

Permit

Environmental Protection Act 1994

Environmental authority BRID0033

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

Environmental authority number: BRID0033

Environmental authority takes effect on 18 September 2017.

The anniversary date of this environmental authority remains as 19 November. An annual return and the payment of the annual fee will be due each year on this day.

Environmental authority holder(s)

Name(s)	Registered address
Aberdare Collieries Proprietary Limited	Level 2, North Tower 540 Wickham Street FORTITUDE VALLEY QLD 4006

Environmentally relevant activity and location details

Environmentally relevant activity/activities	Location(s)
60-(1d) - Waste Disposal - operating a facility for disposing of, in a year, more than 200,000t of waste mentioned in subsection (1)(a), i.e. regulated waste or regulated waste in combination with general waste	1039 Banana Bridge Rd, Kogan Creek Power Station Ash Disposal Areas - Lot 2 Plan SP174068 (formerly Lot 2 Plan DY187), Lot 11 Plan SP174073 (formerly Lot 11 Plan DY61), Lot 7 Plan RP176345, Lot 1 Plan DY187, Lot 28 Plan DY275, Lot 34 Plan DY604, Lot 26 Plan DY374.

Additional information for applicants

Environmentally relevant activities

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

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

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

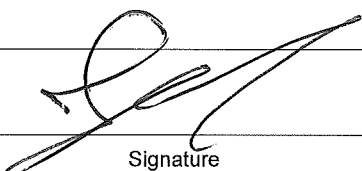
Contaminated land

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

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

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

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


Signature


Date

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

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

Obligations under the *Environmental Protection Act 1994*

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

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

Other permits required

This permit only provides an approval under the *Environmental Protection Act 1994*. In order to lawfully operate you may also require permits / approvals from your local government authority, other business units within the department and other State Government agencies prior to commencing any activity at the site. For example, this may include permits / approvals with your local Council (for planning approval), the Department of Transport and Main Roads (to access state controlled roads), the Department of Natural Resources and Mines (to clear vegetation), and the Department of Agriculture and Fisheries (to clear marine plants or to obtain a quarry material allocation).

Conditions of environmental authority

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

Schedule A: General	
Condition number	Condition
Financial assurance	
A1	Provide a financial assurance in the amount and form required by the administering authority prior to the commencement of activities proposed under this authority, unless financial assurance has already been provided pursuant to the Environmental Authority for ML 50074. NOTE: The calculation of financial assurance for condition (A1) must be in accordance with 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 of the ash cells, 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)
A2	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.
Maintenance of measures, plant and equipment	
A3	The holder must: a) install all measures, plant and equipment necessary to ensure compliance with the conditions of this environmental authority; and b) maintain such measures, plant and equipment in a proper condition; and c) operate such measures, plant and equipment in a proper manner.
Monitoring	
A4	Record, compile and keep for a minimum of five years all monitoring results required by this environmental authority and make available for inspection all or any of these records upon request by the administering authority.
A5	Where monitoring is a requirement of this environmental authority, ensure that an appropriately qualified person conducts all monitoring.
Storage and handling of flammable and combustible liquids	
A6	Spillage of all flammable and combustible liquids must be contained within an on-site containment system and controlled in a manner that prevents environmental harm (other than trivial harm) and maintained in accordance with section 5.9 of Australian Standard 1940:2004.
Schedule B: Air	
Condition number	Condition
Dust nuisance	
B1	Subject to Conditions (B2) and (B3) the release of dust or particulate matter or both resulting from the ash disposal activity must not cause an environmental nuisance, at any sensitive place.

B2	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, and the results must be notified within 14 days to the administering authority following completion of monitoring
B3	If evidence can be provided through monitoring that the following limits are not being exceeded by emissions from the ash disposal activity then the holder is not in breach of (B1): (a) Dust deposition of 120 milligrams per square metre per day, averaged over one month, when monitored in accordance with AS 3580.10.1 Methods for sampling and analysis of ambient air - Determination of particulates - Deposited matter - Gravimetric method of 1991; and (b) A concentration of particulate matter with an aerodynamic diameter of less than 10 micrometre (µm) (PM10) suspended in the atmosphere of 150 micrograms per cubic metre over a 24 hour averaging time, at a sensitive place downwind of the operational land, when monitored in accordance with: – Particulate matter - Determination of suspended particulate PM10 high-volume sampler with size-selective inlet - Gravimetric method, when monitored in accordance with AS 3580.9.6 Methods for sampling and analysis of ambient air - Determination of suspended particulate matter - PM (sub) 10 high volume sampler with size-selective inlet - Gravimetric method of 1990; or – 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. NOTE: You must propose which monitoring method is appropriate in accordance with condition (B3) (a) or (b) or both.
B4	If monitoring indicates exceedance of the relevant limits in condition (B3), then dust abatement measures must be implemented immediately so that emissions of dust from the activity do not result in environmental nuisance; or if considered appropriate by the administering authority, undertake appropriate dispute resolution.
Odour nuisance	
B5	Subject to condition (B6), the release of noxious or offensive odour(s) or any other noxious or offensive airborne contaminant(s) resulting from the ash disposal activity must not cause an environmental nuisance at any sensitive place.
B6	When requested by the administering authority, odour 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, and the results must be notified within 14 days to the administering authority following completion of monitoring.
B7	If monitoring indicates condition (B5) is not being met then odour abatement measures must be implemented immediately so that emissions of odour from the activity do not result in further environmental nuisance; or if considered appropriate by the administering authority, undertake appropriate dispute resolution.
Schedule C: Water	
Condition number	Condition
C1	Contaminants must not be directly or indirectly released from the licensed place and as a result of the ash disposal activity to any waters or the bed and banks of any waters except as detailed in Schedule C.

Tailings and process water dams											
C2	The design storage allowance on 1st November of each year for any high hazard dam containing hazardous waste constructed or operated within the operational land must comply with Schedule C - Table 1. Schedule C - Table 1: Storage design for high hazard dams containing hazardous waste <table border="1"> <thead> <tr> <th>Name of Dam**</th><th>Design Storage Allowance ⁽⁵⁾</th><th>Spillway Critical Design Storm ⁽⁶⁾</th><th>Mandatory Reporting Level ⁽⁷⁾</th></tr> </thead> <tbody> <tr> <td>Ash Cells</td><td>1: 10> Year ARI 4 month wet season plus process inputs for the 4 month wet season</td><td>1: 100 year ARI</td><td>1: 10 year ARI</td></tr> </tbody> </table> <i>Note:</i> ARI means annual recurrence interval. <i>Note**:</i> Applies to dams with contents with high hazard only. <i>Note ⁽⁵⁾:</i> The design storage allowance on 1st November of each year for any high hazard dam containing hazardous waste constructed within the operational land must be equivalent to the run-off from a 1 in 10 year ARI 4 month wet season plus process inputs for the equivalent wet season. Process inputs refers to hazardous mineral process waste and water, which is being disposed of in the storage facility. <i>Note ⁽⁶⁾:</i> The critical design storm has a duration that produces the peak discharge for the catchments. <i>Note ⁽⁷⁾:</i> The mandatory reporting level refers to the volume below the spillway crest, either the 10 ARI 72 hour storm or the 10 ARI wave allowance, whichever is lower.			Name of Dam**	Design Storage Allowance ⁽⁵⁾	Spillway Critical Design Storm ⁽⁶⁾	Mandatory Reporting Level ⁽⁷⁾	Ash Cells	1: 10> Year ARI 4 month wet season plus process inputs for the 4 month wet season	1: 100 year ARI	1: 10 year ARI
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C3	The spillway and associated waterways for any high hazard dam containing hazardous waste, constructed or operated within the operational land must be designed and maintained to withstand the peak flow for the spillway critical design storm defined in Schedule C - Table 1.										
C4	The holder of the environmental authority must mark the mandatory reporting level defined in Schedule C - Table 1 on the upstream side of the spillway of all high hazard dams containing hazardous waste within the operational land.										
C5	The holder of the environmental authority must notify the administering authority when the pondage level of the high hazard dam containing hazardous waste, reaches the mandatory reporting level defined in Schedule C - Table 1.										

Groundwater

C6

Groundwater must be monitored at the locations defined in Schedule C - Table 2.

Schedule C - Table 2: Groundwater monitoring locations

Monitoring Point	Latitude ¹ (degrees)	Longitude ¹ (degrees)	Aquifer	Ground Level (surface) AHD ² (m)	Total Depth (m) ³
MB1 : North	- 26.92063	150.79059	Condamine Alluvium	310.8	15.8
MB2 : North East	- 26.92479	150.79926	Condamine Alluvium	310.8	14.0
MB29 : South	- 26.94606	150.78708	Walloon Coal Measures	336.6	78.2
MB7-R : South East	- 26.94437	150.77032	Walloon Coal Measures	326.3	74.7
MB9 : Initial Ash (1)	- 26.93832	150.74648	Springbok Sandstone	314.8	23.6
MB10-R : Initial Ash (2)	- 26.93898	150.74993	Springbok Sandstone	315.1	30.8
KC1273-R: Northern boundary of OPAC	- 26.92966	150.78908	Walloon Coal Measures	319.2	44.4
KC1276: North east boundary of OPAC	- 26.92692	150.79867	Walloon Coal Measures	309.2	16.9
KC1277: South west boundary of OPAC	- 26.92382	150.79958	Condamine Alluvium	309.7	15.9
KC1278: Southern boundary of OPAC	- 26.92492	150.79629	Condamine Alluvium	309.3	19.4

¹ Geocentric Datum of Australia 1994 (GDA94)

² Australian Height Datum.

³ Below ground level.

C7	The holder of the environmental authority must conduct monitoring and keep records of groundwater quality for the relevant bores listed in Schedule C - Table 2. All determinations of groundwater quality must be: (i) conducted for the water quality characteristics and at the minimum frequency stated in Schedule C - Table 3; (ii) taken from sufficient monitoring points and /or bores to obtain representative samples of groundwater both up-gradient and down-gradient of the potential influence; (iii) carried out with sufficient regularity, spatial and temporal replication to make reasonably valid conclusions about the presence or absence of contamination or other impact; (iv) carried out in accordance with the method of sampling of groundwater set out in the latest edition of the Environmental Protection Agency's Water Quality Sampling Manual; (v) subject to an interpretative review conducted once every 3 years of the data gathered from Schedule C – Table 3. Schedule C – Table 3: Groundwater contaminant trigger levels <table><tr><th>Quality characteristics</th><th>Unit</th><th>Contaminant Range ² Alluvium</th><th>Contaminant Range ² Springbok</th><th>Contaminant Range ² Walloon Coal Measures</th><th>Monitoring Frequency</th></tr><tr><td>Na</td><td>mg/L</td><td>50-300</td><td>2500 - 6000</td><td>300 - 1800</td><td>Twice yearly</td></tr><tr><td>SO₄</td><td>mg/L</td><td>5-80</td><td>100 - 1000</td><td><1 - 250</td><td>Twice yearly</td></tr><tr><td>Al</td><td>mg/L</td><td><0.01 – 0.15</td><td><0.01 – 0.3</td><td><0.01 – 0.04</td><td>Twice yearly</td></tr><tr><td>Zn</td><td>mg/L</td><td>0.01 – 0.3</td><td>0.05 – 0.4</td><td>0.005 – 0.4</td><td>Twice yearly</td></tr><tr><td>Cl</td><td>mg/L</td><td>50 – 400</td><td>4000 – 10,000</td><td>100 - 3000</td><td>Twice yearly</td></tr><tr><td>EC</td><td>µS/cm</td><td>280 – 1400</td><td>13,000 – 27,000</td><td>1500 - 7000</td><td>Twice yearly</td></tr><tr><td>pH</td><td>unit</td><td>6.5 – 8</td><td>6 – 8</td><td>6.5 - 8</td><td>Twice yearly</td></tr><tr><td>Standing water level (SWL)</td><td>m</td><td>NA ¹</td><td>NA ¹</td><td>NA ¹</td><td>Quarterly</td></tr></table> ¹ For SWL – trigger level for exceedence is non-pumping fluctuations greater than 2m per year for bores listed in Table 2. ² Range of values with acceptable upper and lower values of a stratum. Contaminant ranges apply to bores in specific aquifer groups, Table 2.	Quality characteristics	Unit	Contaminant Range ² Alluvium	Contaminant Range ² Springbok	Contaminant Range ² Walloon Coal Measures	Monitoring Frequency	Na	mg/L	50-300	2500 - 6000	300 - 1800	Twice yearly	SO ₄	mg/L	5-80	100 - 1000	<1 - 250	Twice yearly	Al	mg/L	<0.01 – 0.15	<0.01 – 0.3	<0.01 – 0.04	Twice yearly	Zn	mg/L	0.01 – 0.3	0.05 – 0.4	0.005 – 0.4	Twice yearly	Cl	mg/L	50 – 400	4000 – 10,000	100 - 3000	Twice yearly	EC	µS/cm	280 – 1400	13,000 – 27,000	1500 - 7000	Twice yearly	pH	unit	6.5 – 8	6 – 8	6.5 - 8	Twice yearly	Standing water level (SWL)	m	NA ¹	NA ¹	NA ¹	Quarterly
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C8	A record of the monitoring results must be kept and forwarded to the administering authority on request.																																																						
C9	If the groundwater parameters sampled from the locations specified in C6 do not fall within the defined range in Schedule C – Table 3, then the holder is to complete an investigation into whether or not the change in groundwater quality was caused by ash disposal activity and if so, undertake an investigation into the potential for environmental harm. An investigation report is to be provided to the administering authority within 3 months of receiving the analysis results.																																																						
Erosion and Sediment Control																																																							
C10	All reasonable and practicable measures must be implemented and maintained to minimise erosion and the release of sediment.																																																						
C11	Erosion protection measures and sediment controls must be provided and maintained to effectively minimise any likelihood of erosion and release of sediments from the approved place and be maintained during site clearing, construction, mining operations and rehabilitation. Such measures should include diversion drainage works and sedimentation traps and dams.																																																						
C12	Erosion control and sediment control structures must be maintained at all times and repaired or replaced as required after each rainfall event.																																																						

Schedule D: Noise and vibration																																															
Condition number	Condition																																														
Noise nuisance																																															
D1	Subject to Conditions (D2) and (D3) noise from the ash disposal activity must not cause an environmental nuisance, at any sensitive place.																																														
D2	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 place, and the results must be notified within 14 days to the administering authority following completion of monitoring.																																														
D3	If the environmental authority holder can provide evidence through monitoring that the limits defined in Schedule D - Table 1 are not being exceeded by noise from the ash disposal activity then the holder is not in breach of condition (D1). Monitoring must include: a) LA, max adj, T and L_{Ar}, 1 hour and L_{A10}, adj, 10 mins b) the level and frequency of occurrence of impulsive or tonal noise; c) atmospheric conditions including wind speed and direction; and d) location, date and time of recording.																																														
D4	If monitoring indicates exceedance of the limits in Schedule D - Table 1, then the environmental authority holder must immediately implement noise abatement measures so that emissions of noise from the activity do not result in environmental nuisance or if considered appropriate by the administering authority, undertake appropriate dispute resolution.																																														
D5	The method of measurement and reporting of noise levels must comply with the latest edition of the Environmental Protection Agency's Noise Measurement Manual.																																														
Schedule D - Table 1: Noise limits																																															
<table><tr><th rowspan="2">Noise level dB(A) measured as</th><th colspan="3">Monday to Saturday</th><th colspan="3">Sundays and public holidays</th></tr><tr><th>7am - 6pm</th><th>6pm - 10pm</th><th>10pm - 7am</th><th>9am - 6pm</th><th>6pm - 10pm</th><th>10pm - 9am</th></tr><tr><td></td><td colspan="6">Noise measured at a 'Noise sensitive place'</td></tr><tr><td>L_{Ar}, 1 hour</td><td>50</td><td>45</td><td>40</td><td>50</td><td>45</td><td>40</td></tr><tr><td></td><td colspan="6">Noise measured at a 'Commercial place'</td></tr><tr><td>L_{A10}, adj, 10 mins</td><td>55</td><td>50</td><td>45</td><td>55</td><td>50</td><td>45</td></tr></table>							Noise level dB(A) measured as	Monday to Saturday			Sundays and public holidays			7am - 6pm	6pm - 10pm	10pm - 7am	9am - 6pm	6pm - 10pm	10pm - 9am		Noise measured at a 'Noise sensitive place'						L _{Ar} , 1 hour	50	45	40	50	45	40		Noise measured at a 'Commercial place'						L _{A10} , adj, 10 mins	55	50	45	55	50	45
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Schedule E: Waste	
Condition number	Condition
Destination of Waste	
E1	The holder of this approval must take all reasonable and practicable measures to prevent the release or likelihood of release of contaminants to land except the following wastes emanating from the Kogan Creek Power Station: (i) Collected fly ash, economiser ash and boiler bottom ash material removed from the boilers, economisers, fabric filter dust collectors (FFDC) released to any ash cell in a manner that will ensure the stability of the dam and in accordance with the conditions of this environmental authority; and (ii) pulverised fuel (PF) and other coal material either as a solid or in a slurry form, released to the ash cells in a manner that will ensure the stability of the dam and in accordance with the conditions of this environmental authority; and (iii) other power station waste products that include the ash fabric filter bags, waste ion exchange resins, coal laboratory waste, sediment dam waste, cooling tower sludges, drain sediments, effluent from chemical cleans, boiler blowdown and other water mixed with the ash slurry, quantities of oils and hydrocarbons that will not cause environmental harm, and other solid or liquid wastes that will not cause environmental harm released to any ash cell in a manner that will ensure the stability of the dam and in accordance with the conditions of this environmental authority.
Ash Disposal Management Plan	
E2	Within twelve months of the date of this approval in conjunction with the Plan of Operations for ML50074 the holder of this approval must prepare and submit an Ash Disposal Management Plan (ADMP) detailing practices and measures necessary to minimise the likelihood of environmental harm being caused by disposal of ash. The ADMP must include a strategy detailing the future method/s for disposal of ash to the ash cells. The strategy must include – (i) expected life of each ash cell and remaining ash storage capacity of the ash cell; (ii) location of ash cells, including any staged relocation of the ash deposition to maintain the stability of bund walls; (iii) longer term strategy for the disposal of ash and other wastes and alternative disposal methods to minimise the amount of waste water and conserve ash cells space; (iv) <u>Groundwater monitoring and assessment</u> – the ADMP must include monitoring of groundwater quality and interpretation of the results and conclusions by an expert in the field of groundwater monitoring as to whether there is any contamination and if so, the level of environmental harm caused as a result of such contamination. Assessment of groundwater monitoring must be undertaken in accordance with Condition C(7)(v) every three years to assess the impact of any release of contaminants from the ash cells to groundwater.
Ash Handling	
E3	All reasonable and practicable measures must be implemented to limit dust emissions which emanate from activities associated with fly ash and bottom ash collection, transportation and disposal. For the purpose of this condition, an example of a reasonable and practicable measure for the control of dust emissions includes but is not limited to conditioning of ash with water.
Inspection of Dams	
E4	Dams containing hazardous waste shall be inspected by a suitably qualified and experienced Engineer on or about 1st October but definitely before 1st November each year, or at any time if disturbing, unusual or otherwise unsatisfactory conditions or changes to dams are observed or as directed by the administering authority.

E5	For each inspection, the engineer shall assess the condition of each dam and its foundations, determine the hydraulic adequacy of the dam and assess the adequacy of the works with respect to dam safety and containment of waste.																								
E6	For each inspection, the engineer shall review the risk evaluation criteria and monitoring results for the dam.																								
E7	For each inspection, a copy of the engineer's report and any recommendations as to measures to be taken to ensure the integrity of the dam shall be furnished to the administering authority within 28 days of the inspection.																								
Standards and Criteria																									
E8	The holder of the environmental authority must comply with the standard environmental conditions in the "Code of Environmental Compliance for Environmental Authorities for High Hazard Dams Containing Hazardous Waste".																								
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E9	The construction or operation of any dam containing hazardous waste within the operational land must comply with Schedule E - Table 1. Schedule E — Table 1: Size and purpose of high hazard dams containing hazardous waste <table><tr><th><i>Name of dam containing hazardous waste⁽¹⁾</i></th><th><i>Maximum surface area of cell (ha)</i></th><th><i>Maximum capacity of cell (million m³)</i></th><th><i>Purpose of cell⁽³⁾</i></th></tr><tr><td><i>Initial Ash Cell</i></td><td><i>80</i></td><td><i>5</i></td><td><i>Power station waste disposal</i></td></tr><tr><td><i>Out of Pit Ash Cell</i></td><td><i>72</i></td><td><i>7</i></td><td><i>Power station waste disposal</i></td></tr><tr><td><i>InPit West Ash Cell(s) each</i></td><td><i>40</i></td><td><i>5</i></td><td><i>Power station waste disposal</i></td></tr><tr><td><i>InPit East Ash Cell(s) each</i></td><td><i>40</i></td><td><i>5</i></td><td><i>Power station waste disposal</i></td></tr></table>	<i>Name of dam containing hazardous waste⁽¹⁾</i>	<i>Maximum surface area of cell (ha)</i>	<i>Maximum capacity of cell (million m³)</i>	<i>Purpose of cell⁽³⁾</i>	<i>Initial Ash Cell</i>	<i>80</i>	<i>5</i>	<i>Power station waste disposal</i>	<i>Out of Pit Ash Cell</i>	<i>72</i>	<i>7</i>	<i>Power station waste disposal</i>	<i>InPit West Ash Cell(s) each</i>	<i>40</i>	<i>5</i>	<i>Power station waste disposal</i>	<i>InPit East Ash Cell(s) each</i>	<i>40</i>	<i>5</i>	<i>Power station waste disposal</i>				
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E10	Any high hazard dam containing hazardous waste constructed or operated within the operational land must be located at approximately the control points defined in Schedule E - Table 2. Schedule E — Table 2: Location of high hazard dam containing hazardous waste <table><tr><th><i>Name of cell containing hazardous waste</i></th><th><i>Latitude (GDA 94)¹ (degrees)</i></th><th><i>Longitude (GDA 94)¹ (degrees)</i></th></tr><tr><td><i>Initial Ash Disposal Area (IADA)</i></td><td><i>- 26.93444</i></td><td><i>150.74667</i></td></tr><tr><td><i>Out of Pit Ash Cell (OPAC)</i></td><td><i>- 26.92806</i></td><td><i>150.79333</i></td></tr><tr><td><i>InPit Ash Cell West(1st)</i></td><td><i>- 26.93361</i></td><td><i>150.78111</i></td></tr><tr><td><i>InPit Ash Cell West(2nd)</i></td><td><i>- 26.93611</i></td><td><i>150.78111</i></td></tr><tr><td><i>InPit Ash Cell East(1st)</i></td><td><i>- 26.93083</i></td><td><i>150.79000</i></td></tr><tr><td><i>InPit Ash Cell East(2nd)</i></td><td><i>- 26.93389</i></td><td><i>150.79361</i></td></tr><tr><td><i>Other In Pit cells</i></td><td><i>Holder of the environmental authority to advise prior to construction</i></td><td><i>Holder of the environmental authority to advise prior to construction</i></td></tr></table>	<i>Name of cell containing hazardous waste</i>	<i>Latitude (GDA 94)¹ (degrees)</i>	<i>Longitude (GDA 94)¹ (degrees)</i>	<i>Initial Ash Disposal Area (IADA)</i>	<i>- 26.93444</i>	<i>150.74667</i>	<i>Out of Pit Ash Cell (OPAC)</i>	<i>- 26.92806</i>	<i>150.79333</i>	<i>InPit Ash Cell West(1st)</i>	<i>- 26.93361</i>	<i>150.78111</i>	<i>InPit Ash Cell West(2nd)</i>	<i>- 26.93611</i>	<i>150.78111</i>	<i>InPit Ash Cell East(1st)</i>	<i>- 26.93083</i>	<i>150.79000</i>	<i>InPit Ash Cell East(2nd)</i>	<i>- 26.93389</i>	<i>150.79361</i>	<i>Other In Pit cells</i>	<i>Holder of the environmental authority to advise prior to construction</i>	<i>Holder of the environmental authority to advise prior to construction</i>
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¹ Geocentric Datum of Australia 1994 (GDA94)

Decommissioning																																		
E11	The environmental authority holder must, 6 months prior to the cessation of operation of any dam containing hazardous waste, develop: (a) a rehabilitation plan for decommissioning the dam such that, amongst other things, water will no longer be stored in the dam, the dam and its contents will be structurally stable and resistant to erosion, and seepage; and any other emissions will not cause environmental harm or nuisance; or (b) a management strategy for the continued existence of the dam wherein the dam will be maintained such that it will not cause environmental harm or nuisance.																																	
E12	The rehabilitation plan must include, but shall not be limited to: (a) maintenance of the integrity and effectiveness of final cover systems; and (b) the continuation of any monitoring program required as a condition of this environmental authority.																																	
E13	The rehabilitation plans or management strategies described in condition E11 are to be considered design plans and must be implemented in accordance with the Code of Environmental Compliance for Environmental Authorities for High Hazard Dams Containing Hazardous Waste.																																	
Schedule F: Land																																		
Condition number	Condition																																	
Rehabilitation landform criteria																																		
F1	All areas significantly disturbed by ash disposal activities must be rehabilitated to the final land description as defined in Schedule F - Table 1. Schedule F - Table 1: Final land use and rehabilitation approval schedule <table><tr><th>Disturbance type</th><th>Projected Disturbance area (ha)</th><th>Pre-mine land description</th><th>Post-mine land description</th><th>Pre-mine land classification</th><th>Post-mine land classification</th><th>Slope Criteria</th></tr><tr><td>Initial Ash Cell</td><td>80</td><td>Light grazing and fauna habitat</td><td>Light grazing and fauna habitat / Water Storage</td><td>3/5</td><td>4/5</td><td><10° Erosion Protection, Accepted design plan for water storage.</td></tr><tr><td>Out of Pit Ash Cell</td><td>72</td><td>Light grazing and fauna habitat</td><td>Light grazing and fauna habitat</td><td>3/5</td><td>4/5</td><td><10° Erosion Protection</td></tr><tr><td>In Pit Ash Cells</td><td>40 each</td><td>Light grazing and fauna habitat</td><td>Light grazing and fauna habitat</td><td>3/5</td><td>4/5</td><td><10° Erosion Protection</td></tr></table>						Disturbance type	Projected Disturbance area (ha)	Pre-mine land description	Post-mine land description	Pre-mine land classification	Post-mine land classification	Slope Criteria	Initial Ash Cell	80	Light grazing and fauna habitat	Light grazing and fauna habitat / Water Storage	3/5	4/5	<10° Erosion Protection, Accepted design plan for water storage.	Out of Pit Ash Cell	72	Light grazing and fauna habitat	Light grazing and fauna habitat	3/5	4/5	<10° Erosion Protection	In Pit Ash Cells	40 each	Light grazing and fauna habitat	Light grazing and fauna habitat	3/5	4/5	<10° Erosion Protection
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F2	Progressive rehabilitation must be implemented for ash cells not required for the ongoing conduct of ash disposal activities.																																	
Grazing pasture outcome																																		
F4	Areas that are to be progressively rehabilitated to grazing pasture must comply with the following rehabilitation outcomes: a) generate a self sustaining vegetation with projective cover, species composition and species distribution planting locally occurring native species of grass and shrubs. These vegetation species must be listed in the final land use and rehabilitation report; and b) all areas disturbed by ash disposal activities must be rehabilitated to the landform design criteria defined in Schedule F - Table 1.																																	

Schedule G: Community	
Condition number	Condition
Complaint response	
G1	All complaints received must be recorded including details of complainant, reasons for the complaint, investigations undertaken, conclusions formed and actions taken. This information must be made available for inspection by the administering authority on request.
Notification of Emergencies and Incidents	
G2	As soon as practicable after becoming aware of any emergency or incident which results in the release of contaminants not in accordance, or reasonably expected to be not in accordance with the conditions of this environmental authority, the holder of this environmental authority must notify the administering authority as soon as possible.
G3	The notification of emergencies or incidents as required by condition number G1 must include but not be limited to the following: i) the holder of the environmental authority; ii) the location of the emergency or incident; iii) the number of the environmental authority; iv) the name and telephone number of the designated contact person; v) the time of the release; vi) the time the holder of the environmental authority became aware of the release; vii) the suspected cause of the release; viii) the environmental harm and or environmental nuisance caused, threatened, or suspected to be caused by the release; and ix) actions taken to prevent any further release and mitigate any environmental harm and or environmental nuisance caused by the release.
G4	Not more than fourteen (14) days following the initial notification of an emergency or incident, the holder of the environmental authority must provide written advice of the information supplied in accordance with condition number G3 in addition to: i) proposed actions to prevent a recurrence of the emergency or incident; ii) outcomes of actions taken at the time to prevent or minimise environmental harm and or environmental nuisance; and iii) the results of any environmental monitoring performed. Any notification given under Chapter 7, Part 1, Division 2; or Chapter 7, Part 4, Section 350 of the <i>Environmental Protection Act 1994</i> that contains the information described in condition G3 is also a notification under this condition.
Exception Reporting	
G5	The holder of this environmental authority must notify the administering authority in writing of any monitoring result that indicates an exceedance of or non-compliance with any environmental authority limit within twenty-eight (28) days of completion of analysis.
G6	The written notification required by condition number G5 above must include: i) the full analysis results; ii) details of investigation or corrective actions taken; and iii) any subsequent analysis. Any notification given under Chapter 7, Part 1, Division 2; or Chapter 7, Part 4, Section 350 of the <i>Environmental Protection Act 1994</i> that contains the information described in condition G3 is also a notification under this condition.

Schedule H - Definitions

Words and phrases used throughout this approval are defined below except where identified in the EP Act or subordinate legislation. Where a word or term is not defined, the ordinary English meaning applies, and regard should be given to the Macquarie Dictionary.

Word definitions

"acceptance criteria" means the measures by which the actions implemented to rehabilitate the land are deemed to be complete (same as completion criteria).

"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.

"appropriately qualified person" means any person who conforms to the EPA operational policy for an 'appropriately qualified person (analyst)' in accordance with Section 490(7) of the Environmental Protection Act 1994.

"ash cell" includes initial ash storage cell, in pit ash cells and out of pit ash cells; defined as an area underlain by a low permeability layer where powerstation ash, ash leachate and other waste is deposited for permanent storage; part of the ash cell where the leachate collects is a dam.

"commercial place" means a place used as an office or for business or commercial purposes, other than the Kogan Creek Power Station or a place within the boundaries of the operational land.

"construction" includes building a new dam and modifying or lifting an existing dam.

"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.

"design plan" - in the context of a dam design is the documentation required under the "Code of Environmental Compliance for High Hazard Dams Containing Hazardous Waste" to describe the physical dimensions of the dam, the materials and standards to be used for construction of the dam, the procedures and criteria to be used for operating the dam and the decommissioning and rehabilitation objectives in terms of procedures, works and outcomes at the end of dam life. The documents can include design and investigation reports, drawings, specifications and certifications.

"flowable substance" means matter or mixture of materials which can be forced to or otherwise flow under any conditions possible in a situation. It includes water, other liquids or a mixture that includes water or any other liquid or suspended solids.

" $L_{Ar, 1\text{hour}}$ " means the rating level measured over any one hour period, defined as:

$$L_{Ar, 1\text{hour}} = L_{Aeq, 1\text{hour}} + K_1 + K_2 \text{ where}$$

" K_1 " means the tone adjustment applicable to any one hour measurement period, and

" K_2 " means the impulse adjustment applicable to any one hour measurement period.

" $L_{Aeq, 1\text{hour}}$ " means the time-average A weighted sound pressure level over any one hour measurement period.

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

"land" in the 'land schedule' of this document means land excluding waters and the atmosphere, "noise sensitive place" or a "commercial place"

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

"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.

"leachate" means a liquid that has passed through or emerged from, or is likely to have passed through or emerged from, a material stored, processed or disposed of at the operational land which contains soluble, suspended or miscible contaminants likely to have been derived from the said material.

"noxious" means harmful or injurious to health or physical well being, other than trivial harm.

"offensive" means causing reasonable offence or displeasure; is disagreeable to the sense; disgusting, nauseous or repulsive, other than trivial harm.

"progressive rehabilitation" means rehabilitation (defined below) undertaken progressively OR a staged approach to rehabilitation as mining operations are ongoing.

"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.

"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.

"residual void" means an open pit resulting from the removal of ore and/or waste rock which will remain following the cessation of all mining activities and completion of rehabilitation processes.

"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
- an 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 park or gardens; or
- a place used as a workplace, an office or for business or commercial purposes which is not part of the mining activity, the operational land or Kogan Creek and does not include employees accommodation or public roads.

"stable" 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 (traffic ability), erosion resistance and geochemical stability with respect to seepage and contaminant generation.

"suitably qualified and experienced person" means a person who is a Registered Professional Engineer of Queensland under the provisions of the *Professional Engineers Act 1988* or a Corporate Member of the Institution of Engineers Australia or holds equivalent professional qualifications and has the following:

- (a) knowledge of engineering principles related to the structures, geomechanics, hydrology, hydraulics, chemistry and environmental impact of dams; and
- (b) at least a total of five years of suitable experience and demonstrated expertise in at least four of the following areas:
 - investigation, design or construction of dams;
 - operation and maintenance of dams;
 - geomechanics with particular emphasis on stability, geology and geochemistry;
 - 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; and
 - dam safety.

“tolerable limits” means that a range of values could be accepted to achieve an overall environmental management objective (eg a range of settlement of a tailing capping could still meet the objective of draining the cap quickly, preventing pondage and limiting infiltration and percolation).

“waters” includes river, stream, lake, lagoon, pond, swamp, wetland, unconfined surface water, unconfined water natural, bed and bank of any waters, dams, non-tidal or tidal waters (including the sea), and any under groundwater, any part thereof.

“waste” includes anything that is –

- (a) left over, or an un-wanted by-product, from an industrial, commercial, domestic or other activity; or
- (b) surplus to the industrial, commercial, domestic, or other activity generating the waste.

END OF ENVIRONMENTAL AUTHORITY