

Coordinator-General's report

Gladstone Nickel Project

Schedules of Conditions

Released: 15 January 2009





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Schedule A1

Coordinator-General's conditions for Environmentally Relevant Activities – Refinery construction

A1 Conditions for the construction of the Gladstone Pacific Nickel Refinery

These conditions are consistent with those that would normally be applied by Environmental Protection Agency (EPA) under the *Integrated Planning Act 1999*. They are the conditions that must be attached to a development approval for a material change of use for the Project. Pursuant to s.41 of the *State Development and Public Works Organisation Act 1971*, I nominate the EPA as the concurrence agency for the following conditions of development approval.

Project description

Construction of the Gladstone Pacific Nickel Refinery, Gladstone.

Property description

Description to be provided.

Reason for including conditions

The conditions are designed to control and limit potential impacts on the land, surface and ground waters, air environment and ecological systems from contaminants and environmental harm that may result from the above environmentally relevant activities. They are consistent with information provided in the EIS and Supplementary Report to the EIS.

The recommendations do not remove the need for Gladstone Pacific Nickel Limited to obtain approvals that may be required under other legislation administered by the Environmental Protection Agency. Approvals or permits for specific activities will be required under the *Environmental Protection Act 1994* and *Nature Conservation Act 1992*.

Environmentally Relevant Activities

This section of the development approval is for carrying out the following environmentally relevant activities (ERAs) under the *Environmental Protection Regulation 1998*.

ERA	Description
7(b)	Chemical storage – storing chemicals (other than crude oil, natural gas and petroleum products), including ozone depleting substances, gases or dangerous goods under the dangerous goods code in containers having a design storage volume of 1000 cubic metres or more.
11(b)	Crude oil or petroleum product storing – Storing crude oil or a petroleum product in tanks or containers having a combined total storage capacity of more than 500 000 litres.
20(c)	Extracting rock or other material – Extracting rock (other than rock mined in block or slab form for building purposes), sand (other than foundry sand), clay (other than clay used for its ceramic properties, kaolin or bentonite), gravel, loam or other material (other than gravel, loam or other material under a mining authority) from a pit or quarry using plant or equipment having a design capacity of 100 000 t or more per year.
22(c)	Screening etc. materials – Screening, washing, crushing, grinding, milling, sizing or separating material extracted from the earth (other than under a mining authority) or by dredging using plant or equipment having a design capacity of more than 100 000 t or more per year
62	Concrete batching – producing concrete or a concrete product by mixing cement, sand, rock, aggregate or other similar materials in works (including mobile works) having a design production capacity of more than 100 tonnes per day.

At place(s) described as:

- Lot on Plans to be provided.

Located at:

- Description to be provided.

Schedule of Conditions

The aforementioned description of the environmentally relevant activities (ERAs) for which this authority is issued is simply a restatement of the activity as prescribed in the legislation at the time of issuing this authority. Where there is any conflict between the above description of the ERA for which this development approval is issued and the conditions as specified in this development approval as to the scale, intensity or manner of carrying out of the ERAs, then such conditions prevail to the extent of the inconsistency.


This development approval incorporates the following schedules of conditions relevant to various issues:

- Schedule A – General conditions
- Schedule B – Air
- Schedule C – Water
- Schedule D – Land
- Schedule E – Noise
- Schedule F – Waste
- Schedule G – Monitoring
- Schedule H – Definitions

Schedule A – General Conditions

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 development approval.

NOTE: This development approval does not authorise environmental harm unless a condition contained within this development approval explicitly authorises that harm. Where there is no condition or the development 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:
- (a) install all measures, plant and equipment necessary to ensure compliance with the conditions of this development approval; and
 - (b) maintain such measures, plant and equipment in a proper and efficient condition; and
 - (c) 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 annually and when requested, in a specified format.
- (A4) The holder of this approval shall submit to the administering authority with their annual return a report which assesses and interprets all of the monitoring data gathered in the preceding 12 months.

Site based management plan

- (A5) From commencement of an ERA to which this approval relates, 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 ERAs that are carried out.

The SBMP must address the following matters:

- (a) environmental commitments - a commitment by senior management to achieve specified and relevant environmental goals;
 - (b) identification of environmental issues and potential impacts;
 - (c) control measures for routine operations to minimise likelihood of environmental harm;
 - (d) contingency plans and emergency procedures for non-routine situations;
 - (e) organisational structure and responsibility;
 - (f) effective communication;
 - (g) monitoring of contaminant releases;
 - (h) conducting environmental impact assessments;
 - (i) staff training;
 - (j) record keeping; and
 - (k) periodic review of environmental performance and continual improvement.
- (A6) The site based management plan must not be implemented or amended in a way that contravenes any condition of this approval.

Third party environmental auditing

- (A7) Compliance with the conditions of this approval must be audited within 28 days of commencement of the activities and annually until the completion of the construction activities.
- (A8) The audit(s) detailed in condition A7 must be conducted by a suitably qualified third party auditor, nominated by the approval holder and accepted by the administering authority.
- (A9) In relation to the audit(s) required by condition A7 the auditor must submit a final version of the auditor's report to the administering authority within 28 days of completing the audit.
- (A10) This condition applies to the site based management plan required by condition A5. A suitably qualified third party auditor must certify in writing that the site based management plan has been prepared:
 - (a) by a suitably qualified person with at least 5 years experience in the relevant area;
 - (b) in a manner that is consistent with the requirements of condition A4; and
 - (c) by having regard to, and appropriately applying, the relevant guidelines (being those applicable on a national, state or a regional basis) which the third party auditor considers should be applied in undertaking the site based management plan including relevant Environment Australia, ANZECC and EPA guidelines where published.
- (A11) The total financial cost of the audit(s) will be the responsibility of the holder of this approval.

Monitoring

- (A12) A competent person(s) must conduct any monitoring required by this approval.

Equipment calibration

- (A13) All instruments, equipment and measuring devices used for measuring or monitoring in accordance with any condition of this approval must be calibrated, and appropriately operated and maintained.

Acid sulfate soils (ASS)

- (A14) You must comply with the latest edition of the Queensland Environmental Protection Agency's INSTRUCTIONS FOR THE TREATMENT AND MANAGEMENT OF ACID SULFATE SOILS, 2001, produced by the Queensland Environmental Protection Agency in consultation with the Department of Natural Resources and Water and the Department of Primary Industries and Fisheries.
- (A15) Acid sulfate soils must be managed such that contaminants are not be directly or indirectly released, as a result of the activity, to any waters or the bed and banks of any waters.

END OF CONDITIONS FOR SCHEDULE A

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 nuisance sensitive or commercial place.
- (B2) The release of dust and/or particulate matter resulting from the ERA must not cause an environmental nuisance at any nuisance sensitive or commercial place.

Dust control

- (B3) The holder of this development approval must implement operational procedures for the abatement of wind blown particulates generated from the carrying out of the activity.
- (B4) All sealed traffic areas must be cleaned as necessary to minimise the release of dust and particulate matter to the atmosphere.
- (B5) Watering of unsealed roads shall be carried out so as to minimise the release of dust and particulate matter to the atmosphere.

Nuisance dust complaints

- (B6) 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:
 - (a) for a complaint alleging dust nuisance, dust deposition; and
 - (b) 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.
- (B7) In relation to dust complaints, dust and particulate matter must not exceed the following levels when measured at any nuisance sensitive or commercial place:
 - (a) Dust deposition of 3 grams per square metre per month, when monitored in accordance with Australian Standard AS 3580.10.1 of 2003 (or more recent editions); or
A concentration of particulate matter with an aerodynamic diameter of less than 10 micrometre (μm) (PM10) suspended in the atmosphere of 130 micrograms per cubic metre over a 24 hour averaging time, at a nuisance sensitive or commercial place downwind of the site, when monitored in accordance with:
 - (i) Australian Standard AS 3580.9.6 - 2003 (or more recent editions) '*Ambient air - Particulate matter - Determination of suspended particulate PM10 high-volume sampler with size-selective inlet -Gravimetric method*'; or
 - (ii) 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.

END OF CONDITIONS FOR SCHEDULE B

Schedule C – Water

Erosion protection measures and sediment controls

- (C1) All reasonable and practicable erosion protection measures and sediment control measures to be implemented and maintained to minimise erosion and the release of sediment. Reasonable and practicable measures are outlined in “*Soil and Erosion Control. Engineering Guidelines for Queensland Construction Sites*”, June 1996, published by the Institution of Engineers, Australia, Queensland Division.
- (C2) Erosion control and sediment control structures must be maintained at all times during the periods of site clearing, construction, plant operation, decommissioning and any necessary rehabilitation. They must be checked, repaired or replaced as required after each rain event.

Release to waters

- (C3) Settled/treated stormwater runoff waters must only be released in compliance with the release limits listed in Schedule C Table 1 - Contaminant release limits to water, from the following discharge locations: *To be provided*.
- (C4) The volume of any sedimentation basins must be 700m³ for every hectare of the catchment area of disturbed land. Depth indicators for 20% and 50% must be set into the internal banks of sedimentation basins and a spillway at 100% with a minimum 750mm freeboard for the banks above the spillway. The retained sediment must be removed when it has reached 20% of the total volume.
- (C5) All sedimentation basins with a total storage volume larger than 2,000m³ or with a bank height of 2m or more must be designed by a suitably qualified and experienced engineer.
- (C6) Any water discharged from sediment dams must meet the water quality limits in Table 1.

Schedule C, Table 1 - Contaminant release limits to water

RELEASE POINT NUMBER/ SAMPLING MEASUREMENT POINT	QUALITY CHARACTERISTICS	RELEASE LIMIT / LIMIT TYPE	MONITORING FREQUENCY
Supernatant discharged by pumping from sediment dams.	Turbidity	20 NTU (maximum)	At the start of pumping and at sufficient intervals during pumping to ensure limit is not exceeded.
Any discharge from sediment dams.	pH.	6.5 - 8.0 (Range)	At the start of pumping and at least daily during pumping or spillway discharge.
	Dissolved Oxygen (mg/L)	2.0mg/L (Minimum)	
	Petroleum Products, Scum or Litter	Not visible or other noticeable	

- (C7) Contaminants other than settled/treated stormwater runoff waters must not be released from the site to surface waters or the bed or banks of surface waters.



Stormwater management plan

- (C8) A stormwater management plan must be prepared for the site to the satisfaction of the administering authority and implemented from the start of construction activities.

Spillage control

- (C9) Any spillage of wastes, contaminants or other materials must be cleaned up as quickly as practicable. Such spillage must not be cleaned up by hosing, sweeping or otherwise releasing such wastes, contaminants or material to any external storm water drainage system, roadside gutter or waters.

END OF CONDITIONS FOR SCHEDULE C

Schedule D – Land

Preventing contaminant release to land or waters

- (D1) There must be no release or likelihood of release of any contaminants to land.
- (D2) All chemicals and fuels, including any spillage thereof, must be contained within an on-site containment system and controlled in a manner that prevents environmental harm.
- (D3) All containment systems must be designed to minimise rainfall collection therein to the greatest extent practicable.
- (D4) Dry concrete waste from the activity may be used as a clean fill material for site rehabilitation or road base providing that it does not cause environmental harm.

END OF CONDITIONS FOR SCHEDULE D

Schedule E – Noise

Noise nuisance (construction phase activities)

- (E1) Noise from construction phase activities must not cause an environmental nuisance at any noise sensitive place or commercial place
- (E2) All noise from construction phase activities must not exceed the levels specified in Schedule E, Table 1 - Noise Limits.

Schedule A1, Table 1 - Noise Limits

Noise Level at a Noise Sensitive Place Measured as the Adjusted Equivalent Sound Pressure Level $L_{Aeq,adj,T}$	Period
42 dB(A)	7 am - 6 pm
42 dB(A)	6 pm - 10 pm
42 dB(A)	10 pm - 7 am
Noise Limits at a Commercial Place Measured as the Adjusted Equivalent Sound Pressure Level $L_{Aeq,adj,T}$	Period
47 dB(A)	7 am - 6 pm
47 dB(A)	6 pm - 10 pm
47dB(A)	10 pm - 7 am

Noise monitoring

- (E3) When requested by the administering authority, noise monitoring must be undertaken to investigate any complaint of noise nuisance, and the results, once received by the holder, notified within 7 days to the administering authority. Monitoring must include:
- $L_{Aeq, adj T}$;
 - $L_{AN, T}$ (where N equals statistical levels of 1, 10, and 90);
 - the level and frequency of occurrence of impulsive or tonal noise;
 - atmospheric conditions including temperature, relative humidity and wind speed and direction; and
 - effects due to extraneous factors such as traffic noise;
- (E4) The method of measurement and reporting of noise levels must comply with the latest edition of the Environmental Protection Agency's Noise Measurement Manual.

END OF CONDITIONS FOR SCHEDULE E

Schedule F – Waste

General

- (F1) A waste management plan for the activities must be prepared for the site and implemented from the start of the activities.
- (F2) The holder must not:
- burn waste at or on the licensed place; nor
 - allow waste to burn or be burnt at or on the licensed place; nor
 - remove waste from the licensed place and burn such waste elsewhere.
- (F3) Cementitious waste in solution, slurry or liquid form, or water affected thereby (stormwater or washing water), shall be contained in a pit or receptacle whereby it cannot be released to any waters.
- (F4) Any cementitious waste in solution, slurry or liquid form shall be disposed of at a waste disposal facility licensed under the *Environmental Protection Act 1994* for disposal of that waste or reused in the process.

Waste handling

- (F5) Waste generated in the carrying out the activities must be stored, handled and transferred in a proper and efficient manner. Waste must not be released to the environment, stored, transferred or disposed contrary to any condition of this development approval.
- (F6) Regulated waste, if removed from the site, must only be reprocessed, recycled, stored, incinerated or disposed at a licensed regulated waste facility.

Notification of improper disposal of regulated waste

- (F7) If the holder of this development approval becomes aware that a person has removed regulated waste from the licensed place and disposed of the regulated waste in a manner which is not authorised by this development approval or improper or unlawful, then the holder of this development approval must, as soon as practicable, notify the administering authority of all relevant facts, matters and circumstances known concerning the disposal.

END OF CONDITIONS FOR SCHEDULE F

Schedule G – Monitoring

Complaint response

- (G1) All complaints received must be recorded including details of complainant, reasons for the complaint, investigations undertaken, conclusions formed and actions taken. Except in cases where the complaint is considered to be a matter for which the holder is in compliance, is frivolous, vexatious, based on a mistaken belief or not relevant to the ERAs, the holder must act as soon as practicable to investigate the cause and resolve the complaint.

Notification of emergencies and incidents

- (G2) As soon as practicable but within 24 hours after becoming aware of any emergency or incident which results in the release of contaminants or mismanagement of waste not in accordance, or reasonably expected to be not in accordance with the conditions of this authority, the holder must notify the administering authority of the release by telephone, facsimile or electronic mail.
- (G3) The notification of emergencies or incidents must include but not be limited to the following:
 - (a) the holder of the development approval;
 - (b) the location of the emergency or incident;
 - (c) the number of the development approval;
 - (d) the name and telephone number of the designated contact person;
 - (e) the time of the release/mismanagement incident;
 - (f) the time the holder became aware of the release/mismanagement incident;
 - (g) the suspected cause of the release/mismanagement incident;
 - (h) the environmental harm caused, threatened, or suspected to be caused by the release/mismanagement incident; and
 - (i) actions taken to prevent further any release and mitigate any environmental harm caused by the release/mismanagement incident.

Note: Any relevant notification given under Section 320 or Section 350 of the Act that includes the information required by this condition is also an emergency/incident notification under this authority.

- (G4) Not more than fourteen (14) days following the initial notification of an emergency or incident, the holder of this authority must provide written advice of the information previously supplied (unless already supplied in writing) and, in addition, the following:
- (a) proposed actions to prevent a recurrence of the emergency or incident; and
 - (b) outcomes of actions taken at the time to prevent or minimise environmental harm and or environmental nuisance.

Exception reporting

(G5) The holder of this environmental authority must notify the administering authority within twenty eight (28) days of completion of analysis of any result of a monitoring program required by a condition of this environmental authority that indicates an exceedance of any limit specified in this approval.

- (G6) The written notification must include:
- (a) the full analysis results;
 - (b) details of investigation or corrective actions taken; and
 - (c) any subsequent analysis.

Note: Any relevant notification given under Section 320 or Section 350 of the Act that contains the information specified in this condition is also an exception reporting notification under this authority.

Annual return

(G7) The holder must ensure that the results of all monitoring performed in accordance with this development approval for the period covered by the Annual Return applicable to the activities is summarised and made available to the administering authority on request.

END OF CONDITIONS FOR SCHEDULE G

Schedule H – Definitions

Words and phrases used throughout this development approval are defined below. Where a definition for a term used in this development approval is sought and the term is not defined within this development approval the definitions provided in the *Environmental Protection Act 1994*, its regulations, and Environmental Protection Policies shall be used. Where a word or term is not defined, the ordinary English meaning applies, and regard should be given to the Macquarie Dictionary.

"administering authority" means the Environmental Protection Agency or its successor.

"approval" means a development approval issued under the *Integrated Planning Act 1997*.

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

"background noise level" means LA90, T, being the A-weighted sound pressure level exceeded for 90 percent of the time period measured in the absence of the noise under investigation during a representative time period of not less than 15 minutes, using Fast response.

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

"competent person" means a person or body possessing demonstrated experience and qualifications to perform these tasks.

"dust 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.

"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; or
- a water craft in a marina.

"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 90,T}" means the A-weighted sound pressure level, exceeded for 90% of any 15 minute measurement period, using Fast response.

"L_{A 10,T}" means the A-weighted sound pressure level, exceeded for 10% of any 15 minute measurement period, using Fast response.

"L_{A 1,T}" means the A-weighted sound pressure level, exceeded for 1% of any 15 minute measurement period, using Fast response.

"L_{Aeq,adj,T}" means the value of the A-weighted sound pressure level (adjusted for tonality and impulsiveness of the sound), of a continuous steady sound obtained by using Fast response that within a specified time interval, T, has the same mean-square sound pressure as a sound under consideration whose level varies with time. The equivalent continuous A-weighted sound pressure level is quoted to the nearest whole number of decibels.

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

"licensed regulated waste facility" means, if in Queensland, a relevant facility with lawful authority under the *Environmental Protection Act 1994* and *Integrated Planning Act 1997*:

- to receive and dispose of the regulated waste;
- to receive and recycle or reprocess or recondition regulated waste;
- as a transfer station that can receive such waste;
- to receive and store the regulated waste;
- to receive and treat the regulated waste;
- to receive and compost the regulated waste; and
- to receive and incinerate the regulated waste.

- If outside Queensland, a similar place that can lawfully accept and deal with the waste.

“maximum” means that the measured value of the quality characteristic or contaminant must not be greater than the release limit stated.

“median” means the middle value, where half the data are smaller, and half the data are larger. If the number of samples is even, the median is the arithmetic average of the two middle values.

“minimum” means that the measured value of the quality characteristic or contaminant must not be less than the release limit stated.

"noise affected premises" means a "noise sensitive place" or a "commercial place".

"Noise Measurement Manual" means the following document or more recent additions or supplements to that document as such become available: Environmental Protection Agency (2000) Noise Measurement Manual Third Edition, Environmental Protection Agency, Brisbane, Australia.

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

"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.

"noise sensitive place" means:


- a dwelling, mobile home, 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 curtilage of such place.

"odour sensitive place" has the same meaning as a "dust sensitive place"

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

"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.

“range” means that the measured value of the quality characteristic or contaminant must not be greater than the higher release limit stated nor lower than the lower release limit stated.



"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 the place to which this environmental authority relates or the premises to which this development approval relates.

"this authority" means this development approval.

"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 any under groundwater, any part thereof.

"Water Quality Sampling Manual" means the following document or more recent additions or supplements to that document as such become available: Environmental Protection Agency (1999) *Water Quality Sampling Manual Third Edition*, Environmental Protection Agency, Brisbane, Australia.

"you" means the holder of this Development Approval and owner / occupier of the land which is the subject of this Development Approval and includes any person acting under the Development Approval.

END OF DEFINITIONS FOR SCHEDULE H



Schedule A2

Coordinator-General's conditions for Environmentally Relevant Activities – Refinery operation

A2. Conditions for the operation of the Gladstone Pacific Nickel Refinery

These conditions are consistent with those that would normally be applied by Environmental Protection Agency (EPA) under the *Integrated Planning Act 1999*. They are the conditions that must be attached to a development approval for a material change of use for the Project. Pursuant to s.41 of the *State Development and Public Works Organisation Act 1971*, I nominate the EPA as the concurrence agency for the following conditions of development approval.

Project description

Operations of Environmentally Relevant Activities associated with the Gladstone Pacific Nickel Refinery, Gladstone, and not including construction activities, the Residue Storage Facility, pipelines or any other associated facilities.

Reason for including conditions

The conditions are designed to control and limit potential impacts on the land, surface and ground waters, air environment and ecological systems from contaminants and environmental harm that may result from the above environmentally relevant activities. They are consistent with information provided in the EIS and Supplementary Report to the EIS.

The recommendations do not remove the need for Gladstone Pacific Nickel Limited to obtain approvals that may be required under other legislation administered by the Environmental Protection Agency. Approvals or permits for specific activities will be required under the *Environmental Protection Act 1994*, *Nature Conservation Act 1992*.

Environmentally Relevant Activities

This section of the development approval is for carrying out the following Environmentally Relevant Activities (ERAs) under the *Environmental Protection Regulation 1998*.

ERA	Description
6(c)	Chemical manufacturing, processing or mixing – manufacturing or processing an inorganic chemical, organic chemical or chemical product, or mixing inorganic chemicals, organic chemicals or chemical products (other than mixing non-combustible or non-flammable chemicals or chemical products by dilution with water), in a plant or works having a design production capacity of 100 000 or more tonnes a year.
7(b)	Chemical storage – storing chemicals (other than crude oil, natural gas and petroleum products), including ozone depleting substances, gases or dangerous goods under the dangerous goods code in containers having a design storage volume of 1000 cubic metres or more.
9	Gas producing – commercially producing hydrocarbon gas by any method, including the reforming of hydrocarbon gas, but not including collecting hydrocarbon gas in carrying out an activity under item 15 or 75.
11(b)	Crude oil or petroleum product storing – Storing crude oil or a petroleum product in tanks or containers having a combined total storage capacity of more than 500 000 litres.
17	Fuel burning – any process involving the use of fuel burning equipment (including, for example, a standby power generator) that is capable of burning (whether alone or in total) 500 kg or more of fuel an hour.
18(a)	Power station – generating power by consuming fuel at a rated capacity of 10 MW electricity or more using natural gas.
22(c)	Screening etc. materials – Screening, washing, crushing, grinding, milling, sizing or separating material extracted from the earth (other than under a mining authority) or by dredging using plant or equipment having a design capacity of more than 100 000 tonnes or more per year.
23(a)	Abrasive blasting – Commercially cleaning equipment or structures using a stream of abrasives if the activity is carried out at a permanent location.
28	Motor vehicle workshop – Operating a workshop or mobile workshop in the course of which motor vehicle mechanical or panel repairs are carried out in the course of a commercial or municipal enterprise (other than on a farm or under a mining tenement) or on a commercial basis.
42(c)	Mineral processing – commercially processing, classification, mixing or concentration of mineral ores to produce mineral concentrates in works having a design production capacity of more than 100 000 tonnes per year.
74	74 Stockpiling, loading or unloading goods in bulk – Commercially loading, unloading or stockpiling materials or goods, in association with an activity mentioned in item 71, using a crane, conveyor, pump or other similar way at a rate of more than 100 t per day.

Located at:

- Gladstone Pacific Nickel, Reid Road, Yarwun, Queensland, 4680.

Schedule of Conditions

The aforementioned description of the environmentally relevant activities (ERAs) for which this authority is issued is simply a restatement of the activity as prescribed in the legislation at the time of issuing this authority. Where there is any conflict between the above description of the ERA for which this development approval is issued and the conditions as specified in this development approval as to the scale, intensity or manner of carrying out of the ERAs, then such conditions prevail to the extent of the inconsistency.

This development approval incorporates the following schedules of conditions relevant to various issues:

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- Schedule B – Air
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Schedule A – General Conditions

Prevent and/or minimise likelihood of environmental harm

- (A1) In carrying out the environmentally relevant activities all reasonable and practicable measures must be taken to prevent and/or minimise the likelihood of environmental harm being caused.

NOTE: This development approval does not authorise environmental harm unless a condition contained within this development approval explicitly authorises that harm. Where there is no condition or the development 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 of this approval must:
- (a) install all measures, plant and equipment necessary to ensure compliance with the conditions of this development approval; and
 - (b) maintain such measures, plant and equipment in a proper and efficient condition; and
 - (c) operate such measures, plant and equipment in a proper and efficient manner.

Records


- (A3) The holder of this approval must record, compile and keep all monitoring results required by this document and present this information to the administering authority at least annually or when requested, in a specified format.
- (A4) The holder of this approval shall submit to the administering authority, with their annual return, a report which assesses and interprets all of the monitoring data required to be gathered by this approval in the preceding 12 months.
- (A5) All records required by this approval must be kept for the duration of this approval.

Site based management plan

- (A6) From commencement of an ERA to which this approval relates, 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 ERAs that are carried out.

The SBMP must address the following matters:

- (a) environmental commitments - a commitment by senior management to achieve specified and relevant environmental goals;

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- (b) identification of environmental issues and potential impacts;
 - (c) control measures for routine operations to minimise likelihood of environmental harm;
 - (d) contingency plans and emergency procedures for non-routine situations;
 - (e) organisational structure and responsibility;
 - (f) effective communication;
 - (g) monitoring of contaminant releases;
 - (h) conducting environmental impact assessments, including groundwater;
 - (i) staff training;
 - (j) record keeping; and
 - (k) periodic review of environmental performance and continual improvement.

(A7) The site based management plan must not be implemented or amended in a way that contravenes any condition of this approval.

Third party environmental auditing

(A8) Compliance with the conditions of this approval must be audited within 3 months of commencement of the activities and then annually.

(A9) The audit(s) detailed in condition A8 must be conducted by a suitably qualified third party auditor, nominated by the approval holder and accepted by the administering authority.

(A10) In relation to the audit required by condition A8 the auditor must submit a final version of the auditor's report to the administering authority within 28 days of completing the audit.

(A11) This condition applies to the site based management plan required by condition A6. A suitably qualified third party auditor must certify in writing that the site based management plan has been prepared:

- (a) by a suitably qualified person with at least 5 years experience in the relevant area;
- (b) in a manner that is consistent with the requirements of condition A5; and
- (c) by having regard to, and appropriately applying, the relevant guidelines (being those applicable on a national, state or a regional basis) which the third party auditor considers should be applied in undertaking the site based management plan including relevant Environment Australia, ANZECC and EPA guidelines where published.

(A12) The audit report detailed in condition A11 must be accompanied by a statutory declaration by the auditor stating that the report is complete and accurate.

Monitoring

(A13) A competent person(s) must conduct any monitoring required by this approval.

Equipment calibration

(A14) All instruments, equipment and measuring devices used for measuring or monitoring in accordance with any condition of this approval must be calibrated, and appropriately operated and maintained.

Scope of activities – Stage 1

- (A15) In respect of the activities mentioned herein, the scale and intensity of the activities authorised is as follows:
- (a) Refinery production approximately 63 000 tonnes Nickel per annum;
 - (b) Refinery production approximately 6 000 tonnes Cobalt per annum;
 - (c) Acid production of approximately 2.2 million tonnes per annum;
 - (d) Sea water intake from Port Curtis of Approximately 9 GL/year.

Scope of activities – Stage 2

- (A16) In respect of the activities mentioned herein, the scale and intensity of the activities authorised is as follows:
- (a) Refinery production approximately 126 000 tonnes Nickel per annum;
 - (b) Refinery production approximately 12 000 tonnes Cobalt per annum;
 - (c) Acid production of approximately 4.4 million tonnes per annum;
 - (d) Sea water intake from Port Curtis of Approximately 18 GL/year.

Acid sulfate soils (ASS)

- (A17) You must comply with the latest edition of the Queensland Environmental Protection Agency's 'Instructions for the treatment and management of acid sulfate soils', 2001, produced by the Queensland Environmental Protection Agency in consultation with the Department of Natural Resources and Water and the Department of Primary Industries and Fisheries.
- (A18) Acid sulfate soils must be managed so that contaminants are not directly or indirectly released, as a result of the activity, to any waters or the bed and banks of any waters.

Spill kit

- (A19) Appropriate spill kits and equipment , personal protective equipment and relevant operator instructions/emergency procedure guides for the management of wastes and chemicals associated with the activities must be kept at the site.

Spill kit training

- (A20) Anyone operating under this approval must be trained in the use of the spill equipment.

END OF CONDITIONS FOR SCHEDULE A

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 beyond the site boundary.
- (B2) The release of dust and/or particulate matter resulting from the ERA must not cause an environmental nuisance beyond the site boundary.

Environmental barriers

- (B3) The operator is to install appropriately vegetated environmental barriers that reduce wind speeds across the site. These barriers are to be vegetated as soon as practicable and before metal processing begins.

Abrasive blasting

- (B4) The holder of this development approval shall develop an Abrasive Blasting Management Plan in consultation with the administering authority prior to the commencement of activities and then implement it.

Dust management

- (B5) The holder of this development approval must implement operational procedures for the abatement of wind blown particulates generated from the carrying out of the activity. The procedures must provide for:
- (a) control of dust from stockpiles; and
 - (b) dust control at hoppers, conveyors, transfer points and loading/unloading equipment; and
 - (c) reducing feed rates, if necessary to control dust; and.
- (B6) All sealed traffic areas must be cleaned as necessary to minimise the release of dust and particulate matter to the atmosphere.
- (B7) Watering of unsealed roads shall be carried out so as to minimise the release of dust and particulate matter to the atmosphere.
- (B8) Water sprays and mist curtains shall be installed at stockpiles and operated as necessary to minimise the release of dust and particulate matter to the atmosphere.
- (B9) The release of particulates to the atmosphere shall not lead to the following guidelines being exceeded beyond the site boundary:
- (a) Dust Deposition
 - Four grams per square metre per month.
 - (b) Total Suspended Particulates (TSP)
 - Less than 50 micrograms per cubic metre above background, expressed as a 24-hour rolling average;
 - Less than 100 micrograms per cubic metre above background, expressed as a one-hour rolling average.

NOTE: 'Above background' means the arithmetic difference between most upwind and most downwind monitoring locations.

- (c) PM10 Particulates
 - Less than 50 micrograms per cubic metre expressed as a 24-hour rolling average;

Ambient dust monitoring

- (B10) The holder of this development approval must undertake a dust monitoring program for the parameters and at the frequency and locations specified in Schedule B, Table 1.

Schedule B, Table 1. Ambient dust monitoring requirements

Determination Required	Monitoring Locations	Frequency
Dust deposition including: <ol style="list-style-type: none"> 1. mass deposition rate of insoluble solids 2. mass deposition rate of ash 3. mass deposition rate of total solids 4. combustible matter 	(to be provided)	Monthly
Total suspended particulate matter (TSP)	(to be provided)	Continuous (Instrument availability not less than 85% in any year.)
PM10	(to be provided)	Continuous (Instrument availability not less than 85% in any year.)

- (B11) All dust monitoring undertaken for the purpose of meeting the requirements of this development approval must comply with the following:
- (a) All aspects of the monitoring program must be performed by a person or body possessing appropriate qualifications and experience to perform the required tasks.
 - (b) For **dust deposition**, monitoring must comply with Australian Standard AS 3580, 10.1, 2003 *Determination of Particulates - Deposited Matter - Gravimetric Method*.
 - (c) For **Total Suspended Particulate**, monitoring must comply with the method identified in the Air Quality Sampling Manual published by the Environmental Protection Agency or any alternative method of monitoring TSP which may be permitted by the administering authority.
 - (d) For particulate matter with an aerodynamic diameter of less than 10 micrometre (μm) (**PM10**) monitoring must comply with Australian Standard 3580.9.8:2001 *Method 9.8: Determination of suspended particulate matter-PM10 continuous direct mass method using a tapered element oscillating microbalance analyser*, or any alternative method of monitoring PM10 which may be permitted by the administering authority.

Nuisance dust complaints

- (B12) 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 nuisance sensitive place and at upwind control sites and must include:
- (a) for a complaint alleging dust nuisance, dust deposition and/or TSP; and
 - (b) 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

- (B13) The release of contaminants to the atmosphere from a point source must only occur from those release points identified in Schedule B, Table 2 and must be directed vertically upwards without any impedance or hindrance.
- (B14) All release points referred to in Schedule B, Table 1 must be conspicuously marked with the corresponding release point number.
- (B15) 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 2.

Schedule B, Table 2 - Air emission release point characteristics Stage 1 and Stage 2

Emission point(s)	Number of stacks	Minimum stack height/(diameter), metres	Stack exit velocity (minimum)	Emission temperature (minimum), °C	Flow rate, m ³ /s
Sulphuric Acid plant	4	60 (2.67)	15 m/s	82	74.2
H ₂ S thermal oxidiser	2	25 (0.80)	15 m/s	795	1.7
Power plant	2	40 (2.70)	15 m/s	130	59.3
Hydrogen plant	2	40 (1.5)	15 m/s	300	12.8
Neutralisation vent	2	25 (0.51)	15 m/s	72	2.5
Cobalt dryer vent gas	2	15 (0.03)	15 m/s	110	0.01
Cobalt sinter furnace stack	2	15 (0.10)	15 m/s	60	0.1
Nickel sinter furnace vent gas 1	4	15 (0.23)	15 m/s	80	0.5
Nickel powder dryer off-gas	2	15 (0.11)	15m/s	120	0.1

- (B16) Contaminants must not be released to the atmosphere from a release point at a mass emission rate/concentration in excess of that stated in Schedule B, Table 3 when measured in each stack at the frequency specified in Schedule B, Table 3.
- (B17) No contaminants may be released to the atmosphere other than those identified in Schedule B, Table 3.

Schedule B, Table 3. Contaminant release limits


Contaminant	Release limit/stack (maximum)	Monitoring frequency	Reporting frequency
SULFURIC ACID PLANT			
Sulfuric Acid ^(a)	1.6 g/s	Continuously	Quarterly
Sulfuric Acid	0.04kg/t Acid product	Continuously	Quarterly
SO ₂	^(a)	Continuously	Quarterly
H₂S Thermal oxidiser			
NOx	0.4 g/s	Continuously	Quarterly
POWER PLANT			
SO ₂	0.27 g/s	Continuously	Quarterly
NOx	8.89 g/s	Continuously	Quarterly
HYDROGEN PLANT			
NOx	3.23 g/s	Continuously	Quarterly
NEUTRALISATION VENT			
H ₂ S	0.01 g/s	Continuously	Quarterly
COBALT DRYER VENT GAS			
H ₂ S	0.003 g/s	Continuously	Quarterly
NICKEL POWDER DRYER OFF GAS			
H ₂ S	2.1 E-05 g/s	Continuously	Quarterly
COBALT SINTER FURNACE STACK			
Total particulates	N/A	Continuously	Quarterly
Cobalt particulates	2.8g/week	Quarterly	Quarterly
Cadmium particulates	^(b)	Quarterly	Quarterly
Mercury particulates	^(b)	Quarterly	Quarterly
Other metal particulates	60g/week	Quarterly	Quarterly
NICKEL SINTER FURNACE VENT GAS			
Total Particulates	N/A	Continuously	Quarterly
Nickel Particulates	280g/week	Quarterly	Quarterly
Nickel Carbonyl particulates	140g/week	Quarterly	Quarterly
Cadmium particulates	^(b)	Quarterly	Quarterly
Mercury particulates	^(b)	Quarterly	Quarterly
Other metal particulates	280g/week	Quarterly	Quarterly
All other relevant NPI contaminants	Direct measurement	Every 3 years	Every 3 years

^(a) Refer Conditions B18 to B24

^(b) below the limit of detection as determined by the USEPA Method 29 Determination of Metals Emissions from Stationary Sources February 2000 or other method as required by the Administering Authority.

Operation of sulphuric acid plants

(B18) During normal operations, sulphur dioxide must not be released from a sulphuric acid plant release point identified in Schedule B Table 2 at a mass concentration in excess of 38g/s for the two stacks required for Stage 1 and 27g/s for the two additional stacks for Stage 2.

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- (B19) During acid plant start up operations, sulfur dioxide must not be released from a sulfuric acid plant release point identified in Schedule B Table 2 at a mass concentration in excess of 130g/s.
 - (B20) No acid plant may operate in start up conditions for more than 5 hours
 - (B21) Once any two acid plants are operating:
 - (a) Only one additional acid plant may operate in start up conditions at any time; and
 - (b) No additional acid plant may operate in start up conditions when the wind is blowing from a direction of between 130° to 220° at a speed of less than 1.5 m/sec.
 - (B22) Sulfur dioxide emissions from the site must not exceed 1.09 kg/tonne acid produced (Stage 1) and 0.93 kg/tonne acid produced (Stage 2) calculated on a monthly basis.
 - (B23) Total sulfur dioxide emissions from the site must not exceed 2,450 tonnes (Stage 1) and 4,100 tonnes (Stage 2) in any twelve month period.

Air pollution control equipment

- (B24) Where the installation and operation of air pollution control equipment is required to ensure that the emission rates identified in Schedule B Table 3 are met, such equipment must have built in redundancy which should include independent stand-by power sources or an alternative strategy so that emission limits can be achieved in the case of failure of such equipment.

Monitoring of contaminant releases


- (B25) Monitoring of any releases to the atmosphere required by a condition of this approval must be carried out in accordance with the following requirements:
 - (a) Monitoring of emissions from release points must comply with the Australian Standard AS 4323.1 – 1995 '*Stationary source emissions Method 1: Selection of sampling positions*' (or more recent editions).
 - (b) The following tests must be performed for each required determination specified in Table [insert chronological number] - Contaminant release limits to air:
 - (i) gas velocity and volume flow rate;
 - (ii) temperature;
 - (iii) water vapour concentration (moisture content).
 - (c) Samples must be taken when emissions are expected to be at maximum rates.
 - (d) During the sampling period the following additional information must be gathered:
 - (i) production rate at the time of sampling;
 - (ii) type of ore being processed;
 - (iii) operating or mixing temperature;
 - (iv) reference to the actual test methods used including accuracy and limit of detection of the method.
- (B26) When requested by the administering authority, monitoring must be undertaken to investigate any complaint of environmental nuisance caused by a release to the atmosphere from a release point at the site, and the results thereof notified to the administering authority within 14 days following completion of monitoring.
- (B27) Contaminant releases must be monitored not less frequently than specified in Schedule B, Table 3.

Emission verification

- (B28) An emissions verification study is to be undertaken and finalised within six months of the commencement of operation of the proposed plant to provide the Administering Authority with information relating to the generation, treatment, release and potential environmental impact of contaminants released to the atmosphere. The study must incorporate key contaminants identified by the administering authority and must include at least the following:
- (a) identification of the sources (point and non-point) of contaminants that may be discharged to the air from both normal processes and emergency releases, including bypass points, and is not limited to those release points listed in Schedule B.
 - (i) For all the point sources: a description of their locations (referenced to GDA94), ground level elevations relative to AHD (m), heights above ground level of points of emission (m), inside diameters of stacks at points of emission (m), stack wall thicknesses (including any cladding) at points of emission (cm), efflux gas flow rates at points of emission (STP m³/sec), efflux gas velocities at points of emission (m/sec), efflux gas temperatures at points of emission (°C), mass emission rates of each contaminant (g/s), and descriptions of any significant variations in mass emission rates throughout the day and throughout the year;
 - (ii) For all non-point sources: a description of their locations and shapes defined by the vertices of the polygons describing the boundaries of the sources (referenced to GDA94), areas (m²), ground level elevations relative to AHD (m), heights above ground level of points of emission (m), mass emission rates of each listed contaminant (g/s), and descriptions of any significant variations in mass emission rates throughout the day and throughout the year;
 - (b) Identification and a description of factors and circumstances which result in releases of contaminants to the atmosphere from all sources (point and non-point) of emissions. This includes normal and abnormal operating conditions for both production equipment and air pollution control equipment;
 - (c) Where the installation and operation of air pollution control equipment is required to ensure that the emission rates identified in schedule B table 3 can be met the emissions verification study must include an assessment of potential contaminant releases in the absence of such pollution control equipment.
 - (d) A description of the effect on the environment, including at neighbouring premises, of contaminants released and a description of the potential health impacts, including irritant effects, on the community from the release of contaminants.
 - (e) For all process emission measurements on batch operated plant, the testing regime shall cover the entire period of the batch process (a series of overlapping tests if necessary).

Incident response plan

- (B29) Before commencement of activities to which this approval relates, an Incident Response Plan must be prepared that specifies practices and procedures that will be employed to minimise the risk of environmental harm resulting from the release of contaminants to the atmosphere during abnormal or upset operating conditions. The response plan must include but not be limited to the following:
- (a) Procedures for identifying the likelihood of adverse impacts on the environment or the community, including at neighbouring premises, in the event of contaminant releases during abnormal or upset operating conditions.
 - (b) Procedures for ensuring that where adverse impacts are possible the potentially effected community and emergency service agencies are informed of the nature of the potentially adverse impacts.

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- (B30) The Incident Response Plan must be reviewed on completion of the emissions verification study to incorporate any change (including new or increased) hazards identified through the study.

END OF CONDITIONS FOR SCHEDULE B

Schedule C – Water

Erosion protection measures and sediment controls

- (C1) All reasonable and practicable erosion protection measures and sediment control measures to be implemented and maintained to minimise erosion and the release of sediment. Reasonable and practicable measures are outlined in “Soil and Erosion Control. Engineering Guidelines for Queensland Construction Sites”, June 1996 published by the Institution of Engineers, Australia, Queensland Division.
- (C2) Erosion control and sediment control structures must be checked, repaired or replaced as required after each rain event.

Contaminant releases to groundwaters

- (C3) There must be no release of contaminants to groundwaters.

Stormwater management

- (C4) A stormwater management plan must be submitted and approved by the administering authority, prior to operating the approved activity at the site.
- (C5) The stormwater management plan specified in condition C7 must be implemented.
- (C6) The stormwater management plan specified in condition C7 must be reviewed and updated annually.

Quality of stormwater released

- (C7) The release of contaminants via stormwater:
- a) can only occur at the sites specified in Schedule C Table 1;
 - b) must comply with each of the water quality limits specified in Schedule C Table 1; and
 - c) Notwithstanding the quality characteristic limits specified in Schedule C Table 1 – Stormwater Monitoring, the release of contaminants via stormwater must not have any properties nor contain any organisms or other contaminants which, in the opinion of the administering authority, are capable of environmental harm or nuisance.

Schedule C, Table 1. Stormwater monitoring

Quality characteristics	Release point/ Sample point ¹	Discharge limit	Limit type	Frequency
pH	(To be provided)	6.5 – 8.5	range	Before release and daily thereafter
Nickel		7 µg/L	maximum	Before release and daily thereafter
Cobalt		1 µg/L	maximum	Before release and daily thereafter
Cadmium		0.2 µg/L	maximum	Before release and daily thereafter
Manganese		140 µg/L	maximum	Before release and daily thereafter
Chromium (Cr III)		27.4 µg/L	maximum	Before release and daily thereafter
Chromium (Cr VI)		4.4 µg/L	maximum	Before release and daily thereafter
Zinc		15 µg/L	maximum	Before release and daily thereafter
Suspended solids		20 NTU	maximum	Before release and daily thereafter

Release to waters


Permitted contaminant release and discharge point(s)

- (C8) The only contaminant(s) permitted to be released directly or indirectly to any waters from the Gladstone Nickel Refinery is the following release to the Port Curtis:
 - (a) Waste water defined as: treated RSF return liquor; boiler blowdown; cooling water blowdown; and
 - (b) Reject water from the water treatment plant at diffuser 1 (Stage 1) and diffusers 1 and 2 (Stage 2) at the locations shown on Plan XXXX attached to this approval.

- (C9) The release of contaminants directly or indirectly to waters must not:
 - (a) produce any visible discolouration of receiving waters; nor
 - (b) produce any slick or other visible or odorous evidence of oil, grease or petrochemicals nor contain visible floating oil, grease, scum, litter or other objectionable matter.

- (C10) The waste water discharged via the diffusers 1 and 2 must not exceed the release limits specified in:

¹ To be determined by final design layout

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- (a) Table 2 and Table 4 within 30 minutes before and 30 minutes after slack tide²; and
(b) Table 2 and Table 3 at all other times;
measured at the monitoring point S1 described as the supply pipe from the mixing tank to diffusers 1 & 2. Locations are specified on plan X attached to this approval.

Monitoring

- (C11) Monitoring of contaminants released to Port Curtis must be undertaken for the quality characteristics and parameters, at the monitoring point(s), and at the frequency specified in Tables 2, 3 and 4.
- (C12) All determinations of the quality of toxicants in the wastewater discharge released must be made on samples that are representative of the discharge.
- (C13) All determinations of the quality of contaminants released must be made in accordance with the methods prescribed in the latest edition of the Environmental Protection Agency Water Quality Sampling Manual, and be carried out on samples that are representative of the discharge.
- (C14) The daily volume of wastewater from the Gladstone Nickel Refinery prior to dilution with any seawater must be determined or estimated by an appropriate method with an accuracy of +/- 5%, (e.g. a calibrated flow meter) and records kept of such determinations.
- (C15) The daily volume of wastewater released from the Gladstone Nickel Refinery to waters must be determined or estimated by an appropriate method with an accuracy of +/- 5%, (e.g. a calibrated flow meter) for each release point, and records kept of such determinations.
- (C16) A record must be kept of all days on which no release to waters occurred and an entry of zero recorded for that day's discharge volumes.

Toxic substances


- (C17) There must be no discharge of any toxic substance in any amount or concentration, either alone or in combination with substances already in the receiving water or discharge that are likely to cause acute toxicological effects to biota.
- (C18) There must be no discharge of any toxic substance in any amount or concentration, either alone or in combination with substances already in the receiving water or discharge, that are likely to cause chronic toxicological effects to biota outside of the approved mixing zone in the receiving environment.

Approved Mixing Zone: The approved mixing zone is defined as not more than 3 metres from each diffuser port for the Stage 1 diffuser and 6 metres from each diffuser port for the Stage 2 diffuser. The location of the diffusers is shown on Map 1.

Diffuser validation

- (C19) The holder of this development approval must provide to the administering authority a monitoring plan for the diffuser modelling validation at least six months prior to the

² 'slack tide' is the time of high or low tide as predicted by the Bureau of Meteorology for the Port of Gladstone



commencement of the discharge of wastewater to Port Curtis. The Monitoring Plan (Diffuser Validation) must have the following objectives:

1. To validate all modelling and investigations related to the diffuser;
2. To confirm that expected dilutions predicted in design of the diffuser under specified flow conditions are met as a minimum; and
3. To confirm the expected dilutions as affected by tidal cycles particularly for periods when tidal velocities are less than 0.1m/sec at the site of the diffusers.

(C20) The monitoring plan, required by condition C20, must include (but not be limited to) the following:

1. A description of the diffuser;
2. A list of environmental values located within and adjacent to the diffuser to be protected;
3. Background sampling of the water column;
4. Sampling of the water column in the plume to determine and confirm the extent of the mixing zone;
5. An assessment of the need for and practicality of using dye tests to aid in understanding performance of the diffuser;
6. Sufficient samples must be taken to determine:
 - (a) The extent (spatially and temporally) of the mixing zone;
 - (b) The magnitude/concentration (spatially and temporally) of the mixing zone; and
 - (c) The extent of the plume during periods when tidal velocities are less than 0.1m/sec.
7. The methods for collection and analysis of the samples;
8. The methods of analysing the data and responding to the results;
9. Monitoring must be done by a competent person in accordance with methods prescribed in the latest edition of the Queensland Environment Protection Agency Water Quality Sampling Manual; and carried out on representative samples.

(C21) The holder of this development approval must:

- (a) Have due regard to comments, provided by the administering authority, in the finalisation of the Monitoring Plan (Diffuser Validation).
- (b) Implement the Monitoring Plan (Diffuser Validation).

(C22) The holder of this development approval must provide to the administering authority a Diffuser Validation Report within 20 business days of receipt of results obtained from the Monitoring Plan (Diffuser Validation). The report must include:

1. The outcome of the monitoring including the methodology and findings of the Monitoring Plan (diffuser validation);
2. A determination on the validation of modelling and investigations undertaken;
3. Any resulting recommendations for changes to the waste water release regime and the monitoring program; and
4. Any resulting recommendations for changes that are necessary to minimise the likelihood of environmental harm and size of the initial mixing zone.

Direct toxicity assessment (DTA) procedure

- (C23) A written DTA program that effectively measures toxicity of the wastewater discharge must be developed and submitted to the administering authority at least 6 months prior to the discharge of wastewater to Port Curtis.
- (C24) The DTA procedure must address the following:
1. All specific methods and protocols to establish that concentrations of toxicants do not exhibit chronic toxicological effects outside the approved chronic toxicity limits to the test biota, including but not limited to:
 - (a) Specific test organisms to be utilised for DTA testing, in accordance with Section 8.3.6.8 of the ANZECC/ARMCANZ Australian and New Zealand *Guidelines for Fresh and Marine Water Quality* (2000), to provide an accurate indication of actual & chronic toxic effects in the receiving waters, taking into consideration locally occurring species and the nature of any change being investigated;
 - (b) Dilution water selection;
 - (c) Sampling methodology to ensure that a representative sample is obtained of wastewater prior to release to diffusers under worse case conditions, e.g. highest probably concentration (lowest seawater dilution) and daily process activity.
 - (d) Characterisation of the discharge wastewater, including temperature and potential toxicant(s) present;
 - (e) The nature of the contaminant(s);
 - (f) Acute and chronic DTA testing conducted on end-of-pipe discharge wastewater;
 - (g) The mixing zone dilution effects likely to be provided by the discharge structure;
 - (h) Test/biological end points;
 - (i) Statistical end-points (including No Observed Effect Concentration- (NOEC) and Lowest Observable Effect Concentration (LOEC));
 - (j) Quality assurance/quality control;
 - (k) Applicable Toxicity Identification Evaluation (TIE) procedures to be followed should the administering authority require such an evaluation; and
 - (l) Reporting of DTA procedure results promptly to the administering authority, which must include but not be limited to:
 - (i) NOEC for all bioassay results;
 - (ii) LOEC for all bioassay results;
 - (iii) Information on the test sample and dilution water collection;
 - (iv) Timing of test sample collection in relation to process performance;
 - (v) Details of any water quality-related manipulation of the test sample;
 - (vi) Test sample and dilution water delivery details;
 - (vii) Results of the chemical analysis of the test sample for known toxicants of concern (i.e. all parameters on Tables 2 and 3 are a minimum requirement in addition to parameters indicative of any change), receiving environment dilution water, and the test water (wastewater/receiving water) for each of the dilutions;

- (viii) Time between test sample collection and commencement of the DTA (which should be kept to a minimum), and
- (ix) Interpretation of results e.g. relating NOEC to the trigger values, the extent of the mixing zone based on acute and chronic end-points and modelling predictions, and additional dilution of seawater at low current conditions.

2. Submitting the final DTA report within 80 business days of the commencement of the DTA.

- (C25) The holder of this development approval must have due regard to the administering authority's comments in the finalisation of any and all DTA-related protocols and procedures.
- (C26) The holder of this development approval must not change the DTA Program without the prior written approval of the administering authority.
- (C27) The DTA must be designed and performed by a suitably qualified person.

Routine direct toxicity assessment

- (C28) The holder of this development approval must routinely undertake a DTA to quantify the toxicity of the wastewater discharge. The Routine DTA must be undertaken in accordance with the following minimum requirements:
 1. During the first 12 months following the commencement of discharge of wastewater to Port Curtis, a DTA must be carried out on a quarterly basis (with approximately 3 months between each Routine DTA).
 2. After the first 12 months of operation and subject to four consecutive quarterly DTA results showing compliance with the release limits, the minimum frequency of Routine DTA shall be annual, except as provided by sub-clause (3) of this condition.
 3. If a DTA result shows non-compliance with the release limits, then monitoring must recommence on a quarterly basis as in subclause 1, unless the registered operator can demonstrate with data and information to the administering authority the cause of the non-complaint DTA result and that the cause has been rectified and is unlikely to recur.

Event-based direct toxicity assessment

- (C29) The holder of this development approval must undertake an Event-based DTA where one or more of the trigger limits specified in Table 3 are exceeded on four consecutive occasions (weekly sampling) when measured at the monitoring point S1 (to be determined) attached to this approval.

When any third consecutive exceedance any such trigger limit is detected, the registered operator must make arrangements for priority analysis and reporting of the results of the subsequent sample and also make preparations with the DTA testing laboratories such that, should a fourth consecutive exceedance occur, a DTA can be promptly undertaken. The DTA must occur forthwith following the fourth consecutive exceedance.

Confirmation DTA

- (C30) The holder of this development approval must also undertake a Confirmation DTA when any change in the nickel refinery or management of the wastewater stream is likely to increase the toxicological properties of the wastewater discharge.

Receiving environment monitoring program (REMP)

- (C31) A REMP, focussing on near field and further field impacts, must be implemented, based on the outcomes of a background environmental investigation, pertaining to the receiving waters (i.e. Port Curtis and connected waters) that address at least the following:
1. Description of potentially affected receiving waters including key communities and background water quality characteristics based on accurate and reliable monitoring data that takes into consideration any temporal variation (e.g. seasonality); and
 2. Description of applicable environmental values and water quality objectives to be achieved (i.e. as scheduled pursuant to the Environmental Protection (Water) Policy 1997); and
 3. Any relevant reports prepared by other governmental or professional research organisations that relate to the receiving environment within which the REMP is proposed; and
 4. Water quality targets within the receiving environment to be achieved, and clarification of contaminant concentrations or levels indicating adverse environmental impacts during the REMP.

Near-field monitoring program (NFMP)

- (C32) A NFMP must be implemented to monitor and record the effects of the release of contaminants on the near-field receiving environment whilst contaminants are being discharged from the operation of the Gladstone Nickel Refinery, with the aims of identifying and describing the extent of any adverse impacts to local environmental values, particularly from potentially toxic contaminants and monitoring performance of the diffuser to ensure adequate mixing and dilution.

For the purposes of the NFMP, the receiving environment is the waters of Port Curtis and connected waterways within 300 m up-current and down-current of each diffuser.

- (C33) The NFMP proposal must address (but not necessarily be limited to) the following:
1. Monitoring for any potential adverse environmental impacts caused by the release;
 2. Monitoring performance of the diffuser to ensure adequate mixing and dilution;
 3. Sampling to determine the extent of the near-field mixing zone at various tidal phases (including the vertical profile) to validate near-field modelling estimates;
 4. Monitoring of selected toxicants (including metals and other toxicants likely to be in the waste stream) to assess the extent of the compliance of concentrations with water quality objectives and the extent of the approved mixing zone;
 5. Monitoring of selected physico-chemical parameters (including turbidity, pH, dissolved oxygen percentage saturation and concentration, conductivity, temperature) that would assist in quantifying the mixing and dilution of the diffusers;
 6. Monitoring of sediment quality for selected toxicants of concern (including metals and metalloids characterised as being likely to be present in the wastewater discharge);
 7. The locations of monitoring points including monitoring transects away from the diffuser of the designated release point as well as control locations;
 8. The proposed sampling depths;

9. The frequency or scheduling of sampling and analysis;
10. Any historical datasets to be relied upon;
11. Description of the statistical basis on which conclusions are drawn, and
12. Any spatial and temporal controls to exclude potential confounding factors.

(C34) The NFMP must be prepared and submitted in writing to the administering authority for approval not more than one year from the issue of this development approval for the designated Gladstone Nickel Refinery release point to Port Curtis at the RG Tanner Wharf.

Far-field monitoring program (FFMP)

(C35) A far-field REMP (FFMP) must be implemented to monitor the effects of the release of contaminants on the receiving environment outside the near field whilst contaminants are being discharged from the Gladstone Nickel Refinery, with the aims of identifying and describing the extent of any adverse impacts to local environmental values.


For the purposes of the FFMP, the receiving environment is the waters of Port Curtis and connected waterways.

- (C36) The FFMP proposal must address (but not necessarily be limited to) the following:
1. Monitoring for any potential adverse environmental impacts caused by the release;
 2. Monitoring sediments for contaminants of concern, including those described by not limited to those in Table 2;
 3. Monitoring of selected physicochemical parameters (at least turbidity, pH, dissolved oxygen percentage saturation and concentration, conductivity, temperature and total suspended solids);
 4. Monitoring of biological indicators that detect the extent of influence of the discharge on the far-field environment and ensure that environmental values are protected (including seagrass and coral monitoring).
 5. The locations of monitoring points including monitoring transects away from the outfall of the designated release point as well as control locations;
 6. The proposed sampling depths;
 7. The frequency or scheduling of sampling and analysis;
 8. Any historical datasets or water quality objectives/guidelines to be relied upon;
 9. Description of the statistical basis or approaches on which conclusions are drawn, and
 10. Any spatial and temporal controls to exclude potential confounding factors.

(C37) The FFMP must be prepared and submitted in writing to the administering authority for approval not more than one year from the start of discharge of the wastewater from the designated Gladstone Nickel Refinery release point to Port Curtis at the RG Tanner Wharf.

Containment and reduction release strategy

(C38) The holder of this development approval must implement studies to investigate alternative means for the treatment and management of the wastewater discharge



stream to Port Curtis from the Gladstone Nickel Project. The Contaminant and Release Reduction Strategy will have the following objectives:

1. To avoid the discharge of contaminants.
2. To reduce the discharge of contaminants.
3. To demonstrate “No Observed Toxicological Effect” in the discharge.

(C39) The Contaminant and Release Reduction Strategy Study, required by condition C38, must include, as a minimum, the following:

1. An investigation of the feasibility of alternative options, practices and procedures to avoid or further minimise the volume and concentration of contaminants released to waters including (but not limited to) avoiding discharge, improving the quality of the discharge, best practice re-use and recycling alternatives, segregation of waste streams and source reduction and the use of other treatment technologies (i.e. mixing and subsequent disposal with other waste streams); and
2. The Water Quality Objectives in the *Environmental Protection Policy (Water) 1997*; and
3. Where alternative options, practices and procedures are not considered feasible, the provision of a report providing justification to support that determination.
4. To provide a regular review of emerging technologies or reuse options that may achieve significant load reductions, or zero loads of contaminants.
5. To provide a regular review of emerging technologies that may reduce toxic effects of the wastewater discharge.
6. To develop five year programs of implementation of any feasible measures consistent with best practice environmental management for the relevant contaminants.

(C40) The initial Contaminant and Release Reduction report must be submitted to the administering authority within 2 years of the start of wastewater discharge to Port Curtis. The report(s) must, as a minimum, include the following:

1. Details of the specific options, practices and procedures investigated; and
2. Where alternative options, practices and procedures are not considered feasible, the provision of justification to support that determination; and
3. Details of the option(s) to be implemented by the holder of this development approval, including the timeframes for implementation, and justification for the chosen option/s.

Schedule C, Table 2. Release Quality Limits

RELEASE POINT	MONITORING POINT	QUALITY CHARACTERISTICS	RELEASE LIMIT (at S1)	LIMIT TYPE	MINIMUM MONITORING FREQUENCY
Diffuser 1 & Diffuser 2	S1 ¹ and S2 ²	Dissolved Oxygen	6.0 mg/L	Minimum	Weekly
		Chemical Oxygen Demand	No Limit	No Limit	
		Temperature	3 degrees	Maximum above receiving waters	
		pH	6.5 to 8.5	Range	

Schedule C - Table 3 - High Velocity Release Trigger Limit – Toxicants

RELEASE POINT	MONITORING POINT	QUALITY CHARACTERISTICS	LIMIT (µg/L) (at S1)	LIMIT TYPE	MINIMUM MONITORING FREQUENCY
Diffuser 1 & Diffuser 2	S1 and S2	Cadmium	2	Maximum	Weekly
		Chromium (Cr III)	250		
		Chromium (Cr VI)	44		
		Cobalt	18		
		Manganese	1,000		
		Nickel	56		
		Zinc	4		

Schedule C - Table 4 - Low Velocity Release Trigger Limit – Toxicants

RELEASE POINT	MONITORING POINT	QUALITY CHARACTERISTICS	LIMIT (µg/L) (at S1)	LIMIT TYPE	MINIMUM MONITORING FREQUENCY
Diffuser 1 & Diffuser 2	S1 and S2	Cadmium	1	Maximum	Weekly ³
		Chromium (Cr III)	125		
		Chromium (Cr VI)	22		
		Cobalt	9		
		Manganese	500		
		Nickel	28		
		Zinc	2		

¹ monitoring point S1 described as the supply pipe from mixing tank to diffusers 1 & 2.

² monitoring point S2 described as the supply pipe from the Gladstone Nickel Refinery to the mixing tank.

³ samples must be taken when receiving water is within 30 minutes before and 30 minutes after slack tide. Flow rates in volume per minute at S1 and S2 must be recorded as well as the time of sampling.

END OF CONDITIONS FOR SCHEDULE C

Schedule D – Land

Preventing contaminant release to land or waters

- (D1) There must be no release or likelihood of release of any contaminants to land.
- (D2) All chemicals and fuels, including any spillage thereof, 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.

- (D3) All containment systems must be designed to minimise rainfall collection therein to the greatest extent practicable.

Pipeline spill prevention and response

- (D4) Notwithstanding other conditions in this development approval; from commencement of an ERA to which this approval relates, a Spill Prevention and Response Plan must be implemented for the operation of the residue and return water pipelines. The Plan should include relevant measures as outlined in the "*Australian Pipeline Industry Association Ltd. Code of Environmental Practice – Onshore Pipelines*". In addition, the Plan must include but not be limited to the following:
 - (a) operating procedures to minimise the risk of pipeline failure including operating communication protocols;
 - (b) location, operation and measurement criteria for pipeline monitoring and detection systems to minimise the risk of spills (including flow and pressure sensors to detect leakage and over-pressure respectively);
 - (c) location and specifications of any pipeline protective measures and safety devices (such as rupture discs or relief valves) and management of spills at these locations;
 - (d) pipeline design features aimed at limiting the volume of material released from any spill, with particular emphasis on sensitive areas;
 - (e) spill emergency notification and reporting procedures;
 - (f) shutdown and other measures required to halt the spill, and criteria to be met for restarting pipeline operations following a spill;
 - (g) spill containment procedures to minimise likelihood of environmental harm;
 - (h) cleanup and rehabilitation for areas affected by a spill including disposal of contaminated soil;
 - (i) spill incident investigation including assessment of spill and conducting environmental impact assessments, including groundwater;
 - (j) staff training in pipeline operating procedures for spill prevention and response;
 - (k) organisational structure and responsibility.

Land rehabilitation

- (D5) Disturbed land must be rehabilitated in a manner such that:
 - (a) suitable native species of vegetation are planted and established;
 - (b) potential for erosion of the site is minimised;
 - (c) the quality of stormwater, water and seepage released from the site is such that releases of contaminants such as suspended solids, turbidity, total dissolved salts, pH, total iron, total aluminium, and total manganese are not likely to cause environmental harm;
 - (d) the likelihood of environmental nuisance being caused by release of dust is minimised;

- (e) the water quality of any residual water bodies meets criteria for subsequent uses and does not have potential to cause environmental harm;
- (f) the final landform is stable and not subject to slumping; and
- (g) any actual and potential acid sulfate soils in or on the site are either not disturbed; or, submerged, or treated so as to not be likely to cause environmental harm.

END OF CONDITIONS FOR SCHEDULE D

Schedule E – Noise

Noise nuisance

- (E1) Noise from the ERA(s) must not cause an environmental nuisance at any noise sensitive place or commercial place.
- (E2) All noise from activities must not exceed the component levels specified in Schedule E Table 1 - Noise Limits less than 3km from facility and Schedule E Table 2 - Noise Limits more than 3km from facility at any noise sensitive place or commercial place.

Schedule E, Table 1. Noise limits less than 3km from facility

Noise Level at a Noise Sensitive Place Measured as the Adjusted Equivalent Sound Pressure Level $L_{Aeq,adj,T}$	Period
42 dB(A)	7 am - 6 pm
42 dB(A)	6 pm - 10 pm
42 dB(A)	10 pm - 7 am
Noise Limits at a Commercial Place Measured as the Adjusted Equivalent Sound Pressure Level $L_{Aeq,adj,T}$	Period
47 dB(A)	7 am - 6 pm
47 dB(A)	6 pm - 10 pm
47 dB(A)	10 pm - 7 am

Schedule E, Table 2. Noise limits more than 3km from facility

Noise Level at a Noise Sensitive Place Measured as the Adjusted Equivalent Sound Pressure Level $L_{Aeq,adj,T}$	Period
42 dB(A)	7 am - 6 pm
30 dB(A)	6 pm - 10 pm
30 dB(A)	10 pm - 7 am
Noise Limits at a Commercial Place Measured as the Adjusted Equivalent Sound Pressure Level $L_{Aeq,adj,T}$	Period
47 dB(A)	7 am - 6 pm
35 dB(A)	6 pm - 10 pm
35 dB(A)	10 pm - 7 am

Noise monitoring

- (E3) When requested by the administering authority, noise monitoring must be undertaken to investigate any complaint of noise nuisance, and the results, once received by the holder, notified within 7 days to the administering authority. Monitoring must include:
- (a) LAeq, adj T;
 - (b) LAN, T (where N equals statistical levels of 1, 10, and 90);
 - (c) the level and frequency of occurrence of impulsive or tonal noise;
 - (d) atmospheric conditions including temperature, relative humidity and wind speed and direction; and
 - (e) effects due to extraneous factors such as traffic noise; and
 - (f) effects due to extraneous factors such as traffic noise.
- (E4) The method of measurement and reporting of noise levels must comply with the latest edition of the Environmental Protection Agency's Noise Measurement Manual.

END OF CONDITIONS FOR SCHEDULE E

Schedule F – Waste

General

- (F1) A waste management plan for the activities must be prepared for the site and implemented from the commencement of the activities.
- (F2) The holder must not:
- (a) burn waste at or on the licensed place; nor
 - (b) allow waste to burn or be burnt at or on the licensed place; nor
 - (c) remove waste from the licensed place and burn such waste elsewhere.

Waste handling

- (F3) Waste generated in the carrying out the activities must be stored, handled and transferred in a proper and efficient manner. Waste must not be released to the environment, stored, transferred or disposed contrary to any condition of this development approval.
- (F4) Regulated waste, if removed from the site, must only be reprocessed, recycled, stored, incinerated or disposed at a licensed regulated waste facility.

Notification of improper disposal of regulated waste

- (F5) If the holder of this development approval becomes aware that a person has removed regulated waste from the licensed place and disposed of the regulated waste in a manner which is not authorised by this development approval or improper or unlawful, then the holder of this development approval must, as soon as practicable, notify the administering authority of all relevant facts, matters and circumstances known concerning the disposal.
- (F6) Any loss or spillage of regulated waste must be cleaned up immediately.

END OF CONDITIONS FOR SCHEDULE F

Schedule G – Monitoring

Complaint response

- (G1) All complaints received must be recorded including details of complainant, reasons for the complaint, investigations undertaken, conclusions formed and actions taken. Except in cases where the complaint is considered to be a matter for which the holder is in compliance, is frivolous, vexatious, based on a mistaken belief or not relevant to the ERAs, the holder must act as soon as practicable to investigate the cause and resolve the complaint.

Notification of emergencies and incidents

- (G2) As soon as practicable, but within 24 hours, after becoming aware of any emergency or incident that results in the releases of contaminants not in accordance, or reasonably expected not to be in compliance with the conditions of this development approval, the holder must notify the administering authority of the release by telephone, facsimile or email.
- (G3) The notification of emergencies or incidents must include but not be limited to the following:
- (a) the holder of the development approval;
 - (b) the location of the emergency or incident;
 - (c) the number of the development approval;
 - (d) the name and telephone number of the designated contact person;
 - (e) the time of the release/mismanagement incident;
 - (f) the time the holder became aware of the release/mismanagement incident;
 - (g) the suspected cause of the release/mismanagement incident;
 - (h) the environmental harm caused, threatened, or suspected to be caused by the release/ mismanagement incident; and
 - (i) actions taken to prevent further any release and mitigate any environmental harm caused by the release/mismanagement incident.

Note: Any relevant notification given under Section 320 or Section 350 of the Environmental Protection Act that includes the information required by this condition is also an emergency/incident notification under this authority.

- (G4) Not more than fourteen (14) days following the initial notification of an emergency or incident, the holder of this authority must provide written advice of the information previously supplied (unless already supplied in writing) and, in addition, the following:
- (a) proposed actions to prevent a recurrence of the emergency or incident; and
 - (b) outcomes of actions taken at the time to prevent or minimise environmental harm and or environmental nuisance.

Exception reporting

- (G5) The holder of this environmental authority must notify the administering authority within twenty eight (28) days of completion of analysis of any result of a monitoring program required by a condition of this environmental authority that indicates an exceedance of any limit specified in this approval.
- (G6) The written notification must include:
- (a) the full analysis results;
 - (b) details of investigation or corrective actions taken; and
 - (c) any subsequent analysis.

Note: Any relevant notification given under Section 320 or Section 350 of the Act that contains the information specified in this condition is also an exception reporting notification under this authority.

Annual Return

- (G7) The holder must ensure that the results of all monitoring performed in accordance with this development approval for the period covered by the Annual Return applicable to the activities is provided with the Annual Return.

END OF CONDITIONS FOR SCHEDULE G

Schedule H – Definitions

Words and phrases used throughout this development approval are defined below. Where a definition for a term used in this development approval is sought and the term is not defined within this development approval the definitions provided in the Environmental Protection Act 1994, its regulations, and Environmental Protection Policies shall be used. Where a word or term is not defined, the ordinary English meaning applies, and regard should be given to the Macquarie Dictionary.

"administering authority" means the Environmental Protection Agency or its successor.

"approval" means a development approval issued under the *Integrated Planning Act 1997*.

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

"background noise level" means LA90, T, being the A-weighted sound pressure level exceeded for 90 percent of the time period measured in the absence of the noise under investigation during a representative time period of not less than 15 minutes, using Fast response.

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

"competent person" means a person or body possessing demonstrated experience and qualifications to perform these tasks.

"contaminant" can be:

- a gas, liquid or solid; or
- an odour; or
- an organism (whether alive or dead), including a virus; or
- energy, including noise, heat, radioactivity and electromagnetic radiation; or
- a combination of contaminants.

"EPA" means the Queensland Environmental Protection Agency or its successor.

"nuisance 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.

"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; or
- a water craft in a marina.

"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 90,T}" means the A-weighted sound pressure level, exceeded for 90% of any 15 minute measurement period, using Fast response.

"L_{A 10,T}" means the A-weighted sound pressure level, exceeded for 10% of any 15 minute measurement period, using Fast response.

"L_{A 1,T}" means the A-weighted sound pressure level, exceeded for 1% of any 15 minute measurement period, using Fast response.

"L_{Aeq,adj, T}" means the value of the A-weighted sound pressure level (adjusted for tonality and impulsiveness of the sound), of a continuous steady sound obtained by using Fast response that within a specified time interval, T, has the same mean-square sound pressure as a sound under consideration whose level varies with time. The equivalent continuous A-weighted sound pressure level is quoted to the nearest whole number of decibels.

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

"Licensed regulated waste facility" means, if in Queensland, a relevant facility with lawful authority under the *Environmental Protection Act 1994* and *Integrated Planning Act 1997*:

- to receive and dispose of the regulated waste;
- to receive and recycle or reprocess or recondition regulated waste;
- as a transfer station that can receive such waste;
- to receive and store the regulated waste;
- to receive and treat the regulated waste;
- to receive and compost the regulated waste; and
- to receive and incinerate the regulated waste.
- If outside Queensland, a similar place that can lawfully accept and deal with the waste.


"maximum" means that the measured value of the quality characteristic or contaminant must not be greater than the release limit stated.

"median" means the middle value, where half the data are smaller, and half the data are larger. If the number of samples is even, the median is the arithmetic average of the two middle values.

"mg/L" means milligrams per Litre.

"minimum" means that the measured value of the quality characteristic or contaminant must not be less than the release limit stated.

"mixing zone" an area where waste water mixes rapidly with surface water because of the way the waste water is discharged, the momentum of the waste water and the turbulence of the surface water. Within the mixing zone dilution of the waste water



takes place, water quality degradation occurs and certain water quality objectives may be exceeded.

“No Observed Effect Concentration” means the highest concentration of an effluent tested, which does not exhibit a toxic effect.

"noise affected premises" means a "noise sensitive place" or a "commercial place"

"Noise Measurement Manual" means the following document or more recent additions or supplements to that document as such become available: Environmental Protection Agency (2000) Noise Measurement Manual Third Edition, Environmental Protection Agency, Brisbane, Australia.

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

"noise sensitive place" means:

- a dwelling, residential allotment, mobile home, 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 curtilage of such place.

"NTU" means nephelometric turbidity units.

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

"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.

“range” means that the measured value of the quality characteristic or contaminant must not be greater than the higher release limit stated nor lower than the lower release limit stated.

"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.

"riprap" means a layer, facing or protective mound of stones randomly placed to prevent erosion, scour or sloughing of a structure or embankment, also the stone so used.

"site" means the place to which this environmental authority relates or the premises to which this development approval relates.

“the Project” means the Gladstone Nickel Project.

"this authority" means this development approval.

“Toxicants of Concern” A toxicant of concern is a substance that is either known or suspected of being present in wastewater intended for release into an aquatic receiving environment at a concentration that would potentially cause environmental harm and thereby is of concern to the EPA. A toxicant of concern may be identified as such because it is considered a common component in the effluent produced by a particular industry type (e.g. manganese) or has been identified in an Environmental Impact Assessment that is part of the Development Application.

“24 hour rolling average” means the average of all measurements over any consecutive 24 hours.

“µg/L” means micrograms per Litre.

“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 any under groundwater, any part thereof.

“Water Quality Sampling Manual” means the following document or more recent additions or supplements to that document as such become available: Environmental Protection Agency (1999) *Water Quality Sampling Manual Third Edition*, Environmental Protection Agency, Brisbane, Australia.

“weekly” means that a sample is collected each week and the subsequent sample must be taken on the seventh day following that day and is inclusive of Saturdays and Sundays (i.e. day rolling forward each week this week Monday, next week Tuesday).

“you” means the holder of this Development Approval and owner/occupier of the land which is the subject of this Development Approval and includes any person acting under the Development Approval.

END OF DEFINITIONS FOR SCHEDULE H



Schedule A3

Coordinator-General's conditions for Environmentally Relevant Activities – Residue Storage Facility construction and operation

A1. Conditions for the construction and operation of the Residue Storage Facility

These conditions are consistent with those that would normally be applied by Environmental Protection Agency (EPA) under the *Integrated Planning Act 1999*. They are the conditions that must be attached to a development approval for a material change of use for the Project. I nominate the EPA as the concurrence agency for the following conditions of development approval.

Project description

Construction and operation of the Residue Storage Facility (RSF) for the Gladstone Nickel Refinery, Gladstone.

Property description

Description to be provided.

Reason for including conditions

The conditions are designed to control and limit potential impacts on the land, surface and ground waters, air environment and ecological systems from contaminants and environmental harm that may result from the above environmentally relevant activities. They are consistent with information provided in the EIS and Supplementary Report to the EIS.

The recommendations do not remove the need for Gladstone Pacific Nickel Limited to obtain approvals that may be required under other legislation administered by the Environmental Protection Agency. Approvals or permits for specific activities will be required under the *Environmental Protection Act 1994* and *Nature Conservation Act 1992*.

Environmentally Relevant Activities

This section of the development approval is for carrying out the following environmentally relevant activities (ERAs) under the *Environmental Protection Regulation 1998*.



ERA	Description
7(b)	Chemical storage - storing chemicals (other than crude oil, natural gas and petroleum products), including ozone depleting substances, gases or dangerous goods under the dangerous goods code in containers having a design storage volume of 1000 cubic metres or more.
11(b)	Crude oil or petroleum product storing - Storing crude oil or a petroleum product in tanks or containers having a combined total storage capacity of more than 500 000 litres.
20(c)	Extracting rock or other material - Extracting rock (other than rock mined in block or slab form for building purposes), sand (other than foundry sand), clay (other than clay used for its ceramic properties, kaolin or bentonite), gravel, loam or other material (other than gravel, loam or other material under a mining authority) from a pit or quarry using plant or equipment having a design capacity of 100 000 t or more per year.
22(c)	Screening etc. materials - Screening, washing, crushing, grinding, milling, sizing or separating material extracted from the earth (other than under a mining authority) or by dredging using plant or equipment having a design capacity of more than 100 000 t or more per year
62	Concrete batching – producing concrete or a concrete product by mixing cement, sand, rock, aggregate or other similar materials in works (including mobile works) having a design production capacity of more than 100 tonnes per day.
75(b)	Waste disposal —operating a facility for disposing of regulated waste (other than limited regulated waste) whether alone or in combination with any waste mentioned in paragraph (a), if the facility is designed to receive waste at the rate of 200 000 tonnes or more a year.

At place(s) described as:

- Lot on Plans to be provided.

Located at:

- to be provided.

Schedule of Conditions

The aforementioned description of the environmentally relevant activities (ERAs) for which this authority is issued is simply a restatement of the activity as prescribed in the legislation at the time of issuing this authority. Where there is any conflict between the above description of the ERA for which this development approval is issued and the conditions as specified in this development approval as to the scale, intensity or manner of carrying out of the ERAs, then such conditions prevail to the extent of the inconsistency.

This development approval incorporates the following schedules of conditions relevant to various issues:

- Schedule A – General conditions
- Schedule B – Air
- Schedule C – Water
- Schedule D – Land
- Schedule E – Noise
- Schedule F – Waste
- Schedule G – Monitoring
- Schedule H – Definitions

Schedule A – General Conditions

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 development approval.

NOTE: This development approval does not authorise environmental harm unless a condition contained within this development approval explicitly authorises that harm. Where there is no condition or the development 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:
- (a) install all measures, plant and equipment necessary to ensure compliance with the conditions of this development approval; and
 - (b) maintain such measures, plant and equipment in a proper and efficient condition; and
 - (c) 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 annually and when requested, in a specified format.
- (A4) The holder of this approval shall submit to the administering authority with their annual return a report which assesses and interprets all of the monitoring data gathered in the preceding 12 months.

Site based management plan

- (A5) From commencement of an ERA to which this approval relates, 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 ERAs that are carried out.

The SBMP must address the following matters:

- (a) environmental commitments - a commitment by senior management to achieve specified and relevant environmental goals;
- (b) identification of environmental issues and potential impacts;
- (c) control measures for routine operations to minimise likelihood of environmental harm;
- (d) contingency plans and emergency procedures for non-routine situations;
- (e) organisational structure and responsibility;
- (f) effective communication;
- (g) monitoring of contaminant releases;
- (h) conducting environmental impact assessments;
- (i) staff training;
- (j) record keeping; and
- (k) periodic review of environmental performance and continual improvement.

- 
- (A6) The site based management plan must not be implemented or amended in a way that contravenes any condition of this approval.

Third party environmental auditing

- (A7) Compliance with the conditions of this approval must be audited within 28 days of commencement of the activities and annually.
- (A8) The audit(s) detailed in condition A7 must be conducted by a suitably qualified third party auditor, nominated by the approval holder and accepted by the administering authority.
- (A9) In relation to the audit(s) required by condition A7 the auditor must submit a final version of the auditor's report to the administering authority within 28 days of completing the audit.
- (A10) This condition applies to the site based management plan required by condition A5. A suitably qualified third party auditor must certify in writing that the site based management plan has been prepared:
- (a) by a suitably qualified person with at least 5 years experience in the relevant area;
 - (b) in a manner that is consistent with the requirements of condition A4; and
 - (c) by having regard to, and appropriately applying, the relevant guidelines (being those applicable on a national, state or a regional basis) which the third party auditor considers should be applied in undertaking the site based management plan including relevant Environment Australia, ANZECC and EPA guidelines where published.
- (A11) The total financial cost of the audit(s) will be the responsibility of the holder of this approval.

Monitoring

- (A12) A competent person(s) must conduct any monitoring required by this approval.

Equipment calibration

- (A13) All instruments, equipment and measuring devices used for measuring or monitoring in accordance with any condition of this approval must be calibrated, and appropriately operated and maintained.

END OF CONDITIONS FOR SCHEDULE A

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 nuisance sensitive or commercial place.
- (B2) The release of dust and/or particulate matter resulting from the ERA must not cause an environmental nuisance at any nuisance sensitive or commercial place.

Dust control

- (B3) The holder of this development approval must implement operational procedures for the abatement of wind blown particulates generated from the carrying out of the activity.
- (B4) All sealed traffic areas must be cleaned as necessary to minimise the release of dust and particulate matter to the atmosphere.
- (B5) Watering of unsealed roads shall be carried out so as to minimise the release of dust and particulate matter to the atmosphere.

Nuisance dust complaints

- (B6) 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:
 - (a) for a complaint alleging dust nuisance, dust deposition; and
 - (b) 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.
- (B7) In relation to dust complaints, dust and particulate matter must not exceed the following levels when measured at any nuisance sensitive or commercial place:
 - (a) Dust deposition of 3 grams per square metre per month, when monitored in accordance with Australian Standard AS 3580.10.1 of 2003 (or more recent editions); or
 - (b) A concentration of particulate matter with an aerodynamic diameter of less than 10 micrometre (μm) (PM10) suspended in the atmosphere of 50 micrograms per cubic metre over a 24 hour averaging time, at a nuisance sensitive or commercial place downwind of the site, when monitored in accordance with:
 - (i) Australian Standard AS 3580.9.6 - 2003 (or more recent editions) '*Ambient air - Particulate matter - Determination of suspended particulate PM10 high-volume sampler with size-selective inlet - Gravimetric method*'; or
 - (ii) 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.

END OF CONDITIONS FOR SCHEDULE B

Schedule C – Water

Erosion protection measures and sediment controls

- (C1) All reasonable and practicable erosion protection measures and sediment control measures to be implemented and maintained to minimise erosion and the release of sediment. Reasonable and practicable measures are outlined in "Soil and Erosion Control. Engineering Guidelines for Queensland Construction Sites", June 1996 published by the Institution of Engineers, Australia, Queensland Division.
- (C2) Erosion control and sediment control structures must be maintained at all times during the periods of site clearing, construction, plant operation, decommissioning and any necessary rehabilitation. They must be checked, repaired or replaced as required after each rain event.

Release to waters

- (C3) Settled/treated stormwater runoff waters must only be released in compliance with the release limits listed in Schedule C Table 1 - Contaminant release limits to water, from the following discharge locations: XXXX

Sediment dams

- (C4) The volume of any sedimentation basins must be 700m³ for every hectare of the catchment area of disturbed land. Depth indicators for 20% and 50% must be set into the internal banks of sedimentation basins and a spillway at 100% with a minimum 750mm freeboard for the banks above the spillway. The retained sediment must be removed when it has reached 20% of the total volume.
- (C5) All sedimentation basins with a total storage volume larger than 2,000m³ or with a bank height of 2m or more must be designed by a suitably qualified and experienced engineer.
- (C6) Any water discharged from sediment dams must meet the water quality limits in Table 1.

Table 1. Contaminant release limits to water

RELEASE POINT NUMBER/ SAMPLING MEASUREMENT POINT	QUALITY CHARACTERISTICS	RELEASE LIMIT / LIMIT TYPE	MONITORING FREQUENCY
Supernatant discharged by pumping from sediment dams.	Turbidity	20 NTU (maximum)	At the start of pumping and at sufficient intervals during pumping to ensure limit is not exceeded.
Any discharge from sediment dams.	pH.	6.5 - 8.0 (Range)	At the start of pumping and at least daily during pumping or spillway discharge.
	Dissolved Oxygen. (mg/L)	2.0mg/L (Minimum)	
	Petroleum Products, Scum or Litter	Not visible or other noticeable	

- (C7) Contaminants other than settled/treated stormwater runoff waters must not be released from the site to surface waters or the bed or banks of surface waters.

Stormwater management plan

- (C8) A stormwater management plan must be prepared for the site to the satisfaction of the administering authority and implemented from the start of construction activities.

Spillage control

- (C9) Any spillage of wastes, contaminants or other materials must be cleaned up as quickly as practicable. Such spillage must not be cleaned up by hosing, sweeping or otherwise releasing such wastes, contaminants or material to any external storm water drainage system, roadside gutter or waters.

Groundwater

- (C10) There must be no significant change in groundwater quantity and quality as a result of the activities authorised by this authority.
- (C11) The holder of this authority must develop and implement a groundwater monitoring program. The program must be initiated at least 1 year prior to the commencement of construction activities and continue for the life of the RSF and after decommissioning and rehabilitation until demonstration that all groundwater impacts have been mitigated. The program must be able to:
- (a) determine the natural variability in water level and water quality, determine the need for additional monitoring bores and inform the setting of trigger levels for relevant parameters;
 - (b) Prior to the construction of the RSF; define trigger levels for relevant groundwater parameters;
 - (c) establish disturbance groundwater levels and water quality in ground waters potentially affected by the RSF;
 - (d) detect any changes, relative to trigger levels, to ground water quality values and groundwater levels due to construction, operating, decommissioning and rehabilitation activities that are part of the RSF;
 - (e) monitor ground water in the alluvial and bedrock on the site of the RSF and downstream;
 - (f) determine if there is any leakage from the RSF to alluvial or deeper groundwater; and
 - (g) detect any leakage from the RSF which contributes to surface water down gradient of the RSF.
- (C12) As part of the groundwater monitoring program required in condition C11, the holder of this authority must establish a groundwater monitoring bore network at locations throughout the RSF site. The monitoring bore network must include but not be limited to the RSF monitoring bores installed for the EIS studies and shown in Supplementary EIS figure 1: Groundwater Bores, Terrain Units and Geological Regimes – Residue Storage Facility.
- (C13) The holder must submit the monitoring program, including the groundwater monitoring bore network, to the administering authority at least 1 year prior to the commencement of construction activities. If the administering authority gives to the holder of this approval any comment on the monitoring program within 21 days of receiving the document, the holder of this approval must have due regard to those comments when implementing the monitoring program.
- (C14) The holder must conduct an annual review of the groundwater monitoring program to evaluate the changes to groundwater quality values and groundwater levels, and assess the effectiveness of each monitoring location and assess where new locations and modifications to the monitoring program may be needed. The results of the review must be reported to the administering authority.
- (C15) The holder must report the results and analysis of groundwater monitoring to the administering authority when any deterioration in ground water quality and/or any increase in ground water levels are detected relative to the trigger levels, and on request.
- (C16) The method of water sampling required by this environmental authority must comply with that set out in the latest edition of the Environmental Protection Agency's Water Quality Sampling Guidelines.

END OF CONDITIONS FOR SCHEDULE C

Schedule D – Land

Preventing contaminant release to land or waters

- (D1) There must be no release or likelihood of release of any contaminants to land.
- (D2) All chemicals and fuels, including any spillage thereof, must be contained within an on-site containment system and controlled in a manner that prevents environmental harm.
- (D3) All containment systems must be designed to minimise the collection of uncontaminated rainfall to the greatest extent practicable.

END OF CONDITIONS FOR SCHEDULE D

Schedule E – Noise

Noise nuisance

- (E1) Noise from construction phase activities must not cause an environmental nuisance at any noise sensitive place or commercial place
- (E2) All noise must not exceed the levels specified in Schedule E Table 1 - Noise Limits.

Schedule E, Table 1 - Noise Limits

Noise Level at a Noise Sensitive Place Measured as the Adjusted Equivalent Sound Pressure Level $L_{Aeq,adj,T}$	Period
42 dB(A)	7 am - 6 pm
42 dB(A)	6 pm - 10 pm
42 dB(A)	10 pm - 7 am
Noise Limits at a Commercial Place Measured as the Adjusted Equivalent Sound Pressure Level $L_{Aeq,adj,T}$	Period
47 dB(A)	7 am - 6 pm
47 dB(A)	6 pm - 10 pm
47dB(A)	10 pm - 7 am

Noise monitoring

- (E3) When requested by the administering authority, noise monitoring must be undertaken to investigate any complaint of noise nuisance, and the results, once received by the holder, notified within 7 days to the administering authority. Monitoring must include:
 - (a) $L_{Aeq, adj T}$;
 - (b) $L_{AN, T}$ (where N equals statistical levels of 1, 10, and 90);
 - (c) the level and frequency of occurrence of impulsive or tonal noise;
 - (d) atmospheric conditions including temperature, relative humidity and wind speed and direction; and
 - (e) effects due to extraneous factors such as traffic noise.

- 
- (E4) The method of measurement and reporting of noise levels must comply with the latest edition of the Environmental Protection Agency's Noise Measurement Manual.

END OF CONDITIONS FOR SCHEDULE E

Schedule F – Waste

General

- (F1) A waste management plan for the activities must be prepared for the site and implemented from the start of the activities.
- (F2) The holder must not:
- (a) burn waste at or on the licensed place; nor
 - (b) allow waste to burn or be burnt at or on the licensed place; nor
 - (c) remove waste from the licensed place and burn such waste elsewhere.
- (F3) Cementitious waste in solution, slurry or liquid form, or water affected thereby (stormwater or washing water), shall be contained in a pit or receptacle whereby it cannot be released to any waters.
- (F4) Any cementitious waste in solution, slurry or liquid form shall be disposed of at a waste disposal facility licensed under the *Environmental Protection Act 1994* for disposal of that waste or reused in the process.

Waste handling

- (F5) Waste generated in the carrying out the activities must be stored, handled and transferred in a proper and efficient manner. Waste must not be released to the environment, stored, transferred or disposed contrary to any condition of this development approval.
- (F6) Regulated waste, if removed from the site, must only be reprocessed, recycled, stored, incinerated or disposed at a licensed regulated waste facility.

Notification of improper disposal of regulated waste

- (F7) If the holder of this development approval becomes aware that a person has removed regulated waste from the licensed place and disposed of the regulated waste in a manner which is not authorised by this development approval or improper or unlawful, then the holder of this development approval must, as soon as practicable, notify the administering authority of all relevant facts, matters and circumstances known concerning the disposal.

END OF CONDITIONS FOR SCHEDULE F

Schedule G – Monitoring

Complaint response

- (G1) All complaints received must be recorded including details of complainant, reasons for the complaint, investigations undertaken, conclusions formed and actions taken. Except in cases where the complaint is considered to be a matter for which the holder is in compliance, is frivolous, vexatious, based on a mistaken belief or not relevant to the ERAs, the holder must act as soon as practicable to investigate the cause and resolve the complaint.

Notification of emergencies and incidents

- (G2) As soon as practicable but within 24 hours after becoming aware of any emergency or incident which results in the release of contaminants or mismanagement of waste not in accordance, or reasonably expected to be not in accordance with the conditions of this authority, the holder must notify the administering authority of the release by telephone, facsimile or electronic mail.
- (G3) The notification of emergencies or incidents must include but not be limited to the following:
- (a) the holder of the development approval;
 - (b) the location of the emergency or incident;
 - (c) the number of the development approval;
 - (d) the name and telephone number of the designated contact person;
 - (e) the time of the release/mismanagement incident;
 - (f) the time the holder became aware of the release/mismanagement incident;
 - (g) the suspected cause of the release/mismanagement incident;
 - (h) the environmental harm caused, threatened, or suspected to be caused by the release/mismanagement incident; and
 - (i) actions taken to prevent further any release and mitigate any environmental harm caused by the release/mismanagement incident.

Note: Any relevant notification given under Section 320 or Section 350 of the Act that includes the information required by this condition is also an emergency/incident notification under this authority.

- (G4) Not more than fourteen (14) days following the initial notification of an emergency or incident, the holder of this authority must provide written advice of the information previously supplied (unless already supplied in writing) and, in addition, the following:
- (a) proposed actions to prevent a recurrence of the emergency or incident; and
 - (b) outcomes of actions taken at the time to prevent or minimise environmental harm and or environmental nuisance.

Exception reporting

- (G5) The holder of this environmental authority must notify the administering authority within twenty eight (28) days of completion of analysis of any result of a monitoring program required by a condition of this environmental authority that indicates an exceedance of any limit specified in this approval.
- (G6) The written notification must include:
- (a) the full analysis results;
 - (b) details of investigation or corrective actions taken; and
 - (c) any subsequent analysis.

Note: Any relevant notification given under Section 320 or Section 350 of the Act that contains the information specified in this condition is also an exception reporting notification under this authority.

Annual Return

- (G7) The holder must ensure that the results of all monitoring performed in accordance with this development approval for the period covered by the Annual Return applicable to the activities is summarised and made available to the administering authority on request.

END OF CONDITIONS FOR SCHEDULE G

Schedule H – Dams

All dams

- (H1-1) The holder of this development approval must ensure that each dam is designed, constructed, operated and maintained in accordance with accepted engineering standards and is fit for the purpose for which it is intended.
- (H1-2) The hazard category of each dam must be assessed by a suitably qualified and experienced person at least once per year, based on documented evidence sufficient to define or confirm the current nature and extent of environmental consequences for potential failure of that dam.
- (H1-3) Where the hazard category of a dam is assessed as significant or high, the holder of the development approval must act immediately to ensure:
- (a) the administering authority is advised of the current details of that dam, including:
 - (i) the assessed hazard category of that dam,
 - (ii) sufficient points of latitude and longitude in the current Australian geodetic datum to form a perimeter around that dam and its associated works,
 - (iii) the maximum surface area, maximum volume, maximum depth of that dam; and
 - (b) that dam meets the hydraulic performance required of the assessed hazard category within twelve months of that assessment.
- (H1-4) The condition of dams 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 each dam.
- (H1-5) In the event of early signs of loss of structural or hydraulic integrity, the holder of this development approval must immediately take action to prevent or minimize any actual or potential environmental harm, and report in writing any findings and actions taken to the administering authority within 28 days of that event.
- (H1-6) The holder of this development approval must not abandon any dam but must decommission each dam such that ongoing environmental harm is prevented.
- (H1-7) As a minimum, decommissioning must be conducted such that each dam:
- (a) has become a stable landform, that no longer contains flowable substances, and
 - (b) has been capped with layers of suitable cover material as follows:
 - Top Soil 0.3 metre thick
 - Drainage Sand 0.3 metre thick
 - Low Permeability Soil 0.6 metre thick
 - Capillary Break Layer 0.3 metre thick and
 - (c) complies with the rehabilitation requirements of this development approval.

Regulated dams – location and basic specifications

- (H2-1) The following are the only regulated dams authorised under this development approval, and those dams are to be located within the control points defined in Schedule A3, Table 1, below.

Schedule A3, Table 1. Location of Regulated Dams

Name of Regulated Dam	Latitude (GDA 94)	Longitude (GDA 94)
Cell A	Cell A	*
Cell B1	Cell B1	*
Cell B2	Cell B2	*

** To be provided - subject to submission of final design details*

(H2-2) The following are the only regulated dams authorised under this development approval, and those dams are to accord with the basic specifications in Schedule H, Table 2, below.

Schedule H, Table 2. Basic Specification of Regulated Dams

Name of Regulated dam	Hazard Category	Maximum surface area of dam (ha)	Maximum volume of dam (m ³)	Maximum depth of dam (m)	Use of dam
Cell A	High	*	*	41	Nickel Refinery Residue Storage
Cell B1	High	*	*	56	Nickel Refinery Residue Storage
Cell B2	High	*	*	44	Nickel Refinery Residue Storage

** To be provided - subject to submission of final design details*


(H2-3) The following are the only regulated dams authorised under this development approval, and those dams are to accord with the hydraulic specifications in Schedule H, Table 3, below.

Schedule H, Table 3. Hydraulic Performance of Regulated Dams

Name of Regulated dam	Spillway Capacity or Diversion Capacity (Levees) AEP	Design Storage Allowance (Dams other than levees) AEP	Mandatory Reporting Level (Dams other than levees) AEP
Cell A	0.0001 AEP	0.001 AEP 3 month Wet Season rainfall plus process inputs	0.01 AEP 24 Hour Storm
Cell B1	0.0001 AEP	0.001 AEP 3 month Wet Season rainfall plus process inputs	0.01 AEP 24 Hour Storm
Cell B2	0.0001 AEP	0.001 AEP 3 month Wet Season rainfall plus process inputs	0.01 AEP 24 Hour Storm

Regulated dams – certification and operation

- (H3-1) Documentation required by the conditions in this schedule must be kept available for inspection by the administering authority for a period of seven years after the conclusion of the environmentally relevant activity in respect of which this development approval has been granted.
- (H3-2) The holder of this development approval must not commence construction of a regulated dam unless:
 - (a) the holder has submitted to the administering authority two copies of a design plan, together with the certification of a suitably qualified and experienced person that the design of the regulated dam is fit for the purpose for that dam stated in that plan, and compliant in all respects with this development approval, and
 - (b) at least 28 days has passed since the submission of the design plan, or the administering authority has advised the holder that the design plan is compliant with this condition.
- (H3-3) When construction or modification of any regulated dam is complete, or within 12 months of dam becoming a regulated dam by virtue of a hazard assessment, the holder of this development approval must submit to the administering authority two copies of a set of 'as constructed' drawings, together with the certification by a suitably qualified and experienced person that the dam 'as constructed' is fit for the purpose stated in the hazard assessment and the design plan if the latter exists, and compliant in all respects with this development approval.
- (H3-4) The holder of this development approval must ensure that there is always a current operational plan for each regulated dam, which may form part of other plans required by legislation.
- (H3-5) The operational plan shall at least cover all matters relevant to the operation and maintenance of the regulated dam so that it is compliant in all respects with this development approval.
- (H3-6) The holder of this development approval must ensure that, where a current operational plan covers decommissioning and rehabilitation, those operations are consistent with the objectives in any design plan for the dam.

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- (H3-7) The holder of this development approval must notify the administering authority immediately of the level in any regulated dam reaching the mandatory reporting level (MRL), and confirm in writing within seven days.

Regulated dams – annual inspection and report

- (H4-1) The holder of this development approval must arrange for each regulated dam to be inspected annually by a suitably qualified and experienced person, in accordance with the following conditions.
- (H4-2) At each annual inspection, the condition of each regulated dam must be assessed, including the structural, geotechnical and hydraulic adequacy of the dam and the adequacy of the works with respect to dam safety, and any recommended actions conveyed immediately to the holder of this development approval.
- (H4-3) The holder of this development approval must immediately act upon recommendations arising from an annual inspection on condition and adequacy of a dam.
- (H4-4) At each annual inspection, the adequacy of the available storage against the design storage allowance specified must be assessed and, if a mandatory reporting level is required, it must be determined and marked on each regulated dam.
- (H4-5) A final assessment of adequacy of available storage in each regulated dam must be based on a dam level observed within the month of October, accepted as valid by the suitably qualified and experienced person, and resulting in an estimate of the level in that dam as at 1 November.
- (H4-6) For each annual inspection, two copies of a report certified by the suitably qualified and experienced person, including any recommended actions to be taken to ensure the integrity of each regulated dam, must be provided to the administering authority by 1 December.

END OF CONDITIONS FOR SCHEDULE H

Schedule I – Definitions

Words and phrases used throughout this development approval are defined below. Where a definition for a term used in this development approval is sought and the term is not defined within this development approval the definitions provided in the *Environmental Protection Act 1994*, its regulations, and Environmental Protection Policies shall be used. Where a word or term is not defined, the ordinary English meaning applies, and regard should be given to the Macquarie Dictionary.

“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.

“acceptance criteria” means the measures by which actions implemented are deemed to be complete. The acceptance criteria indicate the success of the decommissioning and rehabilitation outcomes or remediation of areas which have been significantly disturbed by the environmentally relevant activities. Acceptance criteria may include information regarding:

- stability of final land forms in terms of settlement, erosion, weathering, pondage and drainage;
- control of geochemical and contaminant transport processes;
- quality of runoff waters and potential impact on receiving environment;

- vegetation establishment, survival and succession;
- vegetation productivity, sustained growth and structure development;
- fauna colonisation and habitat development;
- ecosystem processes such as soil development and nutrient cycling, and the recolonisation of specific fauna groups such as collembola, mites and termites which are involved in these processes;
- microbiological studies including recolonisation by mycorrhizal fungi, microbial biomass and respiration;
- effects of various establishment treatments such as deep ripping, topsoil handling, seeding and fertiliser application on vegetation growth and development;
- resilience of vegetation to disease, insect attack, drought and fire;
- vegetation water use and effects on ground water levels and catchment yields.

"administering authority" means the Environmental Protection Agency or its successor.

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

"approval" means a development approval issued under the *Integrated Planning Act 1997*.

'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:

- exactly what has been assessed and the precise nature of that assessment;
- the relevant legislative, regulatory and technical criteria on which the assessment has been based;
- 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
- 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:


- operations of any kind and all things constructed, erected or installed for that dam; and
- any land used for those operations.

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

"background noise level" means LA90, T, being the A-weighted sound pressure level exceeded for 90 percent of the time period measured in the absence of the noise under investigation during a representative time period of not less than 15 minutes, using Fast response.

"beneficial use" in respect of dams means that the current or proposed owner of the land on which a dam stands, has found a use for that dam that is:

- of benefit to that owner in that it adds real value to their business or to the general community,
- in accordance with relevant provisions of the Environmental Protection Act 1994,
- sustainable by virtue of written undertakings given by that owner to maintain that dam, and the transfer and use have been approved or authorised under any relevant legislation.



‘certification’ or ‘certified’ by a suitably qualified and experienced person in relation to a design plan or an annual report regarding dams, 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 is being certified and the precise nature of that certification.
- (b) the relevant legislative, regulatory and technical criteria on which the certification has been based;
- (c) the relevant data and facts on which the certification 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 certification has been based using the relevant data and facts, and the relevant criteria.

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

"competent person" means a person or body possessing demonstrated experience and qualifications to perform these tasks.

“construction” in relation to a dam includes building a new dam and modifying or lifting an existing dam.

“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 any associated works; but does *not* mean a fabricated or manufactured tank or container designed to a recognised standard. To avoid any doubt, a levee, dyke or bund is 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 available storage required in a dam at the first of November each year in order to store the run-off for the prescribed critical period of wet season rainfall plus process inputs for the period.


“development approval” means a development approval under the Integrated Planning Act 1997 in relation to a matter that involves an environmentally relevant activity under the *Environmental Protection Act 1994*.

"dust 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.

"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; or
- a water craft in a marina.



“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 a 150 year foreseeable future with an acceptable probability of failure before that time.

“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 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, and 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.

“levee” means a dam, dyke or bund that is designed only to provide for the containment and diversion of stormwater or flood flows from a contributing catchment, or containment and diversion of flowable materials resulting from unplanned releases from other works of infrastructure, during the progress of those stormwater or flood flows or those unplanned releases; and does not store any significant volume of water or flowable substances at any other times.

“licensed regulated waste facility” means, if in Queensland, a relevant facility with lawful authority under the *Environmental Protection Act 1994* and *Integrated Planning Act 1997*:

- to receive and dispose of the regulated waste;
- to receive and recycle or reprocess or recondition regulated waste;
- as a transfer station that can receive such waste;
- to receive and store the regulated waste;
- to receive and treat the regulated waste;
- to receive and compost the regulated waste; and
- to receive and incinerate the regulated waste.
- If outside Queensland, a similar place that can lawfully accept and deal with the waste.

“maximum” means that the measured value of the quality characteristic or contaminant must not be greater than the release limit stated.

“median” means the middle value, where half the data are smaller, and half the data are larger. If the number of samples is even, the median is the arithmetic average of the two middle values.

“minimum” means that the measured value of the quality characteristic or contaminant must not be less than the release limit stated.

"noise affected premises" means a "noise sensitive place" or a "commercial place"

"Noise Measurement Manual" means the following document or more recent additions or supplements to that document as such become available: Environmental Protection Agency (2000) Noise Measurement Manual Third Edition, Environmental Protection Agency, Brisbane, Australia.

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

"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.

"noise sensitive place" means:

- a dwelling, mobile home, 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 curtilage of such place.


"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.

"LA_{90,T}" means the A-weighted sound pressure level, exceeded for 90% of any 15 minute measurement period, using Fast response.

"LA_{10,T}" means the A-weighted sound pressure level, exceeded for 10% of any 15 minute measurement period, using Fast response.

"LA_{1,T}" means the A-weighted sound pressure level, exceeded for 1% of any 15 minute measurement period, using Fast response.

"L_{Aeq,adj, T}" means the value of the A-weighted sound pressure level (adjusted for tonality and impulsiveness of the sound), of a continuous steady sound obtained by using Fast



response that within a specified time interval, T, has the same mean-square sound pressure as a sound under consideration whose level varies with time. The equivalent continuous A-weighted sound pressure level is quoted to the nearest whole number of decibels.

“**mandatory reporting level**” or “**MRL**” means a warning and reporting level, determined in accordance with the Site Water Management Technical Guideline for Environmental Management of Exploration and Mining in Queensland (DME 1995), which is the level below spillway crest that can accommodate runoff from a 72 hour AEP storm, or the AEP wave allowance whichever level is lower.

“**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.

“**odour sensitive place**” has the same meaning as a “dust sensitive place”

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

“**range**” means that the measured value of the quality characteristic or contaminant must not be greater than the higher release limit stated nor lower than the lower release limit stated.

“**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.

“**regulated dam**” means any dam in the significant or high hazard category as assessed using the Site Water Management Technical Guideline for Environmental Management of Exploration and Mining in Queensland (DME 1995).


“**spillway**” means a weir, channel, conduit, tunnel, gate or other structure designed to permit discharges from the dam, normally under flood conditions or in anticipation of flood conditions.

“**spillway capacity**” is the spillway discharge capacity required to pass the maximum discharge which will occur during the critical duration storm. The critical duration storm is that length of storm which produces the peak outflow from the dam, for the relevant contributing catchment, plus the wave runup, and the exceedance probability (AEP) shown in Table 3.

“**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.

“**site**” means the place to which this environmental authority relates or the premises to which this development approval relates.

“**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 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 at least four of the following categories, with the 'geomechanics of dams' category being compulsory:
- geomechanics of dams with particular emphasis on stability, geology and geochemistry.
 - investigation, design or construction of dams.
 - 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, groundwater.
 - solute transport processes and monitoring thereof.
 - dam safety.

"this authority" means this development approval.

"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.

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

"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.

"Water Quality Sampling Manual" means the following document or more recent additions or supplements to that document as such become available: Environmental Protection Agency. (1999). *Water Quality Sampling Manual Third Edition*, Environmental Protection Agency, Brisbane, Australia.

"you" means the holder of this Development Approval and owner / occupier of the land which is the subject of this Development Approval and includes any person acting under the Development Approval.

END OF DEFINITIONS FOR SCHEDULE I



Schedule A4

Coordinator-General's conditions for Environmentally Relevant Activities – Pipeline from Refinery to Residue Storage Facility, construction and operation

A4. Conditions for the pipeline construction and operation – refinery to Residue Storage Facility

These conditions are consistent with those that would normally be applied by Environmental Protection Agency (EPA) under the *Integrated Planning Act 1999*. They are the conditions that must be attached to a development approval for a material change of use for the Project. I nominate the EPA as the concurrence agency for the following conditions of development approval.

Project description

Construction and operation of residue and return water pipelines between the Residue Storage Facility and the Gladstone Pacific Nickel Refinery, Gladstone.

Property description

(to be provided)

Reason for including conditions

The conditions are designed to control and limit potential impacts on the land, surface and ground waters, air environment and ecological systems from contaminants and environmental harm that may result from the above environmentally relevant activities. They are consistent with information provided in the EIS and Supplementary Report to the EIS.

The recommendations do not remove the need for Gladstone Pacific Nickel Limited to obtain approvals that may be required under other legislation administered by the Environmental Protection Agency. Approvals or permits for specific activities will be required under the *Environmental Protection Act 1994* and *Nature Conservation Act 1992*.

Environmentally Relevant Activities

This section of the development approval is for carrying out the following environmentally relevant activities (ERAs) under the *Environmental Protection Regulation 1998*.



ERA	Description
7(b)	Chemical storage – storing chemicals (other than crude oil, natural gas and petroleum products), including ozone depleting substances, gases or dangerous goods under the dangerous goods code in containers having a design storage volume of 1000 cubic metres or more.
11(b)	Crude oil or petroleum product storing – Storing crude oil or a petroleum product in tanks or containers having a combined total storage capacity of more than 500 000 litres.
20(c)	Extracting rock or other material – Extracting rock (other than rock mined in block or slab form for building purposes), sand (other than foundry sand), clay (other than clay used for its ceramic properties, kaolin or bentonite), gravel, loam or other material (other than gravel, loam or other material under a mining authority) from a pit or quarry using plant or equipment having a design capacity of 100 000 t or more per year.
22(c)	Screening etc. materials – Screening, washing, crushing, grinding, milling, sizing or separating material extracted from the earth (other than under a mining authority) or by dredging using plant or equipment having a design capacity of more than 100 000 t or more per year
62	Concrete batching – producing concrete or a concrete product by mixing cement, sand, rock, aggregate or other similar materials in works (including mobile works) having a design production capacity of more than 100 tonnes per day.

Storage of hazardous substances

- (P1) The holder of this development approval must ensure that storage facilities for all hazardous, flammable and combustible liquids:
- (a) are within an onsite containment system;
 - (b) are controlled in a manner that prevents material or serious environmental harm;
 - (c) are maintained in accordance with AS 1940:2004 *Storage and Handling of Flammable and Combustible Liquids*; and
 - (d) are equipped with measures, appropriate to the risks to the surrounding environment, to minimise the risk of spills and ensure early detection of spills.

Acid sulfate soils

- (P2) The holder of this development approval must comply with the latest edition of the Queensland Environmental Protection Agency's INSTRUCTIONS FOR THE TREATMENT AND MANAGEMENT OF ACID SULFATE SOILS, 2001, ("the instructions") must be complied with when treating and managing acid sulphate soils. OR State Planning Policy 2/02: Planning and Managing Development involving Acid Sulfate Soils and the relevant Guideline.
- (P3) Acid sulfate soils must be managed such that contaminants are not directly or indirectly released, as a result of the activity, to any waters or the bed and banks of any waters.

Restoration of water courses

- (P4) The holder of the development approval must ensure that bed and banks of water courses disturbed by pipeline activities are stabilised and restored to pre-construction profiles and that flows are not impeded.

Protection of riverine areas

- (P5) The holder of this development approval must:

- (a) minimise disturbance of all other riverine areas; and
- (b) avoid impeding the flow of water in watercourses by establishing bed level crossings or piped culverts.

Hydrostatic testing

- (P6) When carrying out hydrostatic testing activities, the holder of this development approval must take all reasonable and practicable measures to prevent or minimise the likelihood of environmental harm being caused including the following:
 - (a) Hydrostatic testing water must be discharged in such a way as to prevent runoff to any waters or the bed and banks of any waters or to drainage lines.
 - (b) Hydrostatic testing water discharged to land must be discharged in such a way as to prevent flooding or erosion, damage to soil or vegetation, and adverse effects to surface or groundwater quality.
 - (c) Pipe sections crossing over or under water bodies must be hydrostatically tested prior to installation.
 - (d) Biocides used in hydrostatic testing water, where required, must be biodegradable. Where biocides are required, discharge water must be aerated.
 - (e) Except where the hydrostatic testing water source and water quality is known and documented, and no chemicals have been added, water quality testing must be carried out on the water to ensure acceptability for discharge. Applicable criteria are for irrigation and general use; Australian and New Zealand Guidelines for Fresh and Marine Water Quality (ANZECC and ARMCANZ) Volume 1: Chapter 4.3 and Volume 3: Chapter 9.3.

Noise

- (N1) The holder of the environmental authority must ensure that pipeline activities do not cause environmental nuisance at any sensitive or commercial place.
- (N2) When requested by the administering authority, noise monitoring must be undertaken within a reasonable and practicable timeframe, nominated by the administering authority, to investigate any complaint (which is neither frivolous nor vexatious nor based on mistaken belief in the opinion of the authorised officer) of environmental nuisance at any sensitive or commercial place, and the results must be notified within 14 days to the administering authority following completion of monitoring.
- (N3) The method of measuring and reporting of noise levels must be in accordance with the most recent edition of the Environmental Protection Agency's Noise Measurement Manual.
- (N4) If monitoring in accordance with N2 indicates that noise emitted from the pipeline activities exceed the noise levels specified in the table below at any sensitive or commercial place, then the holder of the environmental authority must:
 - (a) address the complaint, including the use of appropriate dispute resolution if required; and
 - (b) immediately implement noise abatement measures so that noise emissions from the activity do not result in further environmental nuisance.



Time period	Noise level at a <i>sensitive</i> place measured as $L_{A1, 15min}$	Noise level at a <i>sensitive</i> place measured as $L_{Aeq, 15 min}$
7am– 6 pm	50dB(A)	45dB(A)
6pm–10pm	45 dB(A)	40 dB(A)
10pm–7am	40 dB(A)	35dB(A)
Time period	Noise level at a <i>commercial</i> place measured as $L_{A1, 15min}$	Noise level at a <i>commercial</i> place measured as $L_{Aeq, 15 min}$
7am –6 pm	55 dB(A)	50 dB(A)
6pm–10pm	50 dB(A)	45 dB(A)
10pm–7am	45 dB(A)	40 dB(A)

Explosive blasting nuisance

- (N5) Explosive blasting for the ERA must not cause a nuisance at any sensitive place.
- (N6) Explosive blasting on the site shall be carried out within the times specified in the following table unless otherwise approved from time to time by the administering authority due to meteorological conditions.
- (N7) Every explosive blast for the ERA shall be designed by a suitably qualified person to achieve the criteria specified in the following table.

Explosive blasting monitoring

- (N8) Noise monitoring must be undertaken for explosive blasting. For the purposes of this condition monitoring must be done by a competent person in accordance with Australian Standard 2187.2 – Explosives Storage, Transport and Use - Part 2 Use of Explosives, and include:
 1. peak particle velocity (mm/s);
 2. air blast overpressure level (dB linear peak);
 3. location of the blasting within the site;
 4. atmospheric conditions including temperature, relative humidity, wind speed and direction;
 5. affects due to extraneous factors; and
 6. location, date and time of measurements.
- (N9) Noise from blasting shall be measured using noise measurement equipment with a lower limiting frequency of 2Hz (- 3dB response point of the measurement system) and a detector onset time of not greater than 100 microseconds as assessed in accordance with AS –1259.1 clauses 8.5 and 10.4.
- (N10) Vibration instrumentation must be capable of measurement over the range 0.1mms-1 to 300mms-1 with an accuracy within 5 percent and have a frequency response flat to within 5 percent over the frequency range of 4.5Hz to 250Hz.
- (N11) All relevant information pertaining to the design of every explosive blast for the ERA in relation to the criteria specified in Table 3 shall be kept in written and diagrammatic form.



Explosive blast design criteria and time limits *

	Vibration measured at a 'sensitive place'	
	Monday to Friday 9am – 5.30pm Saturday 9am – 5.30pm	Other times and public holidays
Vibration (peak particle velocity)	5 mm/s for 9 out of 10 consecutive blasts and must not exceed 10mm/s for any blast	No blasting to occur
Air blast overpressure level (dB linear peak)	115dB(linear) peak for 9 out of 10 consecutive blasts and must not exceed 120dB(linear) peak for any blast	No blasting to occur

* The Table does not purport to set limits applicable to any particular explosive blast, rather sets design criteria for every explosive blast.

Waste


- P7. The holder of the development approval must:
- (a) ensure that pipeline activities do not result in the release or likely release of a hazardous contaminant to land or waters that results in material or serious environmental harm unless the release is explicitly authorised under the *Environmental Protection Act 1994*; and
 - (b) as soon as practicable, remove and dispose of all regulated waste to a licensed waste disposal facility or recycling facility.
- P8. All regulated waste removed from the site must be removed by a person who holds a current authority to transport such waste under the provisions of the *Environmental Protection Act 1994* and sent to a facility licensed to accept such waste.
- P9. When regulated waste is removed from within the boundary of the development approval and transported by the holder of this development approval, a record must be kept of the following:
- (a) date of waste transport;
 - (b) quantity of waste removed and transported;
 - (c) type of waste removed and transported;
 - (d) route selected for transport of waste;
 - (e) quantity of waste delivered; and
 - (f) any incidents (e.g. spillage) that may have occurred on route.

Land management

- P10. The holder of this development approval must:
- (a) minimise disturbance to land in order to prevent land degradation; and
 - (b) ensure that for land that is to be significantly disturbed by the pipeline activities that the top layer of the soil profile is removed and:
 - (i) stockpiled in a manner that will preserve its biological and chemical properties; and
 - (ii) used for rehabilitation purposes.

Contaminant release to land

- P11. Contaminants, resulting from the pipeline activities, must not be released to land.


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- P12. Notwithstanding the other conditions of this development approval, if a hazardous contaminant is released to water or land, the holder of the environmental development approval must:
- (a) take immediate action to prevent any further release;
 - (b) take immediate action to contain the hazardous contaminant to the affected area, taking particular care to protect environmentally sensitive areas;
 - (c) restore or rehabilitate the environment to its condition before the release occurred;
 - (d) take necessary action to prevent recurrence of the release; and
 - (e) immediately notify the administering authority.

Pipeline spill prevention and response

- P13 Notwithstanding other conditions in this development approval; from commencement of an ERA to which this approval relates, a Spill Prevention and Response Plan must be implemented for the operation of the residue and return water pipelines. The Plan should include relevant measures as outlined in the *“Australian Pipeline Industry Association Ltd. Code of Environmental Practice – Onshore Pipelines”*. In addition, the Plan must include but not be limited to the following:
- (a) Control measures for routine operations to minimise likelihood of environmental harm;
 - (b) Contingency plans and emergency procedures for non-routine situations;
 - (c) Operating procedures to minimise the risk of pipeline failure including operating communication protocols;
 - (d) Location, operation and measurement criteria for pipeline monitoring and detection systems to minimise the risk of spills (including flow and pressure sensors to detect leakage and over-pressure respectively);
 - (e) Location and specifications of any pipeline protective measures and safety devices (such as rupture discs or relief valves) and management of spills at these locations;
 - (f) Pipeline design features aimed at limiting the volume of material released from any spill, with particular emphasis on sensitive areas;
 - (g) Spill emergency notification and reporting procedures;
 - (h) Shutdown and other measures required to halt the spill, and criteria to be met for restarting pipeline operations following a spill;
 - (i) Spill containment procedures to minimise likelihood of environmental harm;
 - (j) Cleanup and rehabilitation for areas affected by a spill including disposal of contaminated soil;
 - (k) Spill incident investigation including assessment of spill and conducting environmental impact assessments, including groundwater;
 - (l) Staff training in pipeline operating procedures for spill prevention and response; and
 - (m) Organisational structure and responsibility.

Biodiversity

- P14. The holder of the development approval must:
- (a) prevent or minimise disturbance to vegetation by pipeline activities;
 - (b) manage the effects of clearing to prevent the loss of biodiversity, reduction of ecological processes and land degradation;
 - (c) consider whether it is feasible to avoid clearing and, where viable alternatives exist, must not clear vegetation:
 - (i) in or within 50 metres of the high bank of a watercourse;

- 
- (ii) in or within 50 metres of the static high water mark of wetlands, lakes or springs;
 - (iii) in a way that isolates clumps or dissects corridors of vegetation;
 - (iv) on slopes greater than 5%;
 - (v) on dispersible soils; and
 - (vi) in existing or potential groundwater discharge areas.

Wetlands management

- P15. The holder of this development approval must:
- (a) Avoid construction in wetlands whenever feasible and practical;
 - (b) Restrict construction activity to between May and September where it is not feasible or practical to avoid construction in wetlands; and
 - (c) Ensure that freshwater pools are not drained due to pipeline construction.

Complaints

- P16. The holder of the development approval must:
- (a) maintain a record of complaints and incidents causing environmental harm, and actions taken in response to the complaint or incident;
 - (b) retain the record of complaints required by this conditions for five years;
 - (c) establish a regular program of monitoring and inspections of the pipeline activities; and
 - (d) document the monitoring and inspections carried out under the program and any actions taken.
 - (e) Provide these records to the administering authority when requested.

END OF CONDITIONS

Definitions

Words and phrases used throughout this development approval are defined below. Where a definition for a term used in this development approval is sought and the term is not defined within this development approval the definitions provided in the *Environmental Protection Act 1994*, its regulations, and Environmental Protection Policies shall be used. Where a word or term is not defined, the ordinary English meaning applies, and regard should be given to the Macquarie Dictionary.

"administering authority" means the Environmental Protection Agency or its successor.

"approval" means a development approval issued under the *Integrated Planning Act 1997*.

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

"background noise level" means LA90, T, being the A-weighted sound pressure level exceeded for 90 percent of the time period measured in the absence of the noise under investigation during a representative time period of not less than 15 minutes, using Fast response.

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

"competent person" means a person or body possessing demonstrated experience and qualifications to perform these tasks.



"dust 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.

"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; or
- a water craft in a marina.

"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.

" $L_{Aeq, 15min}$ " means the value of the A-weighted sound pressure level, of a continuous steady sound obtained by using Fast response that within any 15 minute period, has the same mean-square sound pressure as a sound under consideration whose level varies with time.

" $L_{A1, 15 mins}$ " means the A-weighted sound pressure level, exceeded for 1% of any 15 minute measurement period, using Fast response.

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

"licensed regulated waste facility" means, if in Queensland, a relevant facility with lawful authority under the *Environmental Protection Act 1994* and *Integrated Planning Act 1997*:

- to receive and dispose of the regulated waste;
- to receive and recycle or reprocess or recondition regulated waste;
- as a transfer station that can receive such waste;
- to receive and store the regulated waste;
- to receive and treat the regulated waste;
- to receive and compost the regulated waste; and
- to receive and incinerate the regulated waste.
- If outside Queensland, a similar place that can lawfully accept and deal with the waste.

"maximum" means that the measured value of the quality characteristic or contaminant must not be greater than the release limit stated.

"median" means the middle value, where half the data are smaller, and half the data are larger. If the number of samples is even, the median is the arithmetic average of the two middle values.

"minimum" means that the measured value of the quality characteristic or contaminant must not be less than the release limit stated.

"noise affected premises" means a "noise sensitive place" or a "commercial place"



"Noise Measurement Manual" means the following document or more recent additions or supplements to that document as such become available: Environmental Protection Agency (2000) Noise Measurement Manual Third Edition, Environmental Protection Agency, Brisbane, Australia.

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

"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.

"noise sensitive place" means:

- a dwelling, mobile home, 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 curtilage of such place.

"odour sensitive place" has the same meaning as a "dust sensitive place"

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

"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.

"range" means that the measured value of the quality characteristic or contaminant must not be greater than the higher release limit stated nor lower than the lower release limit stated.

"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 the place to which this environmental authority relates or the premises to which this development approval relates.

"this authority" means this development approval.

"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 any under groundwater, any part thereof.

"Water Quality Sampling Manual" means the following document or more recent additions or supplements to that document as such become available: Environmental Protection Agency. (1999). *Water Quality Sampling Manual Third Edition*, Environmental Protection Agency, Brisbane, Australia.

"you" means the holder of this Development Approval and owner / occupier of the land which is the subject of this Development Approval and includes any person acting under the Development Approval.

END OF DEFINITIONS



Schedule A5

Coordinator-General's conditions for Environmentally Relevant Activities – Ore slurry pipeline from Marlborough to Gladstone, construction and operation

A5. Conditions for the construction and operation of the Marlborough to Gladstone ore slurry pipeline

These conditions are consistent with those that would normally be applied by Environmental Protection Agency (EPA) under the *Integrated Planning Act 1999*. They are the conditions that must be attached to a development approval for a material change of use for the Project. Pursuant to s.41 of the *State Development and Public Works Organisation Act 1971*, I nominate the EPA as the concurrence agency for the following conditions of development approval.

Project description

Construction and operation of the ore slurry pipeline, from Marlborough to Gladstone, for the Gladstone Nickel Refinery, Gladstone.

Property description

(to be provided)

Reason for including conditions

The conditions are designed to control and limit potential impacts on the land, surface and ground waters, air environment and ecological systems from contaminants and environmental harm that may result from the above environmentally relevant activities. They are consistent with information provided in the EIS and Supplementary Report to the EIS.

The recommendations do not remove the need for Gladstone Pacific Nickel Limited to obtain approvals that may be required under other legislation administered by the Environmental Protection Agency. Approvals or permits for specific activities will be required under the *Environmental Protection Act 1994* and *Nature Conservation Act 1992*.


General

Maintenance of measures, plan and equipment

- G1. The environmental authority holder must:
- (a) install all measures, plant and equipment necessary to ensure compliance with the conditions of this environmental authority and the general environmental duty;
 - (b) maintain such measures, plant and equipment in a proper condition; and
 - (c) operate such measures, plant and equipment in a proper manner.

Storage of hazardous substances

- G2. The holder of the environmental authority must ensure that storage facilities for all hazardous, flammable and combustible liquids:

- 
- (a) are within an onsite containment system;
 - (b) are controlled in a manner that prevents material or serious environmental harm;
 - (c) are maintained in accordance with AS 1940:2004 *Storage and Handling of Flammable and Combustible Liquids*; and
 - (d) are equipped with measures, appropriate to the risks to the surrounding environment, to minimise the risk of spills and ensure early detection of spills.

Monitoring

- G3. All instruments and 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.
- G4. Monitoring of any parameter under any condition of this environmental authority must be a representative sample of the parameter or release and undertaken by an appropriately qualified person.
- G5. The holder of the environmental authority must:
 - (a) develop and implement a monitoring program that will demonstrate compliance with this environmental authority;
 - (b) document the monitoring and inspections carried out and any actions taken; and
 - (c) record, compile and keep all monitoring results required by this environmental authority
 - (d) provide all monitoring results for the preceding twelve months and submit an interpretative analytical report of monitoring with their annual return.

Financial assurance

- G6. Provide a financial assurance in the amount and form required by the administering authority prior to commencement of pipeline activities on pipeline land.

Note: The calculation of financial assurance for condition G6 must be in accordance with EPA Guideline 17 and may include a performance discount. The amount is defined as the maximum total rehabilitation cost for complete rehabilitation of all disturbed areas, which may vary on an annual basis due to progressive rehabilitation. The amount required for the financial assurance must be the highest Total Rehabilitation Cost calculated for any year of the Plan of Operations and calculated using the formula: (Financial Assurance = Highest Total Annual Rehabilitation Cost x Percentage Required).

- G7. The financial assurance is to remain in force until the administering authority is satisfied that no claim on the assurance is likely.

Note: Where progressive rehabilitation is completed and acceptable to the administering authority, progressive reductions to the amount of financial assurance will be applicable where rehabilitation has been completed in accordance with the acceptance criteria defined within this environmental authority.

Definitions

- G8. Words and phrases used throughout this environmental authority are defined in the section "Definitions" of these Conditions (see below). Where a definition for a term used in this EA is sought and the term is not defined within this EA, the definitions in the *Environmental Protection Act 1994*, its Regulations and Environmental Protection Policies must be used.



Notification

- G9. In the event of an emergency or incident, the environmental authority holder must take all reasonable and practical immediate steps to minimise environmental harm not authorised under this environmental authority.
- G10. Within 24 hours of becoming aware of any emergency or incident which results in the release of contaminants or mismanagement of waste not in accordance, or reasonably expected to be not in accordance with the conditions of this authority, the holder must notify the administering authority of the release by telephone, facsimile or electronic mail.
- G11. The notification of emergencies or incidents must include but not be limited to the following:
- (a) the holder of the environmental authority;
 - (b) the location of the emergency or incident;
 - (c) the number of the environmental authority ;
 - (d) the name and telephone number of the designated contact person;
 - (e) the time of the release/mismanagement incident;
 - (f) the time the holder became aware of the release/mismanagement incident;
 - (g) the suspected cause of the release/mismanagement incident;
 - (h) the environmental harm caused, threatened, or suspected to be caused by the release/mismanagement incident; and
 - (i) actions taken to prevent further any release and mitigate any environmental harm caused by the release/mismanagement incident.

Note: Any relevant notification given under Section 320 or Section 350 of the Act that includes the information required by this condition is also an emergency/incident notification under this authority.

- G12. Not more than fourteen (14) days following the initial notification of an emergency or incident, the holder of this authority must provide written advice of the information previously supplied (unless already supplied in writing) and, in addition, the following:
- (a) proposed actions to prevent a recurrence of the emergency or incident; and
 - (b) outcomes of actions taken at the time to prevent or minimise environmental harm and or environmental nuisance.

Exception reporting

- G13. The holder of this environmental authority must notify the administering authority within twenty eight (28) days of completion of analysis of any result of a monitoring program required by a condition of this environmental authority that indicates an exceedence of any limit specified in this approval.
- G14. The written notification must include:
- (a) the full analysis results;
 - (b) details of investigation or corrective actions taken; and
 - (c) any subsequent analysis.

Note: Any relevant notification given under Section 320 or Section 350 of the Act that contains the information specified in this condition is also an exception reporting notification under this authority.



Air

Dust nuisance

- A1. The holder of this environmental authority must ensure that dust or particulate matter or both, resulting from the pipeline activities does not cause an environmental nuisance at any sensitive place or commercial place.
- A2. When requested by the administering authority, dust and particulate monitoring must be undertaken within a reasonable and practicable timeframe nominated by the administering authority to investigate any complaint (which is neither frivolous nor vexatious nor based on mistaken belief in the opinion of the authorised officer) of environmental nuisance at any sensitive place or commercial place, and the results must be notified within 14 days to the administering authority following completion of monitoring.

Water

Erosion and sedimentation

- WA1. All reasonable and practicable erosion protection measures and sediment control measures must be implemented and maintained to minimise erosion and the release of sediment. Reasonable and practicable measures are outlined in "Soil and Erosion Control. Engineering Guidelines for Queensland Construction Sites", June 1996 published by the Institution of Engineers, Australia, Queensland Division, and Australian Pipeline Industry Association - Code of Environmental Practice (APIA Code).
- WA2. Erosion control and sediment control structures must be maintained at all times during the periods of site clearing, construction, operation, decommissioning and any necessary rehabilitation. They must be checked, repaired or replaced as required after each rain event.

Acid sulfate soils

- WA3. The holder of this environmental authority must comply with the latest edition of the Queensland Environmental Protection Agency's INSTRUCTIONS FOR THE TREATMENT AND MANAGEMENT OF ACID SULFATE SOILS, 2001, ("the instructions") must be complied with when treating and managing acid sulphate soils. OR State Planning Policy 2/02: Planning and Managing Development involving Acid Sulfate Soils and the relevant Guideline.
- WA4. Acid sulfate soils must be managed such that contaminants are not directly or indirectly released, as a result of the activity, to any waters or the bed and banks of any waters.

Restoration of water courses

- WA5. The holder of the environmental authority must ensure that bed and banks of water courses disturbed by pipeline activities are stabilised and restored to pre-construction profiles and that flows are not impeded.

Protection of riverine areas

- WA6. The holder of this environmental authority must:
 - (a) minimise disturbance of all other riverine areas; and
 - (b) avoid impeding the flow of water in watercourses by establishing bed level crossings or piped culverts.



Hydrostatic testing

- WA7. When carrying out hydrostatic testing activities, the holder of this environmental authority must take all reasonable and practicable measures to prevent or minimise the likelihood of environmental harm being caused including the following:
- (a) Hydrostatic testing water must be discharged in such a way as to prevent runoff to any waters or the bed and banks of any waters or to drainage lines.
 - (b) Hydrostatic testing water discharged to land must be discharged in such a way as to prevent flooding or erosion, damage to soil or vegetation, and adverse effects to surface or groundwater quality.
 - (c) Pipe sections crossing over or under water bodies must be hydrostatically tested prior to installation.
 - (d) Biocides used in hydrostatic testing water, where required, must be biodegradable. Where biocides are required, discharge water must be aerated.
 - (e) Except where the hydrostatic testing water source and water quality is known and documented, and no chemicals have been added, water quality testing must be carried out on the water to ensure acceptability for discharge. Applicable criteria are for irrigation and general use; Australian and New Zealand Guidelines for Fresh and Marine Water Quality (ANZECC and ARMCANZ) Volume 1: Chapter 4.3 and Volume 3: Chapter 9.3.

Noise

- N1. The holder of the environmental authority must ensure that pipeline activities do not cause environmental nuisance at any sensitive or commercial place.
- N2. When requested by the administering authority, noise monitoring must be undertaken within a reasonable and practicable timeframe, nominated by the administering authority, to investigate any complaint (which is neither frivolous nor vexatious nor based on mistaken belief in the opinion of the authorised officer) of environmental nuisance at any sensitive or commercial place, and the results must be notified within 14 days to the administering authority following completion of monitoring.
- N3. The method of measuring and reporting of noise levels must be in accordance with the most recent edition of the Environmental Protection Agency's Noise Measurement Manual.
- N4. If monitoring in accordance with N2 indicates that noise emitted from the pipeline activities exceed the noise levels specified in the table below at any sensitive or commercial place, then the holder of the environmental authority must:
- (a) address the complaint, including the use of appropriate dispute resolution if required; and
 - (b) immediately implement noise abatement measures so that noise emissions from the activity do not result in further environmental nuisance.



Time period	Noise level at a <i>sensitive</i> place measured as $L_{A1, 15min}$	Noise level at a <i>sensitive</i> place measured as $L_{Aeq, 15 min}$
7am– 6 pm	50dB(A)	45dB(A)
6pm–10pm	45 dB(A)	40 dB(A)
10pm–7am	40 dB(A)	35dB(A)
Time period	Noise level at a <i>commercial</i> place measured as $L_{A1, 15min}$	Noise level at a <i>commercial</i> place measured as $L_{Aeq, 15 min}$
7am –6 pm	55 dB(A)	50 dB(A)
6pm–10pm	50 dB(A)	45 dB(A)
10pm–7am	45 dB(A)	40 dB(A)

Explosive blasting nuisance

- N5. Explosive blasting for the ERA must not cause a nuisance at any sensitive place.
- N6. Explosive blasting on the site shall be carried out within the times specified in the following table unless otherwise approved from time to time by the administering authority due to meteorological conditions.
- N7. Every explosive blast for the ERA shall be designed by a suitably qualified person to achieve the criteria specified in the following table.

Explosive blasting monitoring

- N8. Noise monitoring must be undertaken for explosive blasting. For the purposes of this condition monitoring must be done by a competent person in accordance with Australian Standard 2187.2 – *Explosives Storage, Transport and Use - Part 2 Use of Explosives*, and include:
- (a) peak particle velocity (mm/s);
 - (b) air blast overpressure level (dB linear peak);
 - (c) location of the blasting within the site;
 - (d) atmospheric conditions including temperature, relative humidity, wind speed and direction;
 - (e) affects due to extraneous factors; and
 - (f) location, date and time of measurements.
- N9. Noise from blasting shall be measured using noise measurement equipment with a lower limiting frequency of 2Hz (- 3dB response point of the measurement system) and a detector onset time of not greater than 100 microseconds as assessed in accordance with AS –1259.1 clauses 8.5 and 10.4.
- N10. Vibration instrumentation must be capable of measurement over the range 0.1mms-1 to 300mms-1 with an accuracy within 5 percent and have a frequency response flat to within 5 percent over the frequency range of 4.5Hz to 250Hz.
- N11. All relevant information pertaining to the design of every explosive blast for the ERA in relation to the criteria specified in Table 3 shall be kept in written and diagrammatic form.



Explosive blast design criteria and time limits *

	Vibration measured at a 'sensitive place'	
	Monday to Friday 9am – 5.30pm Saturday 9am – 5.30pm	Other times and public holidays
Vibration (peak particle velocity)	5 mm/s for 9 out of 10 consecutive blasts and must not exceed 10mm/s for any blast	No blasting to occur
Air blast overpressure level (dB linear peak)	115dB(linear) peak for 9 out of 10 consecutive blasts and must not exceed 120dB(linear) peak for any blast	No blasting to occur

* The Table does not purport to set limits applicable to any particular explosive blast, rather sets design criteria for every explosive blast.

Waste

- W1. The holder of the environmental authority must:
- (a) ensure that pipeline activities do not result in the release or likely release of a hazardous contaminant to land or waters that results in material or serious environmental harm unless the release is explicitly authorised under the *Environmental Protection Act 1994*; and
 - (b) as soon as practicable, remove and dispose of all regulated waste to a licensed waste disposal facility or recycling facility.
- W2. All regulated waste removed from the site must be removed by a person who holds a current authority to transport such waste under the provisions of the *Environmental Protection Act 1994* and sent to a facility licensed to accept such waste.
- W3. When regulated waste is removed from within the boundary of the environmental authority and transported by the holder of this environmental authority, a record must be kept of the following:
- (a) date of waste transport;
 - (b) quantity of waste removed and transported;
 - (c) type of waste removed and transported;
 - (d) route selected for transport of waste;
 - (e) quantity of waste delivered; and
 - (f) any incidents (e.g. spillage) that may have occurred on route.

Land

Land management

- L1. The holder of this environmental authority must:
- (a) minimise disturbance to land in order to prevent land degradation; and
 - (b) ensure that for land that is to be significantly disturbed by the pipeline activities that the top layer of the soil profile is removed and:
 - (i) stockpiled in a manner that will preserve its biological and chemical properties, and
 - (ii) used for rehabilitation purposes.



Contaminant release to land


- L2. Contaminants, resulting from the pipeline activities, must not be released to land.
- L3. Notwithstanding the other conditions of this environmental authority, if a hazardous contaminant is released to water or land, the holder of the environmental authority must:
 - (a) take immediate action to prevent any further release;
 - (b) take immediate action to contain the hazardous contaminant to the affected area, taking particular care to protect environmentally sensitive areas;
 - (c) restore or rehabilitate the environment to its condition before the release occurred;
 - (d) take necessary action to prevent recurrence of the release; and
 - (e) Immediately notify the administering authority.

Pipeline spill prevention and response

- L4. Notwithstanding other conditions in this environmental authority; from commencement of an activity to which this authority relates, a Spill Prevention and Response Plan must be implemented for the operation of the ore slurry pipeline. The Plan should include relevant measures as outlined in the "*Australian Pipeline Industry Association Ltd. Code of Environmental Practice – Onshore Pipelines*". In addition, the Plan must include but not be limited to the following:
 - (a) control measures for routine operations to minimise likelihood of environmental harm;
 - (b) contingency plans and emergency procedures for non-routine situations;
 - (c) operating procedures to minimise the risk of pipeline failure including operating communication protocols;
 - (d) location, operation and measurement criteria for pipeline monitoring and detection systems to minimise the risk of spills (including flow and pressure sensors to detect leakage and over-pressure respectively);
 - (e) location and specifications of any pipeline protective measures and safety devices (such as rupture discs or relief valves) and management of spills at these locations;
 - (f) pipeline design features aimed at limiting the volume of material released from any spill, with particular emphasis on sensitive areas;
 - (g) spill emergency notification and reporting procedures;
 - (h) shutdown and other measures required to halt the spill, and criteria to be met for restarting pipeline operations following a spill;
 - (i) spill containment procedures to minimise likelihood of environmental harm;
 - (j) cleanup and rehabilitation for areas affected by a spill including disposal of contaminated soil;
 - (k) spill incident investigation including assessment of spill and conducting environmental impact assessments, including groundwater;
 - (l) staff training in pipeline operating procedures for spill prevention and response; and
 - (m) organisational structure and responsibility.

Biodiversity

- B1. The holder of the environmental authority must:
 - (a) prevent or minimise disturbance to vegetation by pipeline activities;
 - (b) manage the effects of clearing to prevent the loss of biodiversity, reduction of ecological processes and land degradation;


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- (c) consider whether it is feasible to avoid clearing and, where viable alternatives exist, must not clear vegetation:
 - (i) in or within 50 metres of the high bank of a watercourse;
 - (ii) in or within 50 metres of the static high water mark of wetlands, lakes or springs;
 - (iii) in a way that isolates clumps or dissects corridors of vegetation;
 - (iv) on slopes greater than 5%;
 - (v) on dispersible soils; and
 - (vi) in existing or potential groundwater discharge areas.
 - (d) implement, where applicable, the following management plans presented in the project EIS:
 - (i) weed management plan;
 - (ii) pest management plan;
 - (iii) special area plan - wetland habitat area (Capricorn yellow chat); and
 - (iv) special area plan - black iron box.

Wetlands management

- B2. The holder of this environmental authority must:
- (a) avoid construction in wetlands whenever feasible and practical;
 - (b) restrict construction activity to between May and September where it is not feasible or practical to avoid construction in wetlands; and
 - (c) ensure that freshwater pools are not drained due to pipeline construction.

Management of Yellow Chat habitat

- B3. The holder of this environmental authority must retain potential and known yellow chat habitat by adoption of the following measures:
- (a) Undertake additional surveys for Yellow Chats during the detailed design phase to further map potential habitat and assist in pipeline route refinement.
 - (b) Establish and clearly mark buffer areas in the field and on construction drawings.
 - (c) Carry out construction through the wetland area in the dry season (usually from June to August), when the extent of the wetlands will be minimal and to reduce the likelihood of disturbing breeding birds.
 - (d) Minimise clearing and disturbance in riparian areas and wetland/waterbody areas between KP101-140 to that necessary to safely construct the pipelines and meet other environmental requirements (e.g. separation of stockpiles, erosion control).
 - (e) Schedule construction activities to limit the duration of construction through the area.
 - (f) Align the pipeline route to avoid areas of ponded water as far as possible, especially on watercourses and drainage lines upstream of habitat areas.
 - (g) Where disturbance to wetland vegetation is unavoidable, confine disturbance to the upper reaches of the wetland.
 - (h) Complete geotechnical studies on 12 Mile, Raglan and Inkerman Creeks prior to the selection of the crossing method. Where HDD is selected, the crossing will be designed to ensure that the drilling does not adversely impact on aquifer persistence or hydrology.
 - (i) Establish Soil and vegetation stockpiles with regular breaks to limit any disturbance to overland water flow.
 - (j) There will be no drawing of water from dams/impoundments within this area.

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- (k) Revegetate disturbed wetland soils with native macrophytes sourced from topsoil of disturbed wetland or seed sources from adjacent undisturbed wetland areas.

Social

Complaints

- S1. The holder of the environmental authority must:
- (a) maintain a record of complaints and incidents causing environmental harm, and actions taken in response to the complaint or incident;
 - (b) retain the record of complaints required by this conditions for five years;
 - (c) establish a regular program of monitoring and inspections of the pipeline activities; and
 - (d) document the monitoring and inspections carried out under the program and any actions taken.
 - (e) Provide these records to the administering authority when requested.

Definitions

“acceptance criteria” means the measures by which the actions implemented to rehabilitate the land are deemed to be complete. The acceptance criteria indicate the success of the rehabilitation outcome or remediation of areas which have been significantly been disturbed by the mining activities. Acceptance criteria may include information regarding:

- vegetation establishment, survival and succession;
- vegetation productivity, sustained growth and structure development;
- fauna colonisation and habitat development;
- ecosystem processes such as soil development and nutrient cycling, and the recolonisation of specific fauna groups such as collembola, mites and termites which are involved in these processes;
- microbiological studies including recolonisation by mycorrhizal fungi, microbial biomass and respiration;
- effects of various establishment treatments such as deep ripping, topsoil handling, seeding and fertiliser application on vegetation growth and development;
- resilience of vegetation to disease, insect attack, drought and fire;
- vegetation water use and effects on ground water levels and catchment yields.

“administering authority” means the Environmental Protection Agency or its successor.

“ambient (or total) noise” at a place, means the level of noise at the place from all sources (near and far), measured as the Leq for an appropriate time interval.

“APIA Code” – means the current Australian Pipeline Industry Association - Code of Environmental Practice.

“background noise level” means LA90, T, being the A-weighted sound pressure level exceeded for 90 percent of the time period measured in the absence of the noise under investigation during a representative time period of not less than 15 minutes, using Fast response.

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

“competent person” means a person or body possessing demonstrated experience and qualifications to perform these tasks.

“authority” means environmental authority (mining activities) under the *Environmental Protection Act 1994*.

“dam” means a containment or proposed containment whether permanent or temporary, which is designed to contain, divert or control flowable substances. However this does not include a fabricated or manufactured tank or container designed to a recognised standard.



“dispersible soils” are soils in which clay material disintegrates into particles less than 2 microns when submerged in distilled water for 12 hours.

“environmental authority holder” means the holder of this environmental authority.

“environmentally sensitive areas” (as determined from the EPA GIS data base) means a location, however large or small, that have environmental values that contribute to maintaining biological diversity and integrity, have intrinsic or attributed scientific, historical or cultural heritage value, or are important in providing amenity, harmony or sense of community.

“hazardous contaminant” means a contaminant that, if improperly treated, stored, disposed of or otherwise managed, is likely to cause serious or material environmental harm because of–

- (a) its quantity, concentration, acute or chronic toxic effects, carcinogenicity, teratogenicity, mutagenicity, corrosiveness, explosiveness, radioactivity or flammability; or
- (b) its physical, chemical or infectious characteristics.

“hazardous waste” means any substance, whether liquid, solid or gaseous, derived by or resulting from, the processing of minerals that tends to destroy life or impair or endanger health.

“ $L_{Aeq, 15min}$ ” means the value of the A-weighted sound pressure level, of a continuous steady sound obtained by using Fast response that within any 15 minute period, has the same mean-square sound pressure as a sound under consideration whose level varies with time.

“ $L_{A1, 15 mins}$ ” means the A-weighted sound pressure level, exceeded for 1% of any 15 minute measurement period, using Fast response

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

“land capability” as defined in the DME 1995 Technical Guidelines for the Environmental Management of Exploration and Mining in Queensland.

“land degradation” includes the following:

- (a) soil erosion;
- (b) rising water tables;
- (c) the expression of salinity;
- (d) mass movement by gravity of soil or rock;
- (e) stream bank instability; and
- (f) a process that results in declining water quality.

“land suitability” as defined in the DME 1995 Technical Guidelines for the Environmental Management of Exploration and Mining in Queensland.

“land use” term to describe the selected post mining use of the land, which is planned to occur after the cessation of mining operations.

“licensed waste disposal facility” is a facility approved under a development approval and operated by a holder of a registration certificate for environmentally relevant activity item number 75 under Schedule 1 of the *Environmental Protection Regulation 1998*.

“non-standard” means a mining operation that if in the opinion of the administering authority does not have a low risk of serious environmental harm and the activities can not comply with the criteria for standard mining activities prescribed in schedule 1A of the *Environmental Protection Regulation 1998*. The standard mining activity trigger criteria are as follows;

- the mining activities do not or will not cause more than 10 ha of land to be significantly disturbed at any one time;
- the mining activities do not or will not cause more than 5 ha of land to be significantly disturbed at any one time;
 - (a) in a riverine area;
 - (b) because of mine workings;



- the mining activities are not or will not be carried out in, or within 2 km of a category A Environmentally Sensitive Area;
- the mining activities are not or will not be carried out in, or within 1 km of a category B environmentally sensitive area;
- the mining activities do not include a level 1 environmentally relevant activity;
- no more than 20 persons are carrying out or will, at any one time, carry out the mining activities.

“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.

“progressive rehabilitation” means rehabilitation (defined below) undertaken progressively or a staged approach to rehabilitation as mining operations are ongoing.

“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.

“rehabilitation” the process of reshaping and revegetating land to restore it to a stable landform and in accordance with the acceptance criteria set out in this environmental authority and, where relevant, includes remediation of contaminated land.

“release” of a contaminant into the environment, includes –

- (a) to deposit, discharge, emit or disturb the contaminant; and
- (b) to cause or allow the contaminant to be deposited, discharged, emitted or disturbed; and
- (c) to fail to prevent the contaminant from being deposited, discharged, emitted or disturbed;
- (d) to allow the contaminant to escape; and
- (e) to fail to prevent the contaminant from escaping.

“representative” means a sample set which covers the variance in monitoring or other data either due to natural changes or operational phases of the mining activities.

“riverine area” refers to the land confined to the flood flow channel of a watercourse.

“self sustaining” means an area of land which has been rehabilitated and has maintained the required acceptance criteria without human intervention for a period nominated by the administering authority.

“sensitive place” means;

- a dwelling, residential allotment, mobile home or caravan park, residential marina or other residential premises; or
- a motel, hotel or hostel; or
- an educational institution; or
- a medical center 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 park or gardens.

“site” means the place to which this environmental authority relates.

“significant disturbance” – includes land

- (a) if it is contaminated land; or
- (b) it has been disturbed and human intervention is needed to rehabilitate it.
 - (i) to a state required under the relevant environmental authority; or
 - (ii) if the environmental authority does not require the land to be rehabilitated to a particular state – to its state immediately before the disturbance.

Some examples of disturbed land include:



- areas where soil has been compacted, removed, covered, exposed or stockpiled;
- areas where vegetation has been removed or destroyed to an extent where the land has been made susceptible to erosion; (vegetation & topsoil);
- areas where land use suitability or capability has been diminished;
- areas within a watercourse, waterway, wetland or lake where mining activities occur;
- areas submerged by tailings or hazardous contaminant storage and dam walls in all cases;
- areas under temporary infrastructure. Temporary infrastructure includes any infrastructure (roads, tracks, bridges, culverts, dams, bores, buildings, fixed machinery, hardstand areas, airstrips, helipads etc) which is to be removed after mining activities have ceased; or
- areas where land has been contaminated and a suitability statement has not been issued.

However, the following areas are not included:

- areas off lease (e.g. roads or tracks which provide access to the mining lease);
- areas previously significantly disturbed which have achieved the rehabilitation outcomes;
- by agreement with the EPA, areas previously significantly disturbed which have not achieved the rehabilitation objective(s) due to circumstances beyond the control of the mine operator (such as climatic conditions);
- areas under permanent infrastructure. Permanent infrastructure includes any infrastructure (roads, tracks, bridges, culverts, dams, bores, buildings, fixed machinery, hardstand areas, airstrips, helipads etc.) which is to be left by agreement with the landowner. The agreement to leave permanent infrastructure must be recorded in the Landowner Agreement and lodged with the EPA;
- disturbances that pre-existed the grant of the tenure unless those areas are disturbed during the term of the tenure.

“spillway” means passage or outlet from the dam through which surplus water flows.

“stable” means geotechnical stability of the rehabilitated landform where instability related to the excessive settlement and subsidence caused by consolidation / settlement of the wastes deposited, and sliding / slumping instability has ceased.

“trivial harm” means environmental harm which is not material or serious environmental harm and will not cause actual or potential loss or damage to property of an amount of, or amounts totalling more than \$5,000.

"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 any under groundwater, any part thereof.

END OF DEFINITIONS

Schedule B

Coordinator-General's recommendations to Gladstone Ports Corporation Limited regarding approval conditions for Project works on Strategic Port Land

Conditions and recommendations pursuant to sections 39 and 52 of the *State Development and Public Works Organisation Act 1971* (SDPWO Act).

Conditions recommended by the Coordinator-General (CG) to be attached to the development approval.

Gladstone Ports Corporation Limited (GPCL) will be the Assessment Manager for approvals required on Strategic Port Land.

Conditions

Acid sulfate soils

Condition 5.1

- (a) A site specific acid sulfate soils (ASS) Management Plan must be developed to meet standards acceptable to the Department of Natural Resources and Water prior to any disturbance occurring onsite.
- (b) The ASS Management Plan must be developed by consultants experienced in large-scale development projects containing ASS and include a commitment to be onsite during excavation and treatment activities.
- (c) The ASS management plan will include verification testing of potential or actual ASS post-liming and prior to re-burial.

In nominate the Environmental Protection Agency as the responsible authority for this recommendation.

Other pipeline site matters

Condition 10.1

GPNL must prepare a Weed Management Plan for each pipeline in consultation with the relevant weed management officers of the Department of Primary Industries and Fisheries and the Gladstone Regional Council or Rockhampton Regional Council.

Condition 10.2

- (a) GPNL must consult with Queensland Rail and Powerlink on the design parameters for pipeline rail crossing under-boring and crossing of high voltage power line corridors,
- (b) GPNL must implement the measures agreed by Queensland Rail and Powerlink to ensure safe and effective preservation of the integrity of rail infrastructure and the cathodic protection of each pipeline.

Environmental Management Plans

Condition 12.1

GPNL must undertake construction in accordance with a Construction Environmental Management Plan (CEMP) approved to the satisfaction of the Environmental Protection Agency (EPA).



Condition 12.2

GPNL must undertake operation in accordance with a Operations Environmental Management Plan (OEMP) approved to the satisfaction of the Environmental Protection Agency (EPA).

Recommendations

Flora and fauna impacts

Recommendation 4.5

During the detailed design phase and prior to construction of the ore slurry and residue pipelines, the proponent will apply for a permit under section 3.2.1 of the *Integrated Planning Act 1997* for operational works (clearing native vegetation made assessable under IPA Schedule 8). This will ensure that the purposes of the *Vegetation Management Act 1999* are met. Such an application would be assessed against Part S of the *Regional Management Code for Brigalow Belt and New England Tablelands Bioregions*. This application will be accompanied by a detailed analysis of how the proposed clearing will meet the performance requirements of the relevant regional management codes. It will also include a detailed spatial plan of the proposed clearing application area and details on the method of clearing.

Recommendation 4.6

- (a) Development approvals must be obtained for any marine plant disturbance and temporary waterway barriers required for construction of the pipeline prior to construction.
- (b) All waterway crossings are to be designed in line with the DPI&F policy '*FHG 001 Fish Passage in Streams; Fisheries Guidelines for Design of Stream Crossings*' (1998).
- (c) DPI&F will undertake detail assessment of the applications in (a) to ensure waterway crossing techniques are appropriate to individual sites and all impacts are justified and minimised.

Schedule C1

Coordinator-General's conditions and recommendations for the nickel refinery, including the materials infrastructure, within the Gladstone State Development Area

Conditions and recommendations pursuant to sections 39 and 52 of the *State Development and Public Works Organisation Act 1971* (SDPWO Act).

Conditions provided by the Coordinator-General (CG) to be attached to the development approval.

As Coordinator-General, I will be the Assessment Manager for all development approvals required for Gladstone Nickel Project (GNP) components located within the Gladstone State Development Area (GSDA).


Conditions

Performance criteria for progression to Stage 2

Condition 1.1

- (a) A *Stage 1 Performance Report* must be submitted to the Coordinator General and the EPA. The *Stage 1 Performance Report* must be supported by at least twelve months of data describing the operational performance of the GNP with respect to:
 - (i) the air and water emissions from the Project and the monitoring measurements of the fate of those emissions in the surrounding environment and
 - (ii) residue leachate releases to groundwater and surface waters at the Residue Storage Facility (RSF).
- (b) The *Stage 1 Performance Report* cannot be submitted until data is available for at least twelve months of operations of Stage 1 of the GNP at more than 80% of the Stage 1 nickel metal output capacity of 63,000 tonnes per annum.
- (c) The parameters to be included in the *Stage 1 Performance Report* must be set by EPA in consultation with GPNL within twelve months of the date of this Report and reported to the Coordinator-General and should include:
 - (i) concentrations in solution of the constituents specified in Table 3 of Section 4.2 of this Report in Port Curtis in both the near-field discharge plume and far-field environments (at sampling locations agreed with EPA)
 - (ii) concentrations in solution and in marine sediments of heavy metals (specified by EPA) in Port Curtis in both the near-field and far-field environments (at sampling locations agreed by EPA)
 - (iii) temperature and pH of the marine discharge plume in the near-field environment
 - (iv) monthly dust deposition and nickel, cobalt, chromium and total metals concentration in dust deposition measured near to the south-east boundary of the refinery site
 - (v) hourly and daily average total suspended particulates (TSP), air particulates with a diameter less than ten micrometres (PM₁₀), measured near to the south-east boundary of the refinery site

- (vi) hourly and daily average air sulphur dioxide (SO₂), oxides of nitrogen (NO_x) and hydrogen sulphide (H₂S) measured near to the south-east boundary of the refinery site, compared to the predictions provided during the Environmental Impact Statement (EIS) process using the Gladstone Airshed Modelling System (GAMS)
 - (vii) hourly and daily average air SO₂ and NO_x measured at the EPA monitoring station at Clinton compared to the GAMS predictions provided in the EIS documents
 - (viii) permeability of the dewatered residue
 - (ix) groundwater levels around and down gradient of the RSF at sites agreed by EPA (in consultation with the Department of Natural Resources and Water) and
 - (x) for residue leachate at the RSF, and surface and groundwater at the RSF (at monitoring sites agreed with EPA): pH, electrical conductivity, total dissolved solids (TDS), dissolved metals (arsenic, cadmium, chromium, cobalt, copper, iron, lead, manganese, mercury, nickel, and zinc) and the major ions (sodium, magnesium, calcium, potassium, chloride, sulphate, fluoride and bicarbonate).
- (d) The Stage 1 Performance Report must be accompanied by the following items specified in Schedule A2 of this Report:
- (i) reports generated as part of the Air Emission Verification Study required by Condition B28 of (sub)Schedule B (of Schedule A2)
 - (ii) the Diffuser Validation Report specified in Condition C22 of (sub)Schedule C
 - (iii) reports generated by Direct Toxicity Assessments undertaken in accordance with Conditions C23 – C30 of (sub)Schedule C
 - (iv) reports generated in accordance with the Near-Field Receiving Environment Monitoring Program specified in Conditions C32 – C34 of (sub)Schedule C
 - (v) reports generated in accordance with the Far-Field Receiving Environment Monitoring Program specified in Conditions C35 – C37 of (sub)Schedule C
 - (vi) the Containment and Release Reduction Report specified in Condition C40 of (sub)Schedule C and
 - (vii) a summary of the main findings of the reports in (i) to (vi).
- (e) The benchmarks to be achieved for each parameter in the *Stage 1 Performance Report* must be set by EPA in consultation with GPNL within twelve months of the date of this Report and should generally not exceed the predicted values, resulting from the operation of the GNP, as provided by the Proponent in the EIS documentation by more than 30%, unless they represent an insignificant impact to the environment.
- (f) Subject to the *Stage 1 Performance Report* demonstrating the achievement of benchmarks in accordance with Condition 1.1(e), and without changing the application of section 35A of the SDPWO Act, the operating conditions for Stage 2 of the GNP as set out in this Report, unless otherwise altered under Division 3A of Part 4 of the SDPWO Act, will not change for at least ten years from the date of commencement of mechanical construction of Stage 1 of the refinery at Yarwun.
- (g) If the *Stage 1 Performance Report* demonstrates that any of the performance benchmarks have not been achieved in accordance with Condition 1.1(e), then EPA may alter the relevant emission conditions in Appendices F and G of this Coordinator-General's Assessment Report so that the required benchmark performance for those parameters can be met.
- (h) If EPA sets new emission conditions in accordance with Condition 1.1(g), then GPNL has six months from the date that it receives written notification of an amended condition to comply with that amendment.

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- (i) The Coordinator-General may, upon written application from GPNL, extend the period of compliance with an amended condition required under Condition 1.1(h).
 - (j) To remove any potential uncertainty, Condition 1.1 does not override Condition 8.1, which relates to longevity of storage capacity at the nominated RSF site.

Treated wastewater discharge into Port Curtis

Condition 2.1

- (a) Prior to the completion of detailed design of the nickel refinery for Stage 1 of the Project, GPNL must provide evidence of reasonable endeavour to establish an agreement to undertake pilot testing of GNP and alumina refinery waste co-treatment with an alumina refinery owner in the Gladstone region.
- (b) Subject to the completion of an agreement in accordance with Condition 2.1(a), GPNL must commence the pilot test program described in that agreement within two years of the commencement of operation of the nickel refinery.
- (c) Subject to the successful technical completion of the pilot test program described in Condition 2.1(b), GPNL must, within one year of that completion, provide evidence of its reasonable endeavour to establish an agreement to undertake an ongoing operational-scale alumina refinery and GNP waste co-treatment program with that alumina refinery owner. Such a program could apply to Stage 1 and/or Stage 2 of the GNP.
- (d) Subject to the completion of an agreement in accordance with Condition 2.1(c), GPNL must commence the co-treatment program described in that agreement within two years, if the co-treatment program is applied to Stage 1 of the nickel refinery, or at the commencement of operation of Stage 2 of the nickel refinery, if the co-treatment program is applied only to Stage 2.

Road impacts

Condition 7.1

Any future approvals issued by relevant agencies for the supply of limestone to the GNP refinery should not allow road transport of the limestone.

Condition 7.3

Haulage of ammonium sulphate (amsul) to Barney Point Wharf must be restricted to twelve hours per day, six days per week, nominally between 6 am and 6 pm Monday to Saturday, unless otherwise agreed between GPNL and the Gladstone Regional Council.

Condition 7.4

GPNL must provide DMR a contribution equivalent to 26% of the cost of upgrading the Hanson Rd – Reid Rd intersection to a single-circulating lane roundabout standard, in accordance with DMR's 'Road Planning and Design Manual' before commencement of construction of the GNP.

Condition 7.5

GPNL must provide DMR a contribution equivalent to 42% of the cost of upgrading the Hanson Road – Blain Drive – Alf O'Rourke Drive intersection to a dual circulating lane roundabout standard, in accordance with DMR's 'Road Planning and Design Manual' before commencement of construction of the GNP.

Condition 7.6

GPNL must provide DMR a contribution equivalent to a maximum of 18% of the cost of upgrading the Dawson Highway – Blain Drive – Herberton Street to a signalised dual-circulating lane roundabout standard, in accordance with DMR's 'Road Planning and Design Manual' before commencement of construction of the GNP. The exact contribution will be negotiated between GPNL and DMR prior to the commencement of any construction.

Condition 7.10

Prior to commencement of any construction works on the Project, GPNL must:

- (a) finalise the 'Pavement Impact Assessment' (PIA) in accordance with the Department of Main Roads' (DMR's) '*Guidelines for Assessment of Road Impacts of Development*' and
- (b) pay DMR the contribution to mitigate pavement impacts identified in the PIA.

Condition 7.11

Prior to commencement of any construction works on the Project, GPNL must:

- (a) prepare a 'Road Use Management Plan' (RMP) and a 'Road Impact Assessment' (RIA) for all use of state-controlled roads for each phase of construction of the Project that considers the standard of the road network, access conditions, hours of operation, dust control and safety, in accordance with the current requirements of the Department of Main Roads (DMR) and
- (b) submit the RMP and RIA for approval by the Manager of DMR's Central District Office.

Condition 7.13

Prior to commencement of any construction works on the Project, GPNL must:

- (a) prepare a 'Road Use Management Plan' (RMP) and a 'Road Impact Assessment' (RIA) for all use of local roads for both the Rockhampton and Gladstone Regional Councils for each phase of construction of the Project that considers the standard of the local road network, access conditions, hours of operation, dust control and safety, in accordance with the current standards and policies of the relevant local government
- (b) submit the RMP and RIA for approval by the relevant local government and
- (c) upon completion of each phase of construction involving permanent works within a road corridor, submit 'as constructed plans' to the relevant local government.

Other refinery site matters

Condition 9.1

GPNL must obtain approval from Powerlink and enter into a contract with Powerlink for the re-siting of all high-voltage transmission lines that currently traverse the refinery site.

Condition 9.2

GPNL must consult with Gladstone Regional Council during the detailed design phase regarding the design of the drainage and stormwater management systems. A management plan should be prepared and submitted to Council detailing the design, construction and operational measures that will be put in place to prevent ponding of water that could form a breeding ground for mosquitoes and other biting insects.

Condition 9.3

The mitigation measures in Section 10.13.10 of the EIS aimed at screening of the plant from Hanson Road must be fully implemented within twelve months of commencement of operation of the refinery.

Condition 9.4

- (a) GPNL must prepare a Waste Management Plan for the construction and operation of the Project, and this plan must be submitted to the Gladstone Regional Council for review prior to the commencement of construction.
- (b) The Waste Management Plan must document the intended use of the Gladstone Regional Council waste facilities.

Condition 9.6

- (a) GPNL must undertake a cumulative risk assessment of the potential PAM facility at Fisherman's Landing in full consultation with all of the existing and proposed relevant users of the Fisherman's Landing facility, including, but not limited to the entities listed in 4.9.5 of this Report.
- (b) The methodology to be followed for the risk assessment is to be agreed by Gladstone Ports Corporation Limited, the CHEM Unit of the Department of Emergency Services, and the Department of Infrastructure and Planning.

Other pipeline site matters

Condition 10.2

- (a) GPNL must consult with Queensland Rail and Powerlink on the design parameters for pipeline rail crossing under-boring and crossing of high voltage power line corridors.
- (b) GPNL must implement the measures agreed by Queensland Rail and Powerlink to ensure safe and effective preservation of the integrity of rail infrastructure and the cathodic protection of each pipeline.

Socio-economic impacts

Condition 11.1

- (a) Prior to the commencement of each phase of construction of Stage 1 and 2 of the Project, GPNL must ensure the provision of specialist accommodation within the Gladstone Region local government area for at least 75% of the GNP construction workforce with a permanent place of residence outside of the Gladstone Region, and engaged in Project construction activities within the Gladstone Region.
- (b) Within 18 months of commencement of operation of the nickel refinery, GPNL must present a report to the Coordinator-General, the Department of Housing and the Gladstone Regional Council which both reviews the outcomes of its Stage 1 construction worker accommodation strategy and makes recommendations about improvements to that strategy that it commits to adopt for construction of Stage 2 of the Project, unless otherwise directed by the Coordinator-General.

Condition 11.2

All construction worker accommodation provided for the Gladstone Nickel Project must comply with the '*Queensland Development Code Part MP 3.3, Temporary Accommodation Buildings and Structures*' (2008 draft until the code is finalised).

Condition 11.3

- (a) Any development application submitted to the Gladstone Regional Council for a construction worker accommodation village to be used by GPNL must be accompanied by a 'Road Use Management Plan' (RMP) and a 'Road Impact Assessment' (RIA) (to ensure that traffic generated by the proposed workers village is investigated and the traffic impacts resulting from the village mitigated to the satisfaction of Council for all local roads and the Department of Main Roads for all state-controlled roads that will be directly affected by the construction and operation of the village and the transport of workers resident there to GNP construction sites.
- (b) The RMP and RIA must be submitted prior to the commencement of construction of the refinery and should conform with the current requirements of DMR.
- (c) The RMP and RIA must consider the standard of the road network, access conditions, hours of operation, dust control, noise and safety for each phase of construction, in accordance with the current requirements of DMR and the current standards and policies of the Gladstone Regional Council.

Condition 11.4

GPNL must provide bus transportation services for the movement of the majority of its construction workforce resident in any temporary worker accommodation village to and from Project construction sites.

Environmental Management Plans

Condition 12.1

GPNL must undertake construction in accordance with a Construction Environmental Management Plan (CEMP) approved to the satisfaction of the Environmental Protection Agency (EPA).

Condition 12.2

GPNL must undertake operation in accordance with a Operations Environmental Management Plan (OEMP) approved to the satisfaction of the Environmental Protection Agency (EPA).

Recommendations

Flora and fauna impacts

Recommendation 4.1

- (a) Prior to construction of the refinery, GPNL will apply for a permit to the Department of Natural Resources and Water under section 3.2.1 of the *Integrated Planning Act 1997* for operational works (clearing vegetation assessable under IPA Schedule 8) to ensure that the requirements of the *Vegetation Management Act 1999* are met.
- (b) The application described in (a) is to be accompanied by a detailed spatial plan of the proposed clearing application area, details on the method of clearing, and a detailed analysis of how the proposed clearing will meet the performance requirements of Part S of the '*Regional Vegetation Management Code for the Brigalow Belt and New England Tablelands Bioregion*' (NRW, 20 November 2006).
- (c) If clearing of more than two hectares of remnant vegetation is required for the acid pipeline, seawater intake and discharge pipelines, or the preassembled module (PAM) corridor components of the GNP, then (a) and (b) will also apply to those Project components.

Recommendation 4.2


- (a) Following the detailed design phase and prior to construction of the refinery, GPNL will apply for approvals to the Department of Primary Industries and Fisheries for any marine plant disturbance and temporary waterway barriers required for construction of the refinery.
- (b) If disturbance to more than threshold areas of marine plants are required for the acid pipeline, seawater intake and discharge pipelines, or the preassembled module (PAM) corridor components of the GNP, then (a) will also apply to those Project components.

Road impacts

Recommendation 7.2

GPNL must:

- (a) consult with GRC regarding haulage hours in consultation with GPNL. I have incorporated these requirements into Condition 7.3 to be attached to the MCU approval for the refinery
- (b) relocate its amsul export operation from Barney Point to Fisherman's Landing as soon as suitable facilities can be established there following the completion of GPCL's currently proposed Fisherman's Landing expansion. While this could coincide with a commitment



by GPNL to Stage 2 of the GNP, there are too many external contingencies to mandate in this Report the precise timing of such a transfer of amsul facilities.

Recommendation 7.9

- (a) GPNL must consult with DMR Central District office as early as possible in the detailed design stage of the GNP to:
 - (i) establish DMR's specific requirements for all linear infrastructure crossings of Hanson Rd and
 - (ii) obtain all necessary approvals under section 50 of the *Transport Infrastructure Act 1994* to carry out works on state-controlled roads, which involves certification of the designs of all structures by a registered professional engineer, and provision of a Road Use Management Plan (RMP) for the proposed conduct of the works.
- (b) Prior to the commencement of use of any item of linear infrastructure that crosses Hanson Road, GPNL must provide DMR with 'as constructed' plans of that item.

Recommendation 7.12

Prior to commencement of any construction works on the Project, GPNL must, for construction involving permanent works within a state-controlled road reserve, obtain prior approval to undertake those works in accordance with section 50 of the *Transport Infrastructure Act 1994*, and upon completion of each phase of construction, submit 'as constructed plans' to the Central District Office of DMR.

Other refinery site matters

Recommendation 9.5

- (a) GPNL must consult with all relevant entities listed in Section 4.9.5 of this Report as early as possible in the detailed design stage for the preassembled module (PAM) corridor to:
 - (i) establish each entity's specific requirements for the PAM corridor
 - (ii) obtain all necessary approvals from the Chief Executive of the Department of Main Roads (DMR) under sections 50 and 62 of the *Transport Infrastructure Act 1994* to carry out works on state-controlled roads, which involves certification of the designs of all structures by a registered professional engineer, and provision of a Road Use Management Plan for the proposed conduct of the works and
 - (iii) obtain material change of use development approval from the Coordinator-General (for the Gladstone State Development Area land) and Gladstone Ports Corporation Limited (GPCL) approval (for Strategic Port Land).
- (b) Prior to the commencement of use of the PAM corridor, GPNL must provide DMR, the Department of Infrastructure and Planning and GPCL with 'as constructed' plans.

Schedule C2

Coordinator-General's conditions and recommendations for the Residue Storage Facility

Conditions and recommendations pursuant to sections 39 and 52 of the *State Development and Public Works Organisation Act 1971* (SDPWO Act).

Conditions provided by the Coordinator-General (CG) to be attached to the development approval.

As Coordinator-General, I will be the Assessment Manager for all development approvals required for Gladstone Nickel Project (GNP) components located within the Gladstone State Development Area (GSDA).

Conditions

Acid sulfate soils

Condition 5.1

- (a) A site specific acid sulfate soils (ASS) Management Plan must be developed to meet standards acceptable to the Department of Natural Resources and Water prior to any disturbance occurring onsite.
- (b) The ASS Management Plan must be developed by consultants experienced in large-scale development projects containing ASS and include a commitment to be onsite during excavation and treatment activities.
- (c) The ASS management plan will include verification testing of potential or actual ASS post-liming and prior to re-burial.

I nominate the Environmental Protection Agency as the responsible authority for this condition.

Road impacts

Condition 7.10

Prior to commencement of any construction works on the Project, GPNL must:

- (a) finalise the 'Pavement Impact Assessment' (PIA) in accordance with the Department of Main Roads' (DMR's) '*Guidelines for Assessment of Road Impacts of Development*' and
- (b) pay DMR the contribution to mitigate pavement impacts identified in the PIA.

Condition 7.11

Prior to commencement of any construction works on the Project, GPNL must:

- (a) prepare a 'Road Use Management Plan' (RMP) and a 'Road Impact Assessment' (RIA) for all use of state-controlled roads for each phase of construction of the Project that considers the standard of the road network, access conditions, hours of operation, dust control and safety, in accordance with the current requirements of the Department of Main Roads (DMR) and
- (b) submit the RMP and RIA for approval by the Manager of DMR's Central District Office.

Condition 7.13

Prior to commencement of any construction works on the Project, GPNL must:

- (a) prepare a 'Road Use Management Plan' (RMP) and a 'Road Impact Assessment' (RIA) for all use of local roads for both the Rockhampton and Gladstone Regional Councils for each phase of construction of the Project that considers the standard of the local road network, access conditions, hours of operation, dust control and safety, in accordance with the current standards and policies of the relevant local government and
- (b) submit the RMP and RIA for approval by the relevant local government.

General Residue Storage Facility site matters

Condition 8.1

- (a) Approvals for Stage 2 of the Project cannot be issued until sufficient residue storage capacity for a minimum 20 years operation of the nickel refinery has been secured.
- (b) Use of the RSF site between storage cells 'RSF-A' and the 'Lot 4 Boundary' (both defined in Figure 9.7 of the SEIS) for the storage of refinery residue is subject to the approval of the EPA following review of all relevant RSF operational and groundwater monitoring data for at least the first two years of operation of the RSF.
- (c) If sufficient additional residue storage capacity on the RSF site cannot be approved by the EPA, then an alternative suitable storage site of sufficient capacity will be required.

Condition 8.2

- (a) Within six months of commencement of construction of the RSF, GPNL must provide a system of delivery and storage of water to the Fairview property.
- (b) Unless otherwise agreed by both GPNL and the owner of Fairview, the physical point of accessibility of that water on the Fairview property should be near to that currently available under water licence 37290U.
- (c) The quality of water provided by GPNL should at least meet cattle livestock drinking water standards as defined by the Australian and New Zealand Environment Conservation Council (ANZECC) in 2000.
- (d) The quantity of water delivered annually should be the shortfall up to a maximum of the existing Fairview water license harvest volume.
- (e) The provision of water by GPNL to Fairview should continue until the area of rehabilitated land contributing to the Farmer Creek catchment at Fairview is returned to at least 95% of the pre-RSF level.
- (f) This water compensation requirement may be terminated if:
 - (i) both GPNL and the holder of Fairview Farmer Creek water harvesting licence reach a mutually agreed alternative arrangement or
 - (ii) the Fairview property at the junction of Farmer Creek and the Calliope River becomes inundated by the construction of an impoundment on the Calliope River.

Environmental Management Plans

Condition 12.1

GPNL must finalise the Construction Environmental Management Plan (EMP) to the satisfaction of the Environmental Protection Agency (EPA) at least one month prior to commencement of construction of the Refinery.

Condition 12.2

GPNL must finalise the Operations Environmental Management Plan (EMP) to the satisfaction of the Environmental Protection Agency (EPA) at least one month prior to commencement of operation of the Refinery.

Recommendations

Flora and fauna impacts

Recommendation 4.3

- (a) Following the detailed design phase and prior to construction of the residue storage facility, GPNL will apply for a permit to the Department of Natural Resources and Water under section 3.2.1 of the *Integrated Planning Act 1997* for Operational Works (clearing vegetation assessable under IPA Schedule 8) to ensure that the requirements of the *Vegetation Management Act 1999* are met.
- (b) The application described in (a) is to be accompanied by a detailed spatial plan of the proposed clearing application area, details on the method of clearing, and a detailed analysis of how the proposed clearing will meet the performance requirements of Part S of the '*Regional Vegetation Management Code for the Brigalow Belt and New England Tablelands Bioregion*' (NRW, 20 November 2006).

Recommendation 4.4

- (a) The RSF must include a requirement for GPNL to provide an environmental offset consistent with the *Vegetation Management Act 1999* for the loss of 124 hectares of *Eucalyptus tereticornis* woodland on site.
- (b) The location, size, type and management arrangements for the offset in (a) will be determined by the Department of Natural Resources and Water following consideration of the clearing permit application described in Recommendation 4.3 of this Report.
- (c) A decision on the nature of the offset in (a) should consider the potential to re-establish *Eucalyptus tereticornis* woodland or other vegetation communities that may provide potential habitat for the powerful owl, the squatter pigeon or the black-chinned honey eater.

Recommendation 4.5

During the detailed design phase and prior to construction of the ore slurry and residue pipelines, the proponent will apply for a permit under section 3.2.1 of the *Integrated Planning Act 1997* for operational works (clearing native vegetation made assessable under IPA Schedule 8). This will ensure that the purposes of the *Vegetation Management Act 1999* are met. Such an application would be assessed against Part S of the *Regional Management Code for Brigalow Belt and New England Tablelands Bioregions*. This application will be accompanied by a detailed analysis of how the proposed clearing will meet the performance requirements of the relevant regional management codes. It will also include a detailed spatial plan of the proposed clearing application area and details on the method of clearing.


Recommendation 4.6

- (a) Development approvals must be obtained for any marine plant disturbance and temporary waterway barriers required for construction of the pipeline prior to construction.
- (b) All waterway crossings are to be designed in line with the DPI&F policy '*FHG 001 Fish Passage in Streams; Fisheries Guidelines for Design of Stream Crossings*' (1998).
- (c) DPI&F will undertake detail assessment of the applications in (a) to ensure waterway crossing techniques are appropriate to individual sites and all impacts are justified and minimised.

Road impacts

Recommendation 7.7

- (a) GPNL must obtain prior approval for the design and construction of the Koncina Road – Bruce Highway intersection from DMR under section 33 of the *Transport Infrastructure Act 1994*.

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- (b) The design of that intersection must be in accordance with DMR's '*Road Planning and Design Manual*' and be prepared in consultation with the Gladstone Regional Council.
 - (c) The construction of that intersection upgrade must be completed prior to the commencement of substantial construction works on the RSF.

Recommendation 7.8

- (a) GPNL must obtain prior approval from the Gladstone Regional Council for the design and construction of the Koncina Road – RSF Private Road intersection and the upgrade of Koncina Road between that intersection to the Bruce Highway.
- (b) The intersection and Koncina Road upgrade works must be in accordance with Gladstone Regional Council's requirements.
- (c) Those works must be completed prior to the commencement of substantial construction works on the RSF.

Recommendation 7.12

Prior to commencement of any construction works on the Project, GPNL must, for construction involving permanent works within a state-controlled road reserve, obtain prior approval to undertake those works in accordance with section 50 of the *Transport Infrastructure Act 1994*, and upon completion of each phase of construction, submit 'as constructed plans' to the Central District Office of DMR.

Schedule C3

Coordinator-General's conditions and recommendations for the ore slurry pipeline, Marlborough to Gladstone

Conditions and recommendations pursuant to sections 39 and 52 of the *State Development and Public Works Organisation Act 1971* (SDPWO Act).

Conditions provided by the Coordinator-General (CG) to be attached to the development approval.

As Coordinator-General, I will be the Assessment Manager for all development approvals required for Gladstone Nickel Project (GNP) components located within the Gladstone State Development Area (GSDA) and the Stanwell–Gladstone Infrastructure Corridor State Development Area (SGICSDA).

Conditions

Acid sulfate soils

Condition 5.1

- (a) A site specific acid sulfate soils (ASS) Management Plan must be developed to meet standards acceptable to the Department of Natural Resources and Water prior to any disturbance occurring onsite.
- (b) The ASS Management Plan must be developed by consultants experienced in large-scale development projects containing ASS and include a commitment to be onsite during excavation and treatment activities.
- (c) The ASS management plan will include verification testing of potential or actual ASS post-liming and prior to re-burial.

I nominate the Environmental Protection Agency as the responsible authority for this condition.

Road impacts

Condition 7.10

Prior to commencement of any construction works on the Project, GPNL must:

- (a) finalise the 'Pavement Impact Assessment' (PIA) in accordance with the Department of Main Roads' (DMR's) '*Guidelines for Assessment of Road Impacts of Development*' and
- (b) pay DMR the contribution to mitigate pavement impacts identified in the PIA.

Condition 7.11

Prior to commencement of any construction works on the Project, GPNL must:

- (a) prepare a 'Road Use Management Plan' (RMP) and a 'Road Impact Assessment' (RIA) for all use of state-controlled roads for each phase of construction of the Project that considers the standard of the road network, access conditions, hours of operation, dust control and safety, in accordance with the current requirements of the Department of Main Roads (DMR) and
- (b) submit the RMP and RIA for approval by the Manager of DMR's Central District Office.

Condition 7.13

Prior to commencement of any construction works on the Project, GPNL must:

- (a) prepare a 'Road Use Management Plan' (RMP) and a 'Road Impact Assessment' (RIA) for all use of local roads for both the Rockhampton and Gladstone Regional Councils for each phase of construction of the Project that considers the standard of the local road network, access conditions, hours of operation, dust control and safety, in accordance with the current standards and policies of the relevant local government
- (b) submit the RMP and RIA for approval by the relevant local government and
- (c) upon completion of each phase of construction involving permanent works within a road corridor, submit 'as constructed plans' to the relevant local government.

Other pipeline site matters

Condition 10.1

GPNL must prepare a Weed Management Plan for each pipeline in consultation with the relevant weed management officers of the Department of Primary Industries and Fisheries and the Gladstone Regional Council or Rockhampton Regional Council.

Condition 10.2

- (a) GPNL must consult with Queensland Rail and Powerlink on the design parameters for pipeline rail crossing under-boring and crossing of high voltage power line corridors.
- (b) GPNL must implement the measures agreed by Queensland Rail and Powerlink to ensure safe and effective preservation of the integrity of rail infrastructure and the cathodic protection of each pipeline.

Environmental Management Plans

Condition 12.1

GPNL must undertake construction in accordance with a Construction Environmental Management Plan (CEMP) approved to the satisfaction of the Environmental Protection Agency (EPA).

Condition 12.2

GPNL must undertake operation in accordance with a Operations Environmental Management Plan (OEMP) approved to the satisfaction of the Environmental Protection Agency (EPA).

Recommendations


Flora and fauna impacts

Recommendation 4.5

During the detailed design phase and prior to construction of the ore slurry and residue pipelines, the proponent will apply for a permit under section 3.2.1 of the *Integrated Planning Act 1997* for operational works (clearing native vegetation made assessable under IPA Schedule 8). This will ensure that the purposes of the *Vegetation Management Act 1999* are met. Such an application would be assessed against Part S of the *Regional Management Code for Brigalow Belt and New England Tablelands Bioregions*. This application will be accompanied by a detailed analysis of how the proposed clearing will meet the performance requirements of the relevant regional management codes. It will also include a detailed spatial plan of the proposed clearing application area and details on the method of clearing.

Recommendation 4.6

- (a) Development approvals must be obtained for any marine plant disturbance and temporary waterway barriers required for construction of the pipeline prior to construction.
- (b) All waterway crossings are to be designed in line with the DPI&F policy '*FHG 001 Fish Passage in Streams; Fisheries Guidelines for Design of Stream Crossings*' (1998).

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- (c) DPI&F will undertake detail assessment of the applications in (a) to ensure waterway crossing techniques are appropriate to individual sites and all impacts are justified and minimised.

Road impacts

Recommendation 7.12

Prior to commencement of any construction works on the Project, GPNL must, for construction involving permanent works within a state-controlled road reserve, obtain prior approval to undertake those works in accordance with section 50 of the *Transport Infrastructure Act 1994*, and upon completion of each phase of construction, submit 'as constructed plans' to the Central District Office of DMR.