Permit

Environmental Protection Act 1994

Environmental authority EPPR00918113

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

Environmental authority number: EPPR00918113

Environmental authority takes effect on 8 January 2021

Environmental authority holder(s)

Name(s)	Registered address
KOGAN CREEK POWER STATION PTY LTD	Level 2, North Tower 540 Wickham Street FORTITUDE VALLEY QLD 4006

Environmentally relevant activity and location details

Environmentally relevant activity/activities	Location(s)
ERA 14 - Electricity Generation 2: Generating electricity by using a fuel, other than gas, at a rated capacity of (b) more than 150MW electrical	ERA 14 Electricity Generation 2 Lot 1 on DY187, Lot 6 on DY532
ERA 63 - Sewage Treatment 1: Operating sewage treatment works, other than no-release works, with a total daily peak design capacity of (a-i) 21 to 100EP if treated effluent is discharged from the works to an infiltration trench or through an irrigation scheme	ERA 63 - Sewage Treatment Lot 1 on DY187, Lot 6 on DY532
ERA 33 - Crushing, milling, grinding or screening Crushing, grinding, milling or screening more than 5000t of material in a year	ERA 33 - Crushing, milling, grinding or screening Lot 1 on DY187, Lot 6 on DY532
ERA 08 - Chemical Storage 3: Storing more than 500 cubic metres of chemicals of class C1 or C2 combustible liquids under AS 1940 or dangerous goods class 3 under subsection (1)(c)	ERA 08 Chemical Storage Lot 1 on DY187, Lot 6 on DY532

ABN 46 640 294 485

Queensland Government

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'.

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.

ABN 46 640 294 485

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

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

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

Date issued: 8 January 2021

Enquiries:
Energy and Extractive Resources
Department of Environment and Science
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ABN 46 640 294 485

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)

ABN 46 640 294 485

Legislative Requirements and Conditions of Environmental Authority

SCHEDULE A: GENERAL CONDITIONS

Access to Copy of Environmental authority

A1 A copy of this environmental authority must be kept in a location readily accessible to personnel carrying out the activity.

Records

A2 Any record or document required to be kept by a condition of this environmental authority must be kept at the licensed place for a period of at least five years and be available for examination by an authorised person. For daily and weekly records, the record retention requirements of this condition will be satisfied if any daily and weekly records are kept for a period of at least three (3) years and these records are then kept in the form of annual summaries after that period.

A3 Copies of any record or document required to be kept by a condition of this environmental authority must be provided to any authorised person or the administrating authority on request.

Alteration

A4 Any change to, replacement or operation of any plant or equipment which will or is likely to substantially increase the risk of environmental harm above that expressly provided by this environmental authority, must be approved by the administering authority.

An example of a substantial increase in the risk of environmental harm is an increase of 10% or more in the quantity of the contaminant to be released into the environment.

Maintenance of Plant and Equipment

A5 The holder of this environmental authority must:

(i) install all plant and equipment necessary to ensure compliance with the conditions of this environmental authority; and
(ii) maintain such plant and equipment in a proper and efficient condition; and
(iii) operate such plant and equipment in a proper and efficient manner.

In this condition, "plant and equipment" includes:

(i) plant and equipment used to prevent and/or minimise the likelihood of environmental harm being caused, for example fabric filter dust collectors, demineraliser plants, wastewater treatment systems, oil centrifuges, cooling systems;
(ii) devices and structures to contain foreseeable escapes of contaminants and waste for example bunds, containment weirs;
(iii) pipework, ducting and associated structures used for transfer of oil, fuel, ash, cooling water blow down, demineraliser effluent, effluent, gases;
(iv) devices and structures used to store, handle, treat and dispose of waste and ash;
(v) monitoring equipment and associated alarms for example high level alarms on tank storage, pH sensors, and opacity meters;
(vi) backup systems that act in the event of failure of a primary system, for example stand-by pumps; and
(vii) fuel burning equipment, for example boilers.

Monitoring and Measurements

A6 All instruments and devices used for the measurement or monitoring of any parameter under any condition of this environmental authority must be calibrated, and appropriately operated and maintained.

A7 All determinations of the quality of contaminants released to the environment and all measurement and reporting of noise levels that are required by this environmental authority must be undertaken by a person or body possessing appropriate experience and qualifications to perform the required determinations and the required measurements.

SCHEDULE B: AIR

Release of Contaminants to the Atmosphere

B1 Contaminants resulting from the operation of the sources described in Table 1 of the air schedule must only be released to the atmosphere from those release points specified in Table 1 of the air schedule.

B2 Contaminants released from each release point specified in Table 1 of the air schedule must be directed vertically upwards without any impedance or hindrance.

B3 Contaminants must be released to the atmosphere from a release point at a height not less than the corresponding height stated for that release point in Table 1 of the air schedule.

B4 Contaminants must be released to the atmosphere from a release point at a velocity not less than the corresponding velocity stated for that release point in Table 1 of the air schedule.

B5 The concentration of solid particles in the effluent gas, under normal operating conditions, at the release point No-1 (Table 1 of air schedule) is not to exceed 80 mg in each normal cubic metre of effluent gas corrected to 12 percent by volume of carbon dioxide. For continuous measurement, the limit applies to a 4-hour moving average.

B6 The emission limit set out for solid particles in Schedule B is not applicable during the determination/testing of correlation between dust burden and opacity meters.

B7 The concentration of oxides of nitrogen (NOx) in the effluent gas at the release point No-1 (Table 1 of air schedule), under normal operating conditions, is not to exceed 800 mg in each normal cubic metre of effluent gas calculated as NO2 at a 7 percent oxygen reference level. For continuous measurement the limit applies to a 1-hour moving average.

B8 The holder of the environmental authority must notify the administering authority, of a direction given by the Australian Energy Market Operator (AEMO) under section 116 of the *National Electricity (Queensland) Law* or clause 4.8.9 of the National Electricity Rules when the limits prescribed in conditions B4, B5 and B7 are exceeded.

The notification is to be provided no later than 72 hours after the direction is given and must include:

(a) The date and time that the direction was given by AEMO; and

(b) The duration that the relevant direction remained in force.

B9 The limits prescribed in conditions B4, B5 and B7 are not applicable to a unit of the power station if the unit is operating in accordance with a direction given by AEMO as stated in condition B8. During a direction as stated in condition B8 above the holder of the environmental authority must comply with the limits defined in Schedule B – Table 2: Temporary release limits during a direction by AEMO.

Dust from Coal Stockpile and transport

B10 (a) The holder of this environmental authority must use all reasonable and practicable means to limit dust emissions which emanate from activities associated with the coal stockpile and transportation system;
(b) For the purpose of this condition, examples of reasonable and practicable measures for the control of dust emissions include but are not limited to:
(i) maintaining the coal stockpile in a conditioned state; and
(ii) watering gravel traffic areas; and
(iii) providing suitable enclosures etc.

B11 Access roads must be sealed with bitumen or an equivalent hard surface, or otherwise maintained to the satisfaction of the administering authority, in a condition which minimises the release of wind-blown or traffic generated dust.

B12 All sealed traffic areas must be cleaned as necessary to minimise the release of dust and particulate matter to the atmosphere.

Crushing, milling or grinding operation

B13 Crushing, milling or grinding areas must be enclosed by a suitable structure to prevent dust emissions.

B14 Loading, unloading and storing of raw materials and products, and transporting of materials must be carried out in such a manner as to minimise wind-blown dust.

Fuel Burning

B15 The only type of fuel to be burnt in the coal fired boiler under normal operating conditions is coal.

B16 The sulphur content of coal burned in industrial fuel burning equipment is not to exceed 0.52 percent by weight based on 85 percentile compliance on a representative number of samples. The sulphur content of the fuel as required for the purpose of this condition is to be calculated on an 'as received' basis at the power station.

B17 The fuels which may be burned in the auxiliary boiler are natural gas or fuel oil.

Air Pollution Control System

B18 All exhaust gases leaving the coal fired boiler (release point No-1) must be treated by fabric filter dust collectors or electrostatic precipitators prior to being released to the atmosphere.

B19 An audible and visual alarm must warn the operator when filter medium breakthrough occurs.

B20 Automatic opacity meters are to be installed and operated at the coal fired boiler (release point No-1) to indicate to the plant operator the opacity of the effluent gas at all monitoring points and to produce a record of this data.

B21 After synchronisation of the generating unit, detection by sensors of the automatic opacity meters of smoke indicating a trend toward a potential exceedance of the particulate concentration limits as stated in condition B5 is to activate an audible and visible alarm on the plant operator's console.

SCHEDULE B – Table 1

SOURCE DESCRIPTION	RELEASE POINT NUMBER AND STACK DESCRIPTION*	MINIMUM RELEASE HEIGHT (above ground level) (metres)	MINIMUM EFFLUX VELOCITY @ MAXIMUM RATED LOAD (metres/second)
Boiler 1 – Flue Gas of Coal Fired Boiler # 1	No-1	146	24**
Auxiliary Boiler	No-2	53	8**

* Sampling Point No-1 – Between "air pollution control device" and Boiler 1 Stack exit

** at designed conditions

Schedule B – Table 2: Temporary release limits during a direction by AEMO

Emission or release	Release limit	Release point(s)	Duration of release limit
Particulate emissions	160 mg/Nm3 (4-hour moving average)	No-1	For the duration of a direction by AEMO plus the 5-hour period immediately following the end of a direction.
Nitrogen Oxides	1600 mg/Nm3 (1-hour moving average)	No-1	For the duration of a direction by AEMO
Efflux velocity	Not less than 18 m/s	No-1	

SCHEDULE C: WATER

Release of Contaminants to Waters

C1 Contaminants that will or may cause environmental harm must not be directly or indirectly released from the licensed place to any waters or the bed and banks of any waters except as permitted under another schedule of this environmental authority.

SCHEDULE D: STORMWATER MANAGEMENT

Stormwater Management Plan

D1 The holder of this environmental authority must:

(a) develop and implement a stormwater management plan which addresses at least the following issues:
    (i) minimise incident stormwater and stormwater runoff from contacting wastes or contaminants; and
    (ii) diversion of upstream runoff away from areas containing wastes or contaminants; and
    (iii) minimisation of the size of contaminated areas; and
    (iv) cleaning of contaminated areas without water; and
    (v) installation of pollution control equipment such as oil separators, silt and rubbish traps, and stormwater diversion systems, sedimentation ponds and settling pits; and
    (vi) bunding of chemical and fuel storage areas.
(b) 6 months before the commencement of the Kogan Creek Power Station, lodge a detailed description of the stormwater management plan and its documentation with the administering authority for its review and comment; and
(c) have due regard to that comment in the finalisation of the stormwater management plan; and
(d) on or before the commencement of Kogan Creek Power Station, have completed and implemented the stormwater management plan.

D2 In developing the Stormwater Management Plan and periodically updating it to incorporate changing practices and future options, the holder of the environmental authority must have regard to the following hierarchy of preferred methods of dealing with stormwater. Where reasonable and practicable, the method of dealing with stormwater which is higher in the hierarchy must be adopted over another method which is lower in the hierarchy.

Hierarchy of methods of dealing with stormwater

The most preferred method (method (1)):

1) Avoid the contamination of stormwater in the first place, for example by roofing areas where contaminants and or wastes are stored or handled, diverting uncontaminated stormwater runoff away from areas where contaminants or wastes are stored or handled, by preventing the contact of incident rainfall with contaminants or wastes and utilising alternative materials and or processes.
2) Minimise the quantity and or hazardous nature of the contaminated stormwater generated, for example by minimising the size of areas where contaminants or wastes are stored or handled and by utilising alternative materials and or processes.
3) Recycling of contaminated stormwater produced, for example by incorporating reuse, reprocessing, and utilisation of the stormwater for a worthwhile purpose.
4) Treatment of any contaminated stormwater to render it less or non-hazardous.
5) Release of the contaminated stormwater as a last resort.

Spillage Control

D3 The maintenance and cleaning of vehicles and any other equipment or plant must be carried out in areas from where contaminants cannot be released into any waters or roadside gutters.

D4 Cleaning of any spillage, equipment, floors, areas or structures on the licensed place must be undertaken using dry cleaning methods where practicable and to the greatest extent practicable.

D5 Where it is not practicable to utilise dry methods of cleaning as required by condition D4 practicable steps must be taken to minimise the volume of wash down water produced, for example by use of high pressure - low volume water spray equipment.

Bunding

D6 All explosives, hazardous chemicals, corrosive substances, toxic substances, gases, dangerous goods, flammable and combustible liquids (including petroleum products and associated piping and infrastructure) must be stored and handled in accordance with the relevant Australian Standard where such is available.

D7 Any liquids stored on site that have the potential to cause environmental harm (other than trivial harm) must be stored, and managed to prevent the release of liquids to waters or land. Where no relevant Australian Standard is available, the following must be applied:

(a) storage tanks must be bunded so that the capacity and construction of the bund is sufficient to contain at least 110% of a single storage tank or 100% of the largest tank plus 10% of the second largest tank in multiple storage areas; and
(b) drum storages must be bunded so that the capacity and construction of the bund is sufficient to contain at least 25% of the maximum design storage volume within the bund.

D8 The base and walls of all bunded areas must be maintained and kept free from gaps and cracks.

D9 Where vehicle access to a bunded area is required, the access must be by way of a rollover bund.

Runoff from the Coal Stockpile

D10 A system of suitable diversion drains or embankments must be constructed and maintained to divert surface waters away from the area used for coal stockpiling.

D11 Run off from the coal stockpile area must be directed to the sedimentation ponds and settling pits.

SCHEDULE E: NOISE

E1 **Emission of Noise**

The holder of this environmental authority must take all reasonable and practicable measures to minimise noise which could cause environmental nuisance. In the event of a complaint about noise that the Administering Authority considers neither frivolous nor vexatious, the cause of the complaint must be investigated and recorded in a Complaints Register. The investigation must include a measure of the sound pressure level of the noise at the location where the complaint arises. The measured noise level must be compared with the noise level given below:

NOISE AT A NOISE SENSITIVE PLACE	
Period	Noise Level at a noise sensitive place measured as the adjusted maximum sound pressure level LAmax, adj, T
7.00 am – 6.00 pm	Background noise level plus 5 dB(A)
6.00pm – 10.00pm	Background noise level plus 5 dB(A)
10.00pm – 7.00am	Background noise level plus 3 dB(A)
NOISE AT A COMMERCIAL PLACE	
Period	Noise Level at a commercial place measured as the adjusted maximum sound pressure level LAmax, adj, T
7.00 am – 6.00 pm	Background noise level plus 10 dB(A)
6.00 pm – 10.00 pm	Background noise level plus 10dB(A)
10.00 pm – 7.00 am	Background noise level plus 8 dB(A)

Note: minimum applicable background noise level for outside a noise sensitive place is 30 dB(A)

If the noise level exceeds the above values, then appropriate action must be taken to overcome this problem, including consultation with the complainant, and the action recorded in the Complaints Register.

SCHEDULE F: WASTE MANAGEMENT

General

F1 The holder of this environmental authority must neither:

(i) allow waste to burn or be burned at or on the licensed place; nor
(ii) remove waste from the licensed place and burn such waste elsewhere.

Waste Management Plan (WMP)

F2 The holder of this environmental authority must

(a) develop and implement a waste management plan which provides for the following functions:
- prevention of waste;
- treatment of waste;
- disposal of waste;

(b) 6 months before the commencement of the Kogan Creek Power Station, lodge a detailed description of the waste management plan and its documentation with the administering authority for its review and comment; and
(c) have due regard to that comment in the finalisation of the waste management plan; and
(d) on or before the commencement of Kogan Creek Power Station, have completed and implemented the waste management plan.

Destination of Ash

F3 Ash from the power station, if transported for disposal, must be transported only to the facility/facilities licensed under the Environmental Protection Act 1994 or under a mining authority to receive such waste for subsequent handling or disposal.

Destination of Effluent from the Wastewater Treatment Plant

F4 Effluent from the wastewater treatment plants (including but not limited to the sewage treatment plant, reverse osmosis plant and demineralisation plant), if transported off site for disposal, must be transported only to the facility/facilities licensed under the Environmental Protection Act 1994 to receive such waste for subsequent handling or disposal.

Off Site Management

F5 Where regulated waste is removed from the licensed place (other than fly ash, bottom ash or any waste material permitted under any schedule of this environmental authority), the holder of this environmental authority must monitor and keep records of the following:

(a) the date, quantity and type of waste removed; and
(b) name of the waste transporter and/or disposal operator that removed the waste; and
(c) the intended treatment/disposal destination of the waste.

Ash Handling

F6 (a) The holder of this environmental authority must use all reasonable and practicable means to limit dust emissions which emanate from activities associated with fly ash and bottom ash collection, transportation and disposal;
(b) 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 (>10 % moisture).

Sewage Treatment Plant

F7 The Waste Water Collecting Pit is authorised for storage and disposal/removal of treated effluent from the sewage treatment plant in accordance with Condition F8.

F8 Sewage effluent from sewage treatment facilities must be reused or evaporated within the operation's wastewater system or removed in accordance with Condition F4.

F9 The holder of this environmental authority shall operate and maintain wastewater treatment plant in such a manner as to minimise the release of odour causing nuisance to the atmosphere.

Acid cleaning pond

F10 The acid cleaning pond must be constructed of an impervious material consisting of at least a High Density Polyethylene liner to prevent the release of contaminants.

F11 The acid cleaning pond must be constructed, installed and maintained so that a freeboard of not less than 0.5 metres is maintained at all times.

F12 The construction and operation of the acid cleaning pond must comply with Schedule F – Table 1.

SCHEDULE F– TABLE 1: Size and purpose of acid cleaning pond

Name of dam containing hazardous waste	Maximum surface area of dam (ha)	Maximum volume of dam (m3)	Maximum depth of dam (m)	Purpose of dam
Acid cleaning pond	1.0ha	5000	6m	Storage and treatment of acid cleaning waste

F13 The acid cleaning pond must be located within the control points defined in Schedule F – Table 2.

SCHEDULE F – TABLE 2: Location of acid cleaning pond

Easting(1)	Northing(1)
276678.386	7020613.46
276673.296	7020571.99
276721.266	7020565.56
276726.076	7020607.17

Note (1): Map Grid of Australia 1994 (MGA94) Zone 56 derived from the Geocentric Datum of Australia 1994 (GDA94) and a Universal Transverse Mercator (UTM) projection.

F14 All reasonable and practicable measures must be taken to prevent the release of contaminants to land.

F15 Acid cleaning effluent from the acid cleaning process must comply with the release limits in Schedule F – Table 3 prior to recycling in the power station systems or to disposal to the ash system.

SCHEDULE F – TABLE 3: Release quality characteristics limits

Quality characteristics	Release limit
pH	6.5-8.5
Electrical conductivity (µS/cm)	<2400
Suspended solids (mg/L)	<100
Iron (mg/L)	<20
Total Nitrogen (mg/L)	<125

F16 Acid cleaning pond sludge must only be disposed of to a place which is authorised to accept such waste under the Environmental Protection Act 1994 or as authorised under the environmental authority for the ash disposal area located on 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.

F17 The acid cleaning pond must be decommissioned at least one (1) month prior to final decommissioning of the power station.

Decommissioning of the Acid Cleaning Pond must be documented in a Management Plan and submitted to the Administering Authority at least three (3) months prior to decommissioning of the Power Station.

Decommissioning of the acid cleaning pond includes all necessary activities for removal and disposal of contaminated material such as the liner material and clean up, if required. Disposal of this material must only be to a place which is authorised to accept such waste under the Environmental Protection Act 1994.

F18 As part of the decommissioning of the Kogan Creek Power Station, the pond must be backfilled to natural contour levels.

SCHEDULE G: MONITORING AND REPORTING

Complaint Recording

G1 All complaints received by the holder of this environmental authority relating to releases of contaminants from the licensed place must be recorded and kept with the following details:

(i) time, date and nature of complaint;
(ii) type of communication (telephone, letter, personal etc.);
(iii) name, contact address and contact telephone number of complainant (Note: if the complainant does not wish to be identified then "Not identified" is to be recorded);
(iv) response and investigation undertaken as a result of the complaint;
(v) name of person responsible for investigating complaint; and
(vi) action taken as a result of the complaint investigation and signature of responsible person.

Ambient Air Quality

G2 Within 6 months of commencement of the Kogan Creek Power Station the holder of this environmental authority must commence a study to determine the ambient air quality of the neighbouring environment and compare results with the model predictions specified in the report entitled: "Draft Impact Assessment Study - Kogan Creek Power Project, March 1999" and "Supplementary Impact Assessment Study Report". This monitoring must be conducted for at least 12 months. The samples obtained in accordance with this condition must be analysed for at least:

(i) sulphur dioxide
(ii) nitrogen dioxide
(iii) total suspended particulate
(iv) particulate matters less than 10 micron in size (PM10)

A report on the study must be lodged with the administering authority with the annual return which follows completion of the study.

G3 Prior to the commencement of the Kogan Creek Power Station, the holder of this environmental authority must submit to the administering authority an air quality monitoring protocol, as required by condition G2 which must address at least the following:

(i) sampling practices and procedures for contaminant testing,
(ii) the selection of sampling locations to demonstrate that samples collected will be representative of the air quality of the area;
(iii) the frequency of sampling to be undertaken at each location including the number of samples to be taken, the time spent in collecting each sample (the sampling time); and
(iv) meteorological data collection including at least the wind speed and wind direction during the air quality monitoring program at the monitoring locations.

G4 The holder of this environmental authority must have due regard to comments made by the administering authority regarding the submitted air quality monitoring protocol as required by condition G3.

Monitoring of Contaminant Releases to the Atmosphere

The holder of this environmental authority must conduct a monitoring program of contaminant releases to the atmosphere at the release points, frequency, and for the parameters specified in Schedule G – Table 1 and which complies with the following:

G5
(a) All determinations must be made by a person or body registered by the National Association of Testing Authorities (NATA) or by a person or body possessing appropriate experience and qualifications to perform the required determinations.
(b) Monitoring provisions for the release points listed in Schedule G - Table 1 must comply with the Australian Standard AS 4323.1 - 1995 "Stationary source emissions Method 1: Selection of sampling positions" or more recent additions or supplements to that document as such become available.
(c) The following tests must be performed for each required determination of NOx and SO2 specified in Table 1:
    (i) gas velocity and volume flow rate;
    (ii) temperature; and
    (iii) water vapour concentration.
(d) Where practicable samples taken must be representative of the contaminants discharged under normal operating conditions.
(e) During the non-continuous sampling period the following additional information must be gathered:
    (i) time, date and duration of sampling;
    (ii) electricity generation rate during sampling period;
    (iii) hourly consumption of fuel for the sampling period;
(f) Monitoring and analysis must be carried out in accordance with the methods specified in the "Air Quality Sampling Manual", November 1997, published by the Department of Environment or any revised editions of that document.

SCHEDULE G - TABLE 1: Required Release Point Determinations

DETERMINATION REQUIRED	RELEASE POINT NUMBERS *	FREQUENCY
Mass emission rate and concentration of total suspended particulates (TSP)	No 1	Continuous
Mass emission rate and concentration of nitrogen oxides (NOx)	No 1	At the time of commencement of the Kogan Creek Power Station and not less than once every month for the first twelve months and not less than once every three months thereafter
Mass emission rate and concentration of sulphur dioxide (SO2)	No 1	At the time of commencement of the Kogan Creek Power Station and not less than once every month for the first twelve months and not less than once every three months thereafter

*Sampling Point No-1 – Between “air pollution control device” and Boiler No-1, stack exit.

G6 Within 3 months of commencement of the Kogan Creek Power Station, the holder of this environmental authority must conduct a monitoring program of contaminant releases to the

atmosphere at release point No-2 (Auxiliary Boiler). The samples obtained in accordance with this condition must be analysed for at least:

(i) sulphur dioxide
(ii) nitrogen dioxide
(iii) total suspended particulate
(iv) particulate matters less than 10 micron in size (PM10)

A report on the study must be lodged with the administering authority with the annual return which follows completion of the study.

Ambient Water Quality Monitoring

G7 An ambient monitoring program for surface and groundwater is to be developed prior to commencement and maintained during operation to monitor impacts of the activities on the receiving environment. The monitoring should include when weather permits access to, the following sites.

(i) for surface water as per Schedule G — Table 2

SCHEDULE G – TABLE 2: Surface water monitoring locations

Monitoring Point	Easting	Northing
Kogan Creek downstream of Power Station (KC Down)	279503.3	7020020.2
Kogan Creek upstream of Power Station (KC Up)	278938.5	7019594.9
Northern Stormwater Dam (KS 12)	276841.6	7020995.7
Southern Stormwater Dam (KS 10)	278637.0	7019897.6
Drains Reclaim Dam (KS 11)	277317.5	7020112.0

Note: coordinate datum – Horizontal – MGA Zone 56 and Vertical AHD

for groundwater, the monitoring bores as per Schedule G – Table 3

SCHEDULE G – TABLE 3: Ground water monitoring locations

Monitoring Point	Easting	Northing	Aquifer	Surface RL (m)	Total Depth (m)
MB14	276844.078	7021250.383	Target Springbok Sandstone	328.971	28
MB15-R	277431.299	7020006.912	Target Springbok Sandstone	321.873	18.5
MB23I	276754.594	7020584.588	Target Springbok Sandstone	337.771	30
MB23S	276754.61	7020582.433	Shallow Sandstone	337.736	6
MB24I	276178.03	7020629.06	Target Springbok Sandstone	340.183	36

MB24S	276174.894	7020629.347	Shallow Sandstone	340.179	6
MB24D-R	276171.343	7020632.07	Target Walloon Subgroup, Juandah Coal Measures	340.201	85

Note: coordinate Datum – Horizontal MGA94 Zone 56 and Vertical AHD

Water quality analysis should include, but not be limited to, the parameters given in Schedule G Table 4 for surface water and Schedule G Table 5 for ground water.

SCHEDULE G — TABLE 4: Ambient monitoring requirements for surface water

PARAMETER	FREQUENCY
pH	Monthly
Temperature (in-situ)	Monthly
Suspended Particulate Matter (SPM)/Turbidity	Monthly
Dissolved Oxygen (mg/L)	Monthly
Electrical Conductivity (µS/cm)	Monthly
Chloride	Six monthly
Sulphate	Six monthly
Sodium	Six monthly
Potassium	Six monthly
Fluoride	Six monthly
Total Petroleum Hydrocarbons	Six monthly
Metals: Boron, Barium, Beryllium, Manganese, Molybdenum, Nickel, Selenium, Mercury, Zinc, Cadmium, Iron, Aluminium, Arsenic, Copper, Lead, Chromium	Six monthly

SCHEDULE G — TABLE 5: Ambient monitoring requirements for ground water

PARAMETER	FREQUENCY
Standing water level (m)	Quarterly
pH	Six monthly
Electrical Conductivity (µS/cm)	Six monthly
Sodium	Six monthly
Chloride	Six monthly
Sulphate	Six monthly
Aluminium	Six monthly
Zinc	Six monthly

G8 All determinations of the quality of surface and groundwater must be made in accordance with methods prescribed in the Department of Environment and Heritage Water Quality Sampling Manual, 2nd Edition, February 1995, or more recent additions or supplements to that document as such become available.

Noise Monitoring

G9 In order to evaluate noise modelling predictions, the holder of this environmental authority shall monitor noise levels and meteorological conditions over a representative number of samples, during the first 12 months of operation of the Power Station.

G10 In the event of a complaint about noise that the administering authority considers is reasonable, then the holder of this environmental authority must monitor and record the "L (Amax adj,T)" and

"Background" noise level at the place from where the complaint originates during the operation period.

G11 The method of measurement and reporting of noise levels must comply with the Department of Environment and Heritage Noise Measurement Manual, second edition, March 1995, or more recent additions or supplements to that document as become available.

G12 The measurement and reporting of noise levels must be undertaken by a person or body possessing appropriate experience and qualifications to perform the required measurements.

Incident Recording

G13 The holder of this environmental authority must ensure that a summary of the results of all monitoring performed in accordance with this environmental authority for the 12-month period (1 January to 31 December inclusive) are summarised annually by the due date and made available to the Administering Authority upon request.

G14 A record must be maintained of at least the following events:

(i) the time, date and duration of equipment malfunctions where the failure of the equipment resulted in the release of contaminants reasonably likely to cause environmental harm;
(ii) any uncontrolled release of contaminants reasonably likely to cause environmental harm and
(iii) any emergency involving the release of contaminants reasonably likely to cause material or serious environmental harm requiring the use of fire fighting equipment.

G15 **Notification of Emergencies and Incidents**

Where the holder of this environmental authority has not given notification to the administering authority under Chapter 7, Part 1, Division 2 of the Environmental Protection Act 1994, as soon as practicable after becoming aware of any emergency or incident which results in the release of contaminants not in accordance, or reasonably expected to be not in accordance with the conditions of this environmental authority, the holder of this environmental authority must notify the administering authority of the release by telephone or facsimile.

G16 Where the holder of this environmental authority has not given notification to the administering authority under Chapter 7, Part 1, Division 2 of the Environmental Protection Act 1994, the notification of emergencies or incidents as required by condition number G16 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 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.

G17 Where the holder of this environmental authority has not given notification to the administering authority under section Chapter 7, Part 1, Division 2 of the Environmental Protection Act 1994, not more than 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 G17 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.

Exception Reporting

G18 The holder of this environmental authority must notify the administering authority in writing of any monitoring result, which indicates an exceedance of any licence limit within 28 days of completion of analysis.

G19 The written notification required by condition number G18 above must include:

(i) The full analysis results, and

(ii) Details of investigation or corrective actions taken, and

(iii) Any subsequent analysis.

SCHEDULE H: DEFINITIONS

For the purposes of this environmental authority, the following definitions apply:

Term	Definition
1 hour moving average	means a calculation based upon continuous monitoring data collected over the previous 1 hour. It is updated at an interval of not more than 10 minutes.
4 hour moving average	means a calculation based upon continuous monitoring data collected over the previous 4 hour. It is updated at an interval of not more than 10 minutes.
85 percentile	means that the measured values of the sulphur content of the fuel at any instant must not be greater than the release limit in any more than 15 percent of the samples collected over a period of previous 365 days.
background noise level	means either: LA90,T being the A-weighted sound pressure level exceeded for 90 percent of the time period of not less than 15 minutes, using Fast response, or LAbg,T being the arithmetic average of the minimum readings measured in the absence of the noise under investigation during a representative time period of not less than 15 minutes, using Fast response.
commencement	means, for the purposes of this authority, the first date that the Contractor gives the Owners of the Kogan Creek Power Station complete operational control of the Unit.
commercial place	means a place used as an office or for business or commercial purposes.
continuous	means the use of automatic monitoring and recording instrumentation where data is logged at regular intervals no longer than 1 minute, with a minimum data capture rate of 80%.
intrusive noise	means noise that, because of its frequency, duration, level, tonal characteristics, impulsiveness or vibration - (a) is clearly audible to, or can be felt by, an individual; and (b) annoys the individual. In determining whether a noise annoys an individual and is unreasonably intrusive, regard must be had to Australian Standard 1055.2 - 1989 Acoustics - Description and Measurement of Environmental Noise Part 2 - Application to Specific Situations.
mg/L	means milligrams per litre.
noise sensitive place	means - a) a dwelling, mobile home or caravan park, residential marina or other residential premises; or b) a motel, hotel or hostel; or c) a kindergarten, school, university or other educational institution; or d) a medical centre or hospital; or e) a protected area; or f) a public park or gardens.
normal cubic metre (Nm3)	means the volume of dry gas which occupies 1 cubic metre at a temperature of zero degrees Celsius and at an absolute pressure of 101.3 kilopascals.

normal operating conditions	is the normal operating state of a unit, and means that the unit is operating on a stable coal flame (oil/gas support no longer necessary). For practical purposes, it is when the Generator Circuit Breaker is closed.

END OF ENVIRONMENTAL AUTHORITY