plant).

(viii) The basis of the predictions must be documented, including any data and/or modelling used.

(ix) Practices and procedures identified as necessary to maintain prescribed noise levels must be documented and implemented

(x) The measurement, reporting and prediction of noise levels and development of any noise abatement measures must be undertaken by a person or body possessing appropriate experience and qualifications to perform the required tasks.

Noise Evaluation Report Submission

(D7) The results of the noise evaluation, including results and recommendations must be submitted to the administering authority progressively in monthly reports during the design of the plant, with a final report prior to commencement of the operation of the plant. The holder must have due regard to any comments made by the administering authority on the report.

(D8) The holder must within 3 months of the commencement of operation of the plant, measure the noise levels at the relevant locations during the relevant time periods and relevant conditions to confirm that prescribed noise limits are being met.

END OF CONDITIONS FOR SCHEDULE D

SCHEDULE E - WASTE

General

(E1) Waste must not be released to the environment, stored, transferred or disposed contrary to any condition of this environmental authority.

(E2) Waste must not be burnt or allowed to burn on the site to which this environmental authority relates or removed and burnt elsewhere unless specifically permitted by an environmental authority.

(E3) Records of trade waste agreements must be made available for inspection on request.

(E4) An area must be set aside for the segregation and storage of recyclable solid wastes.

Waste handling

(E5) 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*.

(E6) Drum storage of waste or processed materials must be within roofed areas provided with impervious concrete bases and bund walls.

(E7) All storage of raw waste or processed materials must be sealed or covered to prevent loss of contents or exposure of the contents to the atmosphere.

(E8) The base and walls of all bund areas must be maintained free from gaps or cracks.

(E9) All loading / unloading of bulk materials must take place only within designated vehicle loading / unloading areas.

(E10) Regulated waste must not be sent for disposal at any facility without the written approval of the person operating the facility.

Off Site Movement

(E11) All transport of regulated waste generated in carrying out the environmentally relevant activity must be transported by a proper and appropriately licensed waste transporter that can lawfully transport such waste

(E12) All disposal of regulated waste generated in carrying out the environmentally relevant activity must be to a proper and appropriately licensed waste disposal facility that can lawfully accept such waste or to a facility that can lawfully and appropriately reuse and / or recycle such waste, except as specifically provided for under the conditions of this environmental authority.

(E13) Where regulated waste is removed from the place to which this environmental authority relates (other than by a release as permitted under another schedule of this environmental authority), the holder of this approval must monitor and keep records of the following:

(i) the date, quantity and type of waste removed;
(ii) the name of the waste transporter and / or disposal operator that removed the waste; and
(iii) the intended treatment / disposal destination of the waste.

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.

(E14) If the holder of this environmental authority becomes aware that a person has removed regulated waste from the place to which this environmental authority relates and disposed of the regulated waste in a manner which is not authorised by this environmental authority or improper or unlawful, then the holder of this environmental authority must, as soon as practicable, notify the administering authority of all relevant facts, matters and circumstances known concerning the disposal.

(E15) Regulated waste must not be released to the environment, stored, transferred or disposed of contrary to any condition of this environmental authority.

Emergency Response / Contingency Plan

(E16) By the commencement of the activity, the holder of this environmental authority must develop and implement an Emergency Response / Contingency Plan to manage the environmental impacts of uncontrolled release of contaminants to the environment.

(E17) The Emergency Response / Contingency Plan must address at least the following matters:

(i) response procedures to be implemented to reduce the likelihood of any release of contaminants to the environment; and

(ii) response procedures to prevent any further release or if such is not practicable, minimise the extent and duration of any release to the greatest practicable extent; and

(iii) the practices and procedures to be employed to restore the environment, or if such is not practicable, mitigate any environmental impacts of the release; and

(iv) a description of the resources to be used in response to a release; and

(v) the training of staff that will be called upon to respond to a release; and

(vi) procedures to investigate the cause of any release, and where necessary, implement remedial actions to reduce the likelihood of recurrence of a similar event; and

(vii) the provision and availability of documented procedures to staff attending any release to enable them to effectively respond; and

(viii) timely and accurate reporting of the circumstance and nature of release events to the administering authority.

(E18) A copy of the Emergency Response / Contingency Plan and any subsequent amendment of the Emergency Response / Contingency Plan must be kept at the place to which this environmental authority relates and be available for examination by Emergency Services Personnel or an authorised person on request.

Pond Conditions

(E19) All ponds used for the storage or treatment of contaminants, sewage or wastes at or on the authorised place must be constructed, installed and maintained:

(i) so as to minimise the likelihood of any release of effluent through the bed or banks of the pond to any waters (including ground water);

(ii) so that a freeboard of not less than 0.5 metres is maintained at all times, except in emergencies; and

(iii) so as to ensure the stability of the ponds' construction.

(E20) The only contaminant permitted to be disposed of to the evaporation pond at Lot 1 on RP126296 is waste from the associated reverse osmosis treatment process.

(E21) The holder of this authority must ensure that the evaporation pond on site is operated and maintained in accordance with accepted engineering standards and is fit for the purpose for which it is intended, so as to minimise the likelihood of any release of waste from associated reverse osmosis treatment process through the bed or banks of the pond to any waters (including ground water).

(E22) The holder of this authority must not abandon the evaporation pond on site but must decommission the evaporation pond such that ongoing environmental harm is prevented.

(E23) The following is the only evaporation pond authorised under this authority, and this evaporation pond is to be located within the control points defined in Schedule E - Table 1: Coordinates of the evaporation pond and Map 1 - Appendix A.

Schedule E - Table 1: Coordinates of the evaporation pond.

Name of evaporation pond	Easting (GDA94) Zone 56	Northing (GDA94) Zone 56
Evaporation Pond	325352	6996353
	325321	6996062
	325027	6996097
	325070	6996395

(E24) The following is the only evaporation pond authorised under this authority, and this evaporation pond is to accord with the basic specifications in Schedule E - Table 2: Basic Specification of the evaporation pond

Schedule E - Table 2: Basic Specification of the evaporation pond.

Name of evaporation pond	Hazard Category	Maximum surface area of pond (ha)	Maximum volume of pond (m^3)	Minimum freeboard at all times (m)	Maximum depth of pond (m)	Use of evaporation pond
Evaporation pond	low	7.29	96,500	0.5	2.3	Disposal of waste from associated reverse osmosis treatment process

(E25) The condition of evaporation pond must be monitored for early signs of loss of structural or hydraulic integrity, based on the advice of a suitably qualified and experienced person. The methods of monitoring and frequency of monitoring shall be as assessed by that suitably qualified and experienced person, based on the hazard category and particular circumstances of the evaporation pond

(E26) In the event of early signs of loss of structural or hydraulic integrity, the holder of this environmental authority must immediately take action to prevent or minimize any actual or potential environmental harm, and report any findings and actions taken, in writing to the administering authority within 20 business days of that event.

(E27) Documentation required by the conditions in this schedule must be kept available for inspection by the regulating authority for a period of seven years after the conclusion of the environmentally relevant activity in respect of which this environmental authority has been granted.

END OF CONDITIONS FOR SCHEDULE E

SCHEDULE F - LAND

On-site contaminant release to land

(F1) The only contaminant's to be released to land on the premises to which this environmental authority relates is irrigated blow down water from the containment pond. The release of contaminants to land must be carried out in a manner that prevents or minimises environmental harm.

(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.

(F3) Except as otherwise provided by the environmental authority, the holder must, in carrying out the environmentally relevant activities, take all reasonable and practicable measures to prevent or minimise the release of contaminants to land.

(F4) The release of contaminants to land must not be carried out if soil moisture conditions are such that surface runoff is likely to occur.

(F5) Spray from any release of contaminants to land must not drift beyond the boundaries of the site to which this environmental authority relates.

(F6) The contaminant release area on the premises to which this environmental authority relates must not be used as a traffic thoroughfare.

(F7) Pipelines and fittings for the release of contaminants to land must be clearly identified and must not be connected to other service pipelines.

(F8) Public access to any contaminant release area must be denied.

(F9) The quantity of contaminants released to the release area during any day must be kept to a level that will allow adequate assimilation, percolation, evaporation and transpiration of the released contaminants.

Third Party Wastewater Agreement

(F10) If the holder of this environmental authority gives or transfers responsibility of the reclaimed water to another person(s), the holder of this environmental authority must:

(i) give or transfer the responsibility of such reclaimed water only in accordance with a written agreement and/or policy between the holder of this environmental authority and that person(s) (the third party agreement); and

(ii) include in the third party agreement a commitment from the person(s) utilising the reclaimed water to use reclaimed water in such a way as to prevent environmental harm or public health incidences and specifically make the person(s) aware of their General Environmental Duty (GED), environmental sustainability of any reclaimed water disposal and protection of environmental values of waters; and

(iii) upon being notified or otherwise becoming aware that the person's use of reclaimed water is causing or threatens to cause environmental harm or is posing a human health risk, and if the person(s) does not rectify the situation upon written request of the holder of this environmental authority or the administering authority, the holder of this environmental authority must cease giving and transferring responsibility for such reclaimed water.

Closure And Post-Closure Care.

(F11) When the deposition of waste from associated reverse osmosis treatment process to the evaporation pond ceases, a final cover system to the evaporation pond must be installed which minimises:

(i) infiltration of water into the evaporation pond;

(ii) the likelihood of any erosion occurring to the final cover system; and

(iii) uncontrolled release of waste from associated reverse osmosis treatment process from the evaporation pond.

(F12) Post-closure care of the evaporation pond must be conducted following deposition of waste from associated reverse osmosis treatment process into the evaporation pond, for:

(i) a period of 30 years; or

(ii) such shorter period until the evaporation pond and surrounding site is geotechnically stable and that no release of waste from associated reverse osmosis treatment process to the environment is likely.

(F13) A site management plan must be developed and provided to the administering authority at least 12 months before the expected final receipt of waste in the evaporation pond. The site management plan must include, but is not to be limited to, the future land use and actions you intend to take for compliance with the closure and post-closure care requirements of this environmental authority.

END OF CONDITIONS FOR SCHEDULE F

SCHEDULE G - COMMUNITY

Complaint response

(G1) All complaints received by the holder relating to the environmental impacts of the activities must be recorded and kept with the following details:

(i) time, date and nature of complaint;

(ii) type of communication (telephone, letter, personal etc.);

(iii) name, contact address and contact telephone number of complainant (Note: if the complainant does not wish to be identified then "Not identified" is to be recorded);

(iv) response and investigation undertaken as a result of the complaint;

(v) name of person responsible for investigating complaint;

(vi) action taken as a result of the complaint investigation and signature of responsible person; and

(vii) if the complaint is about odour, relevant meteorological data including wind speed and direction.

This information must be made available to the administering authority on request.

(G2) In consultation with the administering authority, cooperate with and participate in any community environmental liaison committee established in respect of either the site specifically, or the industrial estate where the site is located.

(G3) Details of complaints, investigations and actions (excluding name and contact details of complainants) mentioned in condition G1 shall be provided to any community environmental liaison committee meetings held in relation to environmental performance of the plant.

(G4) In the event that the activities cause material levels of environmental complaints that are not frivolous or vexatious or based on mistaken belief, the holder must establish and maintain a complaints hotline that affected persons may call toll free to register complaints details.

Complaint Recording

(G5) All complaints received by the holder of this environmental authority relating to the environmentally relevant activity must be recorded in a logbook with the following details:

(i) time and date of complaint;

(ii) type of communication (telephone, letter, personal etc.);

(iii) name, contact address and contact telephone number of complainant (Note: if the complainant does not wish to be identified then "Not identified" is to be recorded);

(iv) response and investigation undertaken as a result of the complaint;

(v) name of person responsible for investigating complaint; and

(vi) action taken as a result of the complaint investigation and signature of responsible person.

Incident Recording

(G6) A record must be maintained of events including but not limited to:

(i) any fire at the place where the environmentally relevant activity is being carried out;

(ii) any release of leachate or stormwater runoff which has been in contact with any raw materials, wastes and contaminants used for, and / or resulting from, carrying out the environmentally relevant activity to the receiving waters;

(iii) detection by the environmental monitoring program of any release of contaminants not likely to be in accordance with the conditions of this environmental authority; and

(iv) incidents which have adverse public health consequences and / or cause nuisance including time, date, duration and nature of the incident.

Notification of Emergencies and Incidents

(G7) As soon as practicable after becoming aware of any emergency or incident which results in the release of contaminants not in accordance, or reasonably expected to be not in accordance with the conditions of this environmental authority, the holder of this environmental authority must notify the administering authority of the release by telephone or facsimile.

(G8) The notification of emergencies or incidents as required by condition number G7 must include but not be limited to the following:

(i) the holder of the environmental authority;

(ii) the location of the emergency or incident;

(iii) the number of the environmental authority;

(iv) the name and telephone number of the designated contact person;

(v) the time of the release;

(vi) the time the holder of the environmental authority became aware of the release;

(vii) the suspected cause of the release;

(viii) the environmental harm and or environmental nuisance caused, threatened, or suspected to be caused by the release; and

(ix) actions taken to prevent further any release and mitigate any environmental harm and or environmental nuisance caused by the release.

(G9) Not more than fourteen (14) days following the initial notification of an emergency or incident, the holder of the environmental authority must provide written advice of the information supplied in accordance with condition number G8 in addition to:

(i) proposed actions to prevent a recurrence of the emergency or incident;

(ii) outcomes of actions taken at the time to prevent or minimise environmental harm and or environmental nuisance; and

(iii) the results of any environmental monitoring performed.

Exception Reporting

(G10) The holder of this environmental authority must notify the administering authority in writing of any monitoring result that indicates an exceedence of or non-compliance with any environmental authority limit within twenty-eight (28) days of completion of analysis.

(G11) The written notification required by condition number G8 above must include:

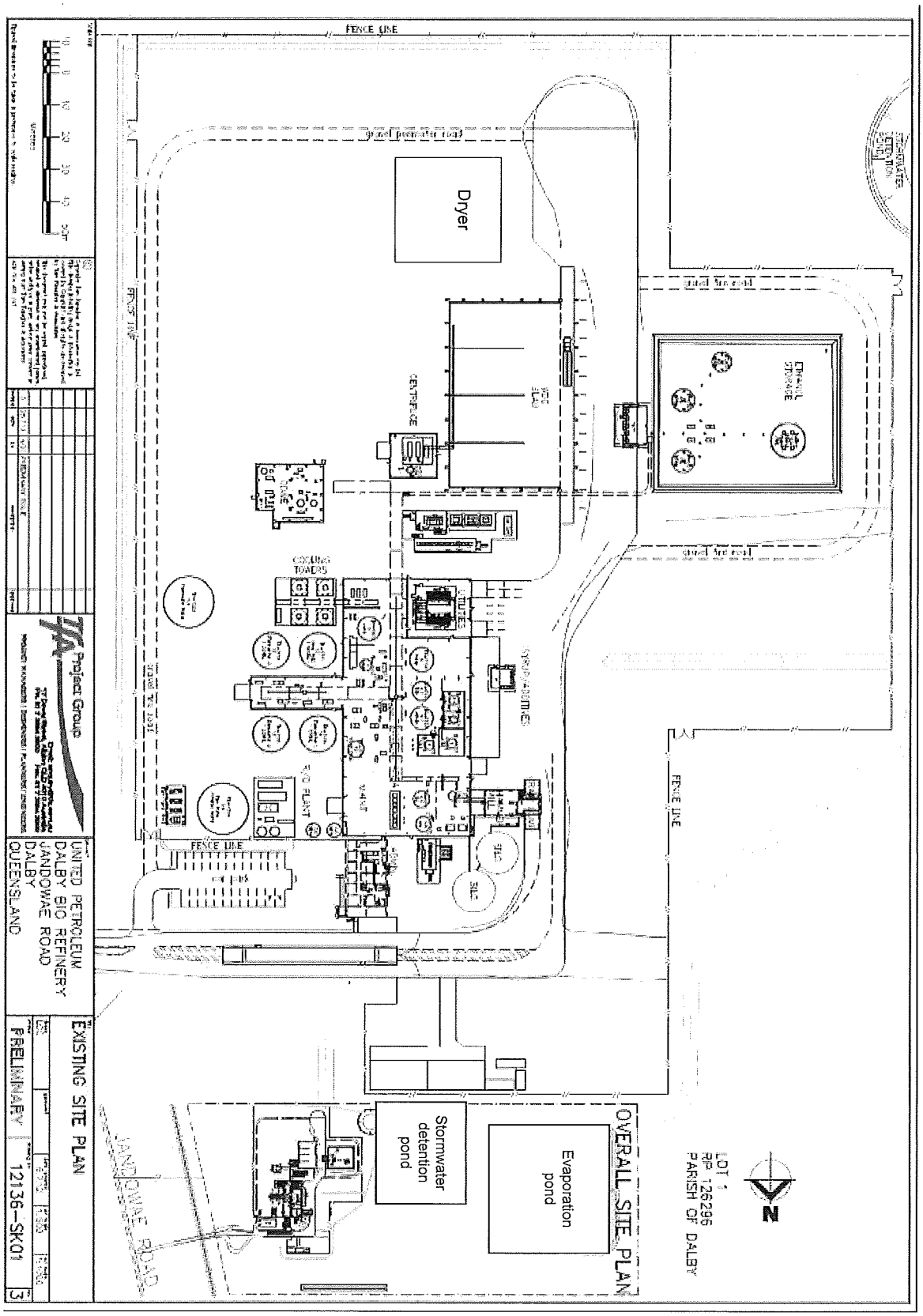
(i) the full analysis results;

(ii) details of investigation or corrective actions taken; and

(iii) any subsequent analysis.

END OF CONDITIONS FOR SCHEDULE G

APPENDIX A - MAP 1: SITE LAYOUT



SCHEDULE H - DEFINITIONS

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 1994,* its regulations, and Environmental Protection Policies shall be used. If a word remains undefined it has its ordinary meaning.

"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.

"administering authority" means the Department of Environment and Heritage Protection or its successor.

"AEP" means the Annual Exceedance Probability, which is the probability that at least one even in excess of a particular magnitude will occur in any given year.

"approved plans" means the plans and documents listed in the approved plans section in the notice attached to this authority.

"assessed" or **"assess"** by a suitably qualified and experienced person in relation to a hazard 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 at any time:

(a) exactly what has been assessed and the precise nature of that assessment;

(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.

"authorised place" means the place authorised under this environmental authority for the carrying out of the specified environmentally relevant activities.

"authority" means an environmental authority or an approval.

"commercial place" means a place used as an office or for business or commercial purposes.

"dam" 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. However, a dam does *not* mean a fabricated or manufactured tank or container designed to a recognised standard, *nor* does a dam mean a land-based structure where that structure is designed to an Australian Standard. In case there is any doubt, a levee (dyke or bund) is a dam, but (for example) a bund designed for spill containment to AS1940 is *not* a dam.

"design plan" is the documentation required to describe the physical dimensions of the dam, the materials and standards to be used for construction of the dam, and the criteria to be used for operating the dam. The documents must include design and investigation reports, specifications and certifications, together with the planned decommissioning and rehabilitation works and outcomes. A design plan may include 'as constructed' drawings.

"design storage allowance" or **"DSA"** means the minimum storage required in a dam at 1 November each year in order to meet the hydraulic performance requirements.

"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.

"foreseeable future" is the period used for assessing the total probability of an event occurring. Permanent structures and ecological sustainability should be expected to still exist at the end of 150 year foreseeable future with an acceptable probability of failure before that time.

"g/s" means grams per second.

"hazard" in relation to a dam as defined, means the potential for environmental harm resulting from the collapse or failure of the dam to perform its primary purpose of containing, diverting or controlling flowable substances.

"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 the Site Water Management Technical Guideline for Environmental Management of Exploration and Mining in Queensland (DME 1995).

"hydraulic performance" means the capacity of a regulated dam to contain or safely pass flowable substances based on a probability (AEP) of performance failure specified for the relevant hazard category in the Site Water Management Technical Guideline for Environmental Management of Exploration and Mining in Queensland (DME 1995).

"infrastructure" means water storage dams, roads and tracks, buildings and other structures built for the purpose and duration of the conduct of the environmentally relevant activities, but does not include other facilities required for the long term management of the impact of those activities or the protection of potential resources. Such other facilities include dams other than water storage dams, waste dumps, voids, or stockpiles and assets, that have been decommissioned, rehabilitated, ad lawfully recognised as being subject to subsequent transfer with ownership of the land.

"intrusive noise" means noise that, because of its frequency, duration, level, tonal characteristics, impulsiveness or vibration —

- is clearly audible to, or can be felt by, an individual; and
- annoys the individual.
- In determining whether a noise annoys an individual and is unreasonably intrusive, regard must be given to Australian Standard 1055.2 — 1997 Acoustics — Description and Measurement of Environmental Noise Part 2 — Application to Specific Situations.

"$L_{A\ 10,\ adj,\ 10\ mins}$" means the A-weighted sound pressure level, (adjusted for tonal character and impulsiveness of the sound) exceeded for 10% of any 10 minute measurement period, using Fast response.

"$L_{A\ 10,\ adj,\ 10\ mins}$" 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.

"$L_{A,\ max\ adj,\ T}$" means the average maximum A-weighted sound pressure level, adjusted for noise character and measured over any 10 minute period, using Fast response.

"land" in the "land schedule" of this document means land excluding waters and the atmosphere.

"m^3/s" means cubic metre per second.

"mg/L" means milligrams per litre.

"noxious" means harmful or injurious to health or physical well being.

"Nm^3" (normal cubic metre) means the volume of dry gas which occupies 1 cubic metre at a temperature of zero degrees Celsius and at an absolute pressure of 101.3 kiloPascals.

"NTU" means nephelometric turbidity units.

"nuisance sensitive place" includes —

- a dwelling, residential allotment, 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 under the *Nature Conservation Act 1992,* the *Marine Parks Act 1992* or a World Heritage Area; or
- a public thoroughfare, park or gardens; or
- a place used as a workplace, an office or for business or commercial purposes and includes a place within the curtilage of such a place reasonably used by persons at that place.

"Odour Unit" (ou) of a sample means the odour level measured in accordance with the Australian and New Zealand Standard, Stationary source emissions - Determination of odour concentration by dynamic olfactometry (S/NZS-4323.3:2001).

"ou.m^3/s" means odour unit time metre cubes per second (an odour mass emissions unit).

"offensive" means causing offence or displeasure; is disagreeable to the sense; disgusting, nauseous or repulsive.

"operational plan" means a document that amongst other things sets out procedures and criteria to be used for operating a dam during a particular time period. The operational plan as defined herein may form part of a plan of operations or plan otherwise required in legislation.

"ponded pasture" means a permanent or periodic pondage of water in which the dominant plant species are pasture species used for grazing or harvesting.

"regulated waste" means non-domestic waste mentioned in Schedule 7 of the *Environmental Protection Regulation 1998* (whether or not it has been treated or immobilised), and includes -

- for an element - any chemical compound containing the element; and
- anything that has contained the waste.

"site" means land or tidal waters on or in which it is proposed to carry out the development approved under this development approval.

"stable" in relation to land, means land form 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.

"suitably qualified and experienced person" in relation to dams means one who is a Registered Professional Engineer of Queensland (RPEQ) under the provisions of the Professional Engineers Act 1988, OR registered as a National Professional Engineer (NPER) with the Institution of Engineers Australia, OR holds equivalent professional qualifications to the satisfaction of the administering authority for the Act; AND the administering authority for the Act is satisfied that this person has knowledge, suitable experience and demonstrated expertise in relevant fields, as set out below:

(a) knowledge of engineering principles related to the structures, geomechanics, hydrology, hydraulics, chemistry and environmental impact of dams; and

(b) a total of five years of suitable experience and demonstrated expertise in the geomechanics of dams with particular emphasis on stability, geology and geochemistry, and

(c) a total of five years of suitable experience and demonstrated expertise each, in three of the following categories:

- Investigation and design of dams.
- Construction, operation and maintenance of dams.
- Hydrology with particular reference to flooding, estimation of extreme storms, water management or meteorology.
- Hydraulics with particular reference to sediment transport and deposition, erosion control, beach processes.
- Hydrogeology with particular reference to seepage and groundwater.
- Solute transport processes and monitoring thereof.
- Dam safety.

"tolerable limits" means a range of parameters regarded as being sufficient to meet the objective of protecting relevant environmental values. For example, a range of settlement for a tailings capping, rather than a single value, could still meet the objective of draining the cap quickly, preventing pondage and limiting infiltration and percolation.

"VOC" means Volatile Organic Compound

"void" means any man-made, open excavation in the ground.

"waste from associated reverse osmosis treatment process" means any waste generated on site of the Dalby Bio-Refinery Limited and the associated water treatment plant, located at **Lot 1 RP126296, Jandowae Road, Dalby,** and includes brine waste and any other chemicals/ residuals waste materials which are generated during the reverse osmosis process at the associated water treatment plant.

"watercourse" means a river, creek or stream in which water flows permanently or intermittently-

- in a natural channel, whether artificially improved or not; or
- in an artificial channel that has changed the course of the watercourse.

"waters" includes river, stream, lake, lagoon, pond, swamp, wetland, unconfined surface water, unconfined water natural or artificial watercourse, bed and bank of any waters, dams, non-tidal or tidal waters (including the sea), stormwater channel, stormwater drain, roadside gutter, stormwater run-off, and groundwater and any part-thereof.

"works" or "operation" means the development approved under this development approval.

"you" means the holder of this development approval or owner / occupier of the land which is the subject of this development approval.

"50th percentile" means not more than three (3) of the measured values of the quality characteristic are to exceed the stated release limit for any six (6) consecutive samples for a release/monitoring point at any time during the environmental activity(ies) works.

"80th percentile" means not more than one (1) of the measured values of the quality characteristic is to exceed the stated release limit for any five (5) consecutive samples for a sampling point at any time during the environmental activity(ies) works

END OF DEFINITIONS FOR SCHEDULE H

END OF PERMIT