

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 6 November 2024.

The anniversary date of this environmental authority is 19 November each year.

Name	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	Locations
ERA 60 - Waste disposal - 1(d) - Operating a facility for disposing of, in a year, the following quantity of waste mentioned in subsection (1)(a) - more than 200,000t	1/DY187 7/RP176345 11/SP174073 2/SP174068 26/DY374 28/DY275 34/DY604

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 land give written notice to the administering authority if they become aware of the following:

- the presence of, or happening of an event involving, a hazardous contaminant on the land that is causing, or is reasonably likely to cause, serious or material environmental harm (notice must be given within 24 hours); or
- if the land is contaminated land – a change in the condition of the land that is causing, or is reasonably likely to cause, serious or material environmental harm (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 land (notice must be given within 20 business days).

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

Take effect

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

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

However, if the EA is authorising an activity that requires an additional authorisation (a relevant tenure for a resource activity, a development permit under the *Planning Act 2016* or an SDA Approval under the *State Development and Public Works Organisation Act 1971*), this EA will not take effect until the additional authorisation has taken effect.

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

The anniversary day of this environmental authority is the same day each year as the effective date. The payment of the annual fee will be due each year on this day.

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



Signature

6 November 2024

Date

Helena Braye
Manager
Department of Environment, Science and Innovation
Delegate of the administering authority
Environmental Protection Act 1994

Enquiries:
Energy and Extractive Resources
GPO Box 2454, BRISBANE QLD 4001
Phone: (07) 3330 5715
Email: EnergyandExtractive@des.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 Resources (to clear vegetation), and the Department of Agriculture and Fisheries (to clear marine plants or to obtain a quarry material allocation).

Obligations under the *Mining and Quarrying Safety and Health Act 1999*

If you are operating a quarry, other than a sand and gravel quarry where there is no crushing capability, you will be required to comply with the *Mining and Quarrying Safety and Health Act 1999*. For more information on your obligations under this legislation contact Mine Safety and Health at www.resources.qld.gov.au, or phone 13 QGOV (13 74 68) or your local Mines Inspectorate Office.

Development Approval

This permit is not a development approval under the *Planning Act 2016*. The conditions of this environmental authority are separate, and in addition to, any conditions that may be on the development approval. If a copy of this environmental authority is attached to a development approval, it is for information only, and may not be current. Please contact the Department of Environment, Science and Innovation to ensure that you have the most current version of the environmental authority relating to this site.

Conditions of environmental authority

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 the guideline, "Financial assurance under the <i>Environmental Protection Act 1994</i>" (ESR/2015/1758), 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	Monitoring and determinations required under any condition of this environmental authority must be conducted by an appropriately qualified person(s).
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 (pm) (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			
	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
	Note: ARI means annual recurrence interval. Note** : Applies to dams with contents with high hazard only. Note ⁽⁵⁾ : 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. Note ⁽⁶⁾ : The critical design storm has a duration that produces the peak discharge for the catchments. Note ⁽⁷⁾ : 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.			
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 Groundwater quality and levels must be monitored at the locations and frequencies defined in Table 2: Groundwater monitoring locations and frequency and Appendix 1: Groundwater monitoring locations.						
Table 2: Groundwater monitoring locations and frequency							
Monitoring Point	GDA 94 ¹ (Zone 56)		Aquifer	Ground level (Surface) AHD ² (m)	Total Depth (m) ³	Frequency	
	Easting	Northing				Water Quality	Standing Water Level
MB1	280607.369	7020438.382	Condamine Alluvium	310.801	15.25	Quarterly	Quarterly
KC1277	281506.368	7020097.924	Condamine Alluvium	309.647	14.803		
KC1278	281180.172	7019972.372	Condamine Alluvium	309.297	17.564		
MB42	276636.732	7018320.913	Springbok Sandstone	315.376	31.2		
MB43	276675.406	7018307.215	Springbok Sandstone	315.421	28.0		
MB44	276402.427	7018433.083	Springbok Sandstone	315.143	24.0		
MB45	276133.022	7018544.918	Walloon Coal Measures	316.040	43.0		
MB46	275981.807	7018609.800	Springbok Sandstone	316.829	35.0		
MB47	276303.384	7018690.472	Springbok Sandstone	318.710	25.0		
MB48	276351.519	7018893.027	Springbok Sandstone	321.282	30.0		
MB9	276261.575	7018402.745	Springbok Sandstone	314.852	22.55	Once every six months	
MB10-R	276603.741	7018333.352	Springbok Sandstone	315.849	19.95		
MB26	281487.900	7018940.530	Walloon Coal Measures	310.840	44.85		
MB27	282005.920	7018428.890	Walloon Coal Measures	317.000	45.02		
MB30	279046.070	7018870.050	Walloon Coal Measures	309.834	44.315		
MB31	280880.842	7016252.718	Walloon Coal Measures	320.503	74.437		
MB38	281469.438	7019379.349	Walloon Coal Measures	311.961	16.571		
KC1276	281423.912	7019754.055	Walloon Coal	312.114	16.563		

			Measures				
NOTE: ¹ Geocentric Datum of Australia 1994 (GDA94), ² Australian Height Datum, ³ Below ground level.							
C7	Groundwater levels must be monitored and groundwater draw down fluctuations in excess of 2 metres per year, not resulting from the pumping of licensed bores, must be notified to the administering authority in accordance with Condition G5 .						
C8	The method of sampling of groundwater must comply with that set out in the latest edition of the administering authority's 'Water Quality Sampling Manual'.						
C9	a) Results of monitoring of groundwater quality bores identified in Table 2: Groundwater monitoring locations and frequency must not exceed any of the contaminant limits specified in Table 3: Groundwater contaminant limits for the same monitoring bore on two (2) consecutive sampling occasions. b) Monitoring bores MB42, MB44, MB45, MB47 and MB48 as shown in Appendix 2: Groundwater monitoring locations of Initial Ash Disposal Area (IADA), are for interpretation only. The water quality from these bores shall also be included in any investigation reports that result in an exceedance of any of the IADA monitoring bores (MB9, MB10-R, MB43 or MB46).						

Table 3: Groundwater contaminant limits

Bore	Parameter	pH	EC	Sulfate	Arsenic	Molybdenum	Selenium	Boron	Major ions
	Sample	Range	Max	Max	Max	Max	Max	Max	Interpretation Only
	Unit	pH units	(µS/cm)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	N/A
MB1		6.0 – 8.0 ^A	1208 ^B	38 ^B	0.013 ^D	0.034 ^D	0.011 ^D	0.94 ^D	Sodium and Chloride
MB38			1356	251 ^B					
KC1276			1240	21 ^B					
KC1277			1040	17 ^B					
KC1278			1012	17 ^B					
MB9		6.5-8.5 ^C	14340 ^B	944 ^B					
MB10-R			18480 ^B	1296 ^B					
MB26			4005 ^B	5.0 ^B					
MB27			2306	264 ^B					
MB30			13960 ^B	181.0 ^B					
MB31			5555 ^B	3.0 ^B					

MB43		18480 ^E	1296 ^E					
MB46		18480 ^E	1296 ^E					
MB42	Interpretation only monitoring bores	Interpretation only monitoring bores	Interpretation only monitoring bores	Interpretation only monitoring bores	Interpretation only monitoring bores	Interpretation only monitoring bores	Interpretation only monitoring bores	Interpretation only monitoring bores
MB44								
MB45								
MB47								
MB48								

^A Bore specific value, ^B Bore specific 95 percentile, ^C Condamine River Basin EVs and WQOs, ^D Australian Water Quality, ^E Bore specific values for MB43 and MB46 were replicated from the adjacent monitoring bore MB10-R.

C10	If the contaminant limits specified Table 3: Groundwater contaminant limits are exceeded at the same monitoring bore on two (2) consecutive sampling occasions the holder of the environmental authority must notify the administering authority within one (1) business day of receiving the final analysis results.
C11	Within fourteen (14) days of notification given under Condition C7 or C10 an investigation must commence to determine if the exceedance is a result of: a) ash disposal activities authorised under this environmental authority; or b) seasonal/natural variation; or c) any other potential cause.
C12	If the investigation under Condition C11 determines that the exceedance was caused by activities authorised under this environmental authority, then a further investigation must be completed within three (3) months , or a time period agreed to by the administering authority. This investigation must determine whether environmental harm has occurred or may occur, and the extent thereof.
C13	If the investigation undertaken under Condition C12 determines that environmental harm has occurred, or may occur, the following action must be taken within twenty-eight (28) days after completing the investigation under Condition C12: a) implementation of reasonably practicable measures as soon as reasonably practicable to reduce environmental harm including potential environmental harm; and b) development of long-term mitigation measures to address any existing groundwater contamination and prevent recurrence of groundwater contamination which is implemented in a reasonable time period; and c) if environmental harm has occurred as a result of groundwater drawdown exceedances, (i) determine and implement any reasonably practicable actions required to reduce the potential for environmental harm; and (ii) determine and implement any reasonably practicable mitigation measures required to limit the drawdown in the affected groundwater resource. d) document the steps taken under Condition C13(a), (b), and (c), and provide the documentation to the administering authority.

C14	Bore construction and maintenance and decommissioning The construction, maintenance and management of groundwater bores (including groundwater monitoring bores) must be undertaken in a manner that prevents or minimises impacts to the environment and ensures the integrity of the bores to obtain accurate monitoring.
C15	A record of the results of groundwater baseline monitoring must be kept and forwarded to the administering authority on request.
C16	Initial Ash Disposal Area (IADA) Annual Summary Report The holder of the environmental authority must submit an Annual Summary Report of the monitoring undertaken under Condition C6 for bores MB9, MB10-R, MB42, MB43, MB44, MB45, MB46, MB47, and MB48, which must include: a) a trend analysis of the monitoring bore data as it pertains to the IADA; b) a comparison to the contaminant limits of Arsenic, Molybdenum, Selenium, and Boron as outlined in Table 3: Groundwater contaminant limits; c) the report must be submitted by 15 November of 2024, 2025, 2026, 2027, and 2028; and d) reporting requirements after 15 November 2028 for bores MB42, MB44, MB45, MB47, and MB48 must be undertaken in line with the other monitoring bores and reported as required by Condition 10.
Erosion and Sediment Control	
C17	All reasonable and practicable measures must be implemented and maintained to minimise erosion and the release of sediment.
C18	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 and rehabilitation. Such measures should include diversion drainage works and sedimentation traps and dams.
C19	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 LAr, 1 hour and LA10, 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 measuring and reporting of noise levels must comply with the latest edition of the administering authority'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>LAr, 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>LA10, 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'						LAr, 1 hour	50	45	40	50	45	40		Noise measured at a 'Commercial place'						LA10, adj, 10 mins	55	50	45	55	50	45
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Schedule E: Waste																																										
Condition number	Condition																																									
Destination of Waste																																										
E1	Other than as permitted within this environmental authority, contaminants must not be released to land.																																									
E1.1	The only wastes permitted to be released to any ash cells are the following wastes emanating from the Kogan Creek Power Station: a) Collected fly ash, economiser ash and boiler bottom ash material removed from the boilers, economisers, fabric filter dust collectors (FFDC); and b) pulverised fuel (PF) and other coal material either as a solid or in a slurry form; and c) other power station waste products that will not cause environmental harm including 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, hydrocarbons, treated wastewater and other solid or liquid wastes.																																									
E1.2	Wastes specified in Condition (E1.1) must only be released to ash cells 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	The holder of this approval must prepare and implement 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 — a) expected life of each ash cell and remaining ash storage capacity of the ash cell; b) location of ash cells, including any staged relocation of the ash deposition to maintain the stability of bund walls; c) 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; d) <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.
E2.1	The ADMP must be provided to the administering authority upon request.
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 by 20 November each year.
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".

Dams containing hazardous waste																											
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 Disposal Area (IADA)</i></td><td>80</td><td>5</td><td><i>Power station waste disposal</i></td></tr><tr><td><i>Out of Pit Ash Cell</i></td><td>72</td><td>7</td><td><i>Power station waste disposal</i></td></tr><tr><td><i>InPit Ash Cells 1 and 2</i></td><td>40</td><td>5</td><td><i>Power station waste disposal</i></td></tr><tr><td><i>InPit Ash Cells 3 and 4</i></td><td>40</td><td>5</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 Disposal Area (IADA)</i>	80	5	<i>Power station waste disposal</i>	<i>Out of Pit Ash Cell</i>	72	7	<i>Power station waste disposal</i>	<i>InPit Ash Cells 1 and 2</i>	40	5	<i>Power station waste disposal</i>	<i>InPit Ash Cells 3 and 4</i>	40	5	<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) (degrees)</i></th></tr><tr><td><i>Initial Ash Disposal Area (IADA)</i></td><td>- 26.93444</td><td>150.74667</td></tr><tr><td><i>Out of Pit Ash Cell (OPAC)</i></td><td>- 26.92806</td><td>150.79333</td></tr><tr><td><i>InPit Ash Cell 1 (IPAC 1)</i></td><td>- 26.93361</td><td>150.78111</td></tr><tr><td><i>InPit Ash Cell 2 (IPAC 2)</i></td><td>- 26.93611</td><td>150.78111</td></tr><tr><td><i>InPit Ash Cell 3 (IPAC 3)</i></td><td>- 26.93083</td><td>150.79000</td></tr><tr><td><i>InPit Ash Cell 4 (IPAC 4)</i></td><td>- 26.93389</td><td>150.79361</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> GDA (94) - Geocentric Datum of Australia 1994			<i>Name of cell containing hazardous waste</i>	<i>Latitude (GDA 94) 1 (degrees)</i>	<i>Longitude (GDA 94) (degrees)</i>	<i>Initial Ash Disposal Area (IADA)</i>	- 26.93444	150.74667	<i>Out of Pit Ash Cell (OPAC)</i>	- 26.92806	150.79333	<i>InPit Ash Cell 1 (IPAC 1)</i>	- 26.93361	150.78111	<i>InPit Ash Cell 2 (IPAC 2)</i>	- 26.93611	150.78111	<i>InPit Ash Cell 3 (IPAC 3)</i>	- 26.93083	150.79000	<i>InPit Ash Cell 4 (IPAC 4)</i>	- 26.93389	150.79361	<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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<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>																									
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						
	Disturbance type	Projected Disturbance area (ha)	Pre-mine land description	Post-mine land description	Pre-mine classification	Post-mine land classification	Slope Criteria
	Initial Ash Disposal Area	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
	InPit Ash Cells	40 each	Light grazing and fauna habitat	Light grazing and fauna habitat	3/5	4/5	<10° Erosion Protection
F2	Progressive rehabilitation must be implemented for ash cells not required for the ongoing conduct of ash disposal activities.						

Grazing pasture outcome	
F3	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: 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; f) the time the holder of the environmental authority became aware of the release; g) the suspected cause of the release; h) the environmental harm and or environmental nuisance caused, threatened, or suspected to be caused by the release; and i) 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: a) proposed actions to prevent a recurrence of the emergency or incident; b) outcomes of actions taken at the time to prevent or minimise environmental harm and or environmental nuisance; and c) 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 the EA holder receiving the final analysis results.
G6	The written notification required by condition number G5 above must include: a) the full analysis results; b) details of investigation or corrective actions taken; and c) 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.

Definitions

Key terms and/or phrases used in this document are defined in this section. Where a term is not defined, the definition in the *Environmental Protection Act 1994*, its regulations or environmental protection policies must be used. If a word remains undefined it has its ordinary meaning.

"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 disposal area, in pit ash cell 1 (IPAC 1); input ash cell 2 (IPAC 2); input ash cell 3 (IPAC 3), and input ash cell 4 (IPAC 4) and out of pit ash cell (OPAC); 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.

"LA_r, 1hour" means the rating level measured over any one hour period, defined as:

$$LA_{r, 1\text{hour}} = LA_{eq, 1\text{hour}} + K1 + K2 \text{ where}$$

"K1" means the tone adjustment applicable to any one hour measurement period, and

"K2" means the impulse adjustment applicable to any one hour measurement period. "LA_{ech}1hour" means the time-average A weighted sound pressure level over any one hour measurement period.

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

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

"land use" term to describe the selected post activity use of the land, which is planned to occur after the cessation of 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.

"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.

"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 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.

Appendix 1: Groundwater monitoring locations



Appendix 2: Groundwater monitoring locations of Initial Ash Disposal Area (IADA)



END OF ENVIRONMENTAL AUTHORITY