Government of Western Australia
Department of Environment Regulation

Licence

Environmental Protection Act 1986, Part V

Licensee: Electricity Generation and Retail Corporation T/A Synergy

Licence: L6637/1995/15

Registered office: Australia Place, 11th Floor
15-17 William St
PERTH WA 6000

ACN: -

Premises address: Collie 'A' Power Station
Boys Home Road
PALMER WA 6225
Being Part of Lot 3001 on Plan 51101 as depicted in Schedule 1

Issue date: 9 October 2014

Commencement date: 18 October 2014

Expiry date: 17 October 2036

Prescribed premises category
Schedule 1 of the *Environmental Protection Regulations 1987*

Category number	Category description	Category production or design capacity	Approved premises production or design capacity
12	Screening, etc. of material	50 000 tonnes or more per year	1.2 million tonnes of coal per annual period
52	Electric power generation	20 megawatts or more in aggregate (using natural gas) 10 megawatts or more in aggregate (using a fuel other than natural gas)	340 MWe per annual period
53	Flyash disposal	1 000 tonnes or more per year	95 000 tonnes per annual period
61	Liquid waste facility	100 tonnes or more per year	1862 000 tonnes per annual period

Conditions
This Licence is subject to the conditions set out in the attached pages.

Date signed: 2 June 2016
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Jonathan Bailes
Manager Licensing (Process Industries)
Officer delegated under section 20
of the *Environmental Protection Act 1986*

Contents

Introduction

This Introduction is not part of the Licence conditions.

DER's industry licensing role
The Department of Environment Regulation (DER) is a Government Department for the State of Western Australia in the portfolio of the Minister for Environment. DER's purpose is to advise on and implement strategies for a healthy environment for the benefit of all current and future Western Australians.

DER has responsibilities under Part V of the Environmental Protection Act 1986 (the Act) for the licensing of prescribed premises. Through this process DER regulates to prevent, control and abate pollution and environmental harm to conserve and protect the environment. DER also monitors and audits compliance with works approvals and licence conditions, takes enforcement action as appropriate and develops and implements licensing and industry regulation policy.

Licence requirements
This licence is issued under Part V of the Act. Conditions contained with the licence relate to the prevention, reduction or control of emissions and discharges to the environment and to the monitoring and reporting of them.

Where other statutory instruments impose obligations on the Premises/Licensee the intention is not to replicate them in the licence conditions. You should therefore ensure that you are aware of all your statutory obligations under the Act and any other statutory instrument. Legislation can be accessed through the State Law Publisher website using the following link:
http://www.slp.wa.gov.au/legislation/statutes.nsf/default.html

For your Premises relevant statutory instruments include but are not limited to obligations under the:

- Environmental Protection (Unauthorised Discharges) Regulations 2004 – these Regulations make it an offence to discharge certain materials such as contaminated stormwater into the environment other than in the circumstances set out in the Regulations.

- Environmental Protection (Controlled Waste) Regulations 2004 - these Regulations place obligations on you if you produce, accept, transport or dispose of controlled waste.

- Environmental Protection (Noise) Regulations 1997 – these Regulations require noise emissions from the Premises to comply with the assigned noise levels set out in the Regulations.

You must comply with your licence. Non-compliance with your licence is an offence and strict penalties exist for those who do not comply.

Licence holders are also reminded of the requirements of section 53 of the Act which places restrictions on making certain changes to prescribed premises unless the changes are in accordance with a works approval, licence, closure notice or environmental protection notice.

Licence fees
If you have a licence that is issued for more than one year, you are required to pay an annual licence fee prior to the anniversary date of issue of your licence. Non payment of annual licence fees will result in your licence ceasing to have effect meaning that it will no longer be valid and you will need to apply for a new licence for your Premises.

Ministerial conditions
If your Premises has been assessed under Part IV of the Act you may have had conditions imposed by the Minister for the Environment. You are required to comply with any conditions imposed by the Minister.

Premises description and Licence summary
Collie A Power Station (Collie A) is a 340MWe, single generation unit; coal-fired thermal power station located approximately 10 km east of the town of Collie. The power station has been in operation since 1999 and is owned by Synergy. Electricity generated at this facility supplies customers via the South-West Interconnected System (SWIS).

Pre-crushed coal is delivered to Collie A via an overland conveyor from the Premier Coal Mine, approximately 6 km south-east. Coal is transferred from the stockpiles to the Power Block where it is fed into a boiler with low Nitrogen oxide (NOx) burners. Coal is burnt in the boiler with the resultant heat being used to heat circulating water to generate steam. High-pressure steam is then directed to a turbine hall to spin a single turbine which generates power. Steam exhausted from the turbine is cooled in a condenser and returned to the boiler for reuse.

The primary emissions of the exhaust gases include carbon monoxide (CO), carbon dioxide (CO_2), sulfur dioxide (SO_2), oxides of nitrogen (NOx) and particulate matter with minor emissions of metals and organics. Waste water is treated on site and approximately 65% of the treated water is reused on site with the remainder being discharged via the 68 km underground ocean outfall pipeline north of the Leschenault Inlet. The water is discharged through a diffuser at a depth of 10 m approximately 710 m offshore.

Fly ash and bottom ash that is not removed offsite for beneficial use are discharged to the Ash Storage Dam on the premises. Fly ash is slurried with water and transported via a pipeline while bottom ash is collected and intermittently trucked to the Ash Storage Dam. Decant water from the Ash Storage Dam is collected in a lined pond and returned to the power station for reuse or treatment and disposal.

This licence is the result of an amendment sought by the Licensee to revise licence limits for discharge to surface water via the ocean outfall pipeline to allow alternative wastewater sources to be discharged via the pipeline. As part of this amendment, DER has revised conditions consistent with the current DER licence format.

The licences and works approvals issued for the Premises since 24/03/2005 are:

Instrument log		
Instrument	**Issued**	**Description**
L6637/1995/8	24/03/2005	Licence re-issue with global changes.
L6637/1995/8	28/07/2005	Licence amendment to change Occupier Name.
L6637/1995/9	27/03/2006	Licence re-issue with global changes.
L6637/1995/10	22/03/2007	Licence re-issue with global changes.
L6637/1995/11	27/03/2008	Licence re-issue with global changes.
L6637/1995/12	26/03/2009	Licence re-issue with global changes.
L6637/1995/13	25/03/2010	Licence re-issue with global changes.

Instrument log		
Instrument	**Issued**	**Description**
L6637/1995/14	25/03/2011	Licence re-issue. Global changes and minor corrections. Term of licence extended to three years.
L6637/1995/14	07/11/2012	Proponent initiated amendment to modify the premises boundary and remove the bicarbonate limit for water discharged through the ocean outfall pipe.
W5271/2012/1	11/01/2013	Works approval application to construct a 3m embankment raise on Ash Dam Cell 1A.
W5521/2013/1	28/11/2013	Works approval application to construct a 3m embankment raise on Ash Dam Cell 2.
L6637/1995/14	28/02/2014	Short-term amendment to the existing licence to extend the expiry period only.
L6637/1995/15	10/10/2014	DER initiated amendment to convert licence to new REFIRE format, authorise operation of Ash Storage Dam cell 1A embankment raise and incorporate requirements of Appeal Determination 2633/11.
L6637/1995/15	02/06/2016	Licensee initiated amendment to revise licence limits for discharge to surface water via the ocean outfall.

Severance
It is the intent of these Licence conditions that they shall operate so that, if a condition or a part of a condition is beyond the power of this Licence to impose, or is otherwise *ultra vires* or invalid, that condition or part of a condition shall be severed and the remainder of these conditions shall nevertheless be valid to the extent that they are within the power of this Licence to impose and are not otherwise *ultra vires* or invalid.

END OF INTRODUCTION

Licence conditions

1 General

1.1 Interpretation

1.1.1 In the Licence, definitions from the *Environmental Protection Act 1986* apply unless the contrary intention appears.

1.1.2 For the purposes of this Licence, unless the contrary intention appears:

'Act' means the *Environmental Protection Act 1986;*

'AHD' means the Australian height datum;

'annual period' means the inclusive period from 1 July until 30 June in the following year;

'AS 4323.1' means the Australian Standard AS4323.1 *Stationary Source Emissions Method 1: Selection of sampling positions;*

'AS/NZS 5667.1' means the Australian Standard AS/NZS 5667.1 *Water Quality – Sampling – Guidance of the Design of sampling programs, sampling techniques and the preservation and handling of samples;*

'averaging period' means the time over which a limit or target is measured or a monitoring result is obtained;

'CEMS' means continuous emissions monitoring system;

'CEMS Code' means the current version of the Continuous Emission Monitoring System (CEMS) Code for Stationary Source Air Emissions, Department of Environment & Conservation, Government of Western Australia;

'CEO' means Chief Executive Officer of the Department of Environment Regulation;

'CEO' for the purpose of correspondence means:

Chief Executive Officer
Department Administering the Environment Protection Act 1986
Locked Bag 33
CLOISTERS SQUARE WA 6850
Email: info@der.wa.gov.au;

'Collie airshed power generators' means the occupiers of the following part V licences in force during the term of this Licence:

1. Bluewaters I & II Power Station, Bluewaters Power 1 Pty Ltd & Bluewaters Power 2 Pty Ltd, L8326/2008;
2. Collie 'A' Power Station, Electricity Generation and Retail Corporation T/A Synergy, L6637/1995;
3. Muja Power Station, Electricity Generation and Retail Corporation T/A Synergy, L4076/1972; and
4. Worsley Alumina Refinery, BHP Billiton Worsley Alumina Pty Ltd, L4504/1981;

'Collie Power Station Ash Dam Environmental Management Plan' means the document titled; "Verve Energy - Collie Power Station Ash Dam Environmental Management Plan", GHD Australia Pty Ltd, October 2013 and its subsequent approved versions;

'freeboard' means the distance between the maximum water surface elevations and the top of retaining banks or structures at their lowest point;

'Licence' means this Licence numbered L6637/1995/15 and issued under the Act;

'Licensee' means the person or organisation named as Licensee on page 1 of the Licence;

'MWe' means power output (electricity generated) in megawatts;

'MWth' means power input (thermal) in megawatts;

'NATA' means the National Association of Testing Authorities, Australia;

'NATA accredited' means in relation to the analysis of a sample that the laboratory is NATA accredited for the specified analysis at the time of the analysis;

'normal operating conditions' means any operation of a particular process (including abatement equipment) excluding start-up, shut-down and upset conditions, in relation to stack sampling or monitoring;

'NOx' means oxides of nitrogen, calculated as the sum of nitric oxide and nitrogen dioxide and expressed as nitrogen dioxide;

'PM' means total particulate matter including both solid fragments of material and miniscule droplets of liquid;

'$PM_{2.5}$' means particles with an aerodynamic diameter of less or equal to 2.5 μm;

'PM_{10}' means particles with an aerodynamic diameter of less or equal to 10 μm;

'Premises' means the area defined in the Premises Map in Schedule 1 and listed as the Premises address on page 1 of the Licence;

'quarterly' means the 4 inclusive periods from 1 July to 30 September, 1 October to 31 December and in the following year, 1 January to 31 March and 1 April to 30 June;

'Schedule 1' means Schedule 1 of this Licence unless otherwise stated;

'Schedule 2' means Schedule 2 of this Licence unless otherwise stated;

'shut-down' means the period when plant or equipment is brought from normal operating conditions to inactivity by introducing to the boilers a fuel other than coal;

'spot sample' means a discrete sample representative at the time and place at which the sample is taken;

'stack test' means a discrete set of samples taken over a representative period at normal operating conditions;

'start-up' means the period when plant or equipment is brought from inactivity to normal operating conditions by introducing to the boilers a fuel other than coal;

'STP dry' means standard temperature and pressure (0^{o}Celsius and 101.325 kilopascals respectively), dry;

'triennial' means the inclusive period from 1 July 2014 until 30 June 2017 and each subsequent inclusive three year period;

'USEPA' means United States (of America) Environmental Protection Agency;
'USEPA Method 5' means the promulgated Test Method 5 – Determination of Particulate Matter Emissions from Stationary Sources;

'USEPA Method 6' means the promulgated Test Method 6 – Determination of Sulfur Dioxide Emissions from Stationary Sources;

'USEPA Method 6C' means the promulgated Test Method 6C – Determination of Sulfur Dioxide Emissions from Stationary Sources (Instrumental Analyser Procedure);

'USEPA Method 7D' means the promulgated Test Method 7D – Determination of Nitrogen Oxide Emissions from Stationary Sources (Alkaline-Permanganate/Ion Chromatographic Method);

'USEPA Method 7E' means the promulgated Test Method 7E – Determination of Nitrogen Oxides Emissions from Stationary Sources (Instrumental Analyser Procedure);

'USEPA Method 10' means the promulgated Test Method 10 – Determination of Carbon Monoxide Emissions from Stationary Sources (Instrumental Analyser Procedure);

'USEPA Method 17' means the promulgated Test Method 17 – Determination of Particulate Matter Emissions from Stationary Sources;

'USEPA Method 18' means the promulgated Test Method 18 - Measurement of Gaseous Organic Compounds Emissions by Gas Chromatography;

'USEPA Method 29' means the promulgated Test Method 29 – Determination of Metals Emissions from Stationary Sources;

'USEPA Method 201A' means the promulgated Test Method 201A – Determination of PM_{10} and $PM_{2.5}$ Emissions from Stationary Sources (Constant Sampling Rate Procedure); and

'usual working day' means 0800 – 1700 hours, Monday to Friday excluding public holidays in Western Australia.

1.1.3 Any reference to an Australian or other standard in the Licence means the relevant parts of the standard in force from time to time during the term of this Licence.

1.1.4 Any reference to a guideline or code of practice in the Licence means the version of that guideline or code of practice in force from time to time, and shall include any amendments or replacements to that guideline or code of practice made during the term of this Licence.

1.1.5 Nothing in the Licence shall be taken to authorise any emission that is not mentioned in the Licence, where the emission amounts to:
(a) pollution;
(b) unreasonable emission;
(c) discharge of waste in circumstances likely to cause pollution; or
(d) being contrary to any written law.

1.2 General conditions

1.2.1 The Licensee shall operate and maintain all pollution control and monitoring equipment to the manufacturer's specification or any relevant and effective internal management system.

1.2.2 The Licensee shall immediately recover, or remove and dispose of spills of environmentally hazardous materials that are liquids, outside an engineered containment system.

1.2.3 The Licensee shall implement all practical measures to prevent stormwater run-off becoming contaminated by the activities on the Premises.

1.3 Premises operation

1.3.1 The Licensee shall ensure that material specified in Table 1.3.1 is only stored and/or treated within vessels or compounds provided with the infrastructure detailed in that Table and identified in Schedule 1.

Table 1.3.1: Containment infrastructure			
Containment point reference	**Containment cell or dam number(s)**	**Material**	**Infrastructure requirements**
C1	Ash Storage Dam - Cell 1 (1A & 1B)	Fly ash and bottom ash	Lined with low permeability clay
C2	Ash Storage Dam - Cell 2 (2A, 2B & 2C)	Fly ash and bottom ash	Lined with low permeability clay
C3	Ash Runoff Dam	Decant water, potentially contaminated stormwater, seepage and supernatant	Lined with 1mm HDPE to achieve a permeability of at least $<10^{-9}$ m/s or equivalent
C4	Saline Water Dam	Potentially contaminated stormwater, Ash Dam return water and power station waste water	Lined with clay and 1mm HDPE to achieve a permeability of at least $<10^{-9}$ m/s or equivalent
C5	Coal Stockyard Collection Pond	Stormwater/drainage from the coal stockyard	Lined with low permeability clay
C6	Coal Stockyard Runoff Pond	Overflow from the Coal Stockyard Collection Pond	Lined with 1mm HDPE liner to achieve a permeability of at least $<10^{-9}$ m/s or equivalent
C7	Coal Stockyard Surge Pond	Overflow from the Coal Stockyard Runoff Pond	In-situ soils
C8	Coal Stockyard Storage Area	Pre-crushed coal	Lined with low permeability clay

1.3.2 The Licensee shall manage containment infrastructure C3, C4, C5 and C6 such that a minimum top of embankment freeboard of 300mm is maintained at all times.

1.3.3 The Licensee shall manage the Ash Storage Dam (C1 and C2) such that:
(a) a minimum top of embankment freeboard of 300mm is maintained;
(b) a seepage collection and recovery system is maintained and used to capture seepage from the Ash Storage Dam;
(c) collected seepage is returned to the Ash Runoff Dam or process; and
(d) the supernatant pond on the Ash Storage Dam is minimised as far as possible.

1.3.4 The Licensee shall undertake an annual water balance for the Ash Storage Dam. The water balance shall as a minimum consider the following:
(a) site rainfall;
(b) evaporation;
(c) decant water recovery volumes;
(d) seepage recovery volumes; and
(e) volumes of flyash deposited.

1.3.5 The Licensee shall operate the Ash Storage Dam in accordance with the Collie Power Station Ash Dam Environmental Management Plan.

1.3.6 The Licensee shall undertake a Triennial Hydrogeological Assessment and Monitoring Review of the Ash Storage Dam (C1 and C2) to evaluate the performance of the seepage recovery system and assess the environmental impact of the facility on surface and groundwater resources. The first review shall be for the period 1 July 2014- 30 June 2017. The review shall:
(a) be undertaken in accordance with Operational Policy No. 5.12 – Hydrogeological reporting associated with a groundwater well licence, Department of Water, 2009; and
(b) be undertaken by a suitably qualified groundwater professional.

1.3.7 The Licensee shall only allow waste to be accepted on to the Premises if:
(a) it is of a type listed in Table 1.3.2; and
(b) the quantity accepted is below any limit listed in Table 1.3.2; and
(c) it meets any process requirements listed in Table 1.3.2.

Table 1.3.2: Waste acceptance

Waste	Quantity Limit	Process requirements
Wastewater from Bluewaters power station, Muja power station, the CWRF, and Colltech	None specified	Wastewater from Bluewaters power station, Muja power station, the CWRF, and Colltech may be accepted for final disposal via ocean outfall pipeline.

2 Emissions

2.1 General

2.1.1 The Licensee shall record and investigate the exceedance of any descriptive or numerical limit specified in any part of section 2 of this Licence.

2.2 Point source emissions to air

2.2.1 The Licensee shall ensure that where waste is emitted to air from the emission points in Table 2.2.1 and identified on the map of emission points in Schedule 1 it is done so in accordance with the conditions of this licence.

Table 2.2.1: Emission points to air

Emission point reference and location on Map of emission points	Emission Point and source, including abatement	Emission point height (m)
A1	Collie A Main Stack - coal fired boiler via Electrostatic Precipitator	170

2.2.2 The Licensee shall not cause or allow point source emissions to air greater than the limits listed in Table 2.2.2.

Tale 2.2.2: Point source emission limits to air

Emission point reference	Parameter	Limit (including units)[1,2,3]	Averaging period
A1	PM	80 mg/m^3	Stack test (Minimum 60 minute average)
	Oxides of nitrogen	800 mg/ m^3	Stack test (Minimum 30 minute average)

Note 1: All units are referenced to STP dry
Note 2: All units are referenced to 7% O_2
Note 3: Emission limits are not applicable during start-up and shut-down periods of operation.

2.3 Point source emissions to surface water

2.3.1 The Licensee shall ensure that where waste is emitted to surface water from the emission points in Table 2.3.1 and identified on the map of emission points in Schedule 1, it is done so in accordance with the conditions of this licence.

Table 2.3.1: Emission points to surface water

Emission point reference and location on Map of emission points	Description	Source including abatement
W1	Collie Power Station marine outfall	Collie power station saline water treatment plant

2.3.2 The Licensee shall not cause or allow point source emissions to surface water that do not meet the limits listed in Table 2.3.2.

Table 2.3.2: Point source emission limits to surface water

Emission point reference	Monitoring point reference	Parameter	Limit (including units)	Averaging period
W1	M1 – Collie power station saline water treatment plant discharge tank outlet	pH	6.5-8.5 6.0-8.5 (during maintenance periods)	Spot sample
		Total dissolved solids	<32 000 mg/L	
		Total suspended solids	<150 mg/L	
		Dissolved oxygen	>5.0 mg/L	
		Iron	<5.0 mg/L	
		Manganese	<5.0 mg/L	
		Arsenic	<0.1 mg/L	
		Cadmium	<0.02 mg/L	
		Chromium (total)	<0.1 mg/L	
		Cobalt	<0.23 mg/L	
		Copper	<0.25 mg/L	
		Lead	<0.1 mg/L	
		Mercury	<0.002 mg/L	
		Nickel	<0.3 mg/L	
		Vanadium	<1.0 mg/L	
		Zinc	<1.6 mg/L	
		Phosphate (as phosphorous)	<17.6 kilograms	Daily
		Nitrate (as nitrogen)	<44 kilograms	

2.3.3 The Licensee shall discharge saline water from W1 within a horizontal radius of up to six metres from the diffuser outfall and extending vertically through the water column.

2.3.4 The Licensee shall only discharge saline water from W1 to the marine environment that does not cause visible floating oil, grease, scum, litter or other objectionable matter.

3 Monitoring

3.1 General monitoring

3.1.1 The licensee shall ensure that:
(a) all water samples are collected and preserved in accordance with AS/NZS 5667.1;
(b) all surface water sampling is conducted in accordance with AS/NZS 5667.4, AS/NZS 5667.6 or AS/NZS 5667.9 as relevant;
(c) all groundwater sampling is conducted in accordance with AS/NZS 5667.11;
(d) all sediment sampling is conducted in accordance with AS/NZS 5667.12; and
(e) all laboratory samples are submitted to and tested by a laboratory with current NATA accreditation for the parameters being measured.

3.1.2 The Licensee shall ensure that:
(a) monthly monitoring is undertaken at least 15 days apart;
(b) quarterly monitoring is undertaken at least 45 days apart; and
(c) annual monitoring is undertaken at least 9 months apart.

3.1.3 The Licensee shall record production or throughput data and any other process parameters relevant to any monitoring undertaken.

3.1.4 The Licensee shall ensure that all monitoring equipment used on the Premises to comply with the conditions of this Licence is calibrated in accordance with the manufacturer's specifications.

3.1.5 The Licensee shall, where the requirements for calibration cannot be practicably met, or a discrepancy exists in the interpretation of the requirements, bring these issues to the attention of the CEO accompanied with a report comprising details of any modifications to the methods.

3.2 Monitoring of point source emissions to air

3.2.1 The Licensee shall undertake the monitoring in Table 3.2.1 according to the specifications in that table.

Table 3.2.1: Monitoring of point source emissions to air					
Emission point reference	**Parameter**	**Units[1, 3]**	**Averaging period**	**Frequency[2]**	**Method**
A1	PM	mg/m^3	Stack Test (Minimum 60 Minute average)	Quarterly Until CEMS are installed	USEPA Method 5 or 17
	Nitrogen oxides		Stack Test (Minimum 30 Minute average)		USEPA Method 7D or 7E
	Sulfur dioxide		Stack Test (Minimum 30 Minute average)		USEPA Method 6 or 6C
	Total Volatile Organic Compounds		Stack Test (Minimum 30 Minute average)	Annually	USEPA Method 18
	Benzene				
	Carbon monoxide		Stack Test (Minimum 30 Minute average)		USEPA Method 10
	Metals As, Be, Cd, Co, Cr, Cu, Hg, Mn, Ni, Pb, Zn		Stack Test (Minimum 60 Minute average)		USEPA Method 29
	PM_{10}		Stack Test (Minimum 60 Minute average)		Laser diffraction of sample collected via USEPA Method 5 or 17
	$PM_{2.5}$				

Note 1: All units are referenced to STP dry
Note 2: Monitoring shall be undertaken to reflect normal operating conditions and any limits or conditions on inputs or production.
Note 3: Concentration units are referenced to 7% O_2.

3.2.2 The Licensee shall ensure that sampling required under Condition 3.2.1 of the Licence is undertaken at sampling locations in accordance with the AS 4323.1 or relevant part of the CEMS Code.

3.2.3 The Licensee shall ensure that all non-continuous sampling and analysis undertaken pursuant to condition 3.2.1 is undertaken by a holder of NATA accreditation for the relevant methods of sampling and analysis.

3.3 Monitoring of point source emissions to surface water

3.3.1 The Licensee shall undertake the monitoring in Table 3.3.1 according to the specifications in that table.

Table 3.3.1: Monitoring of point source emissions to surface water				
Emission point reference	**Monitoring point reference and location on Map of Monitoring points**	**Parameter**	**Units**	**Frequency**
W1	M1 - Collie power station saline water treatment plant discharge tank outlet	Discharge volume	m^3	Continuously when flowing (reported as weekly averages)
		Turbidity	NTU	
		Total dissolved solids (calculated from electrical conductivity)	mg/L	
		Dissolved oxygen	%	
		pH	-	Weekly
		Temperature	°C	
		Total suspended solids	mg/L	
		Phosphate-phosphorous, Nitrate-nitrogen, Total Petroleum Hydrocarbons	mg/L	Monthly
		sodium, potassium, calcium, magnesium, iron, manganese, chloride, sulphate, bicarbonate, silica, arsenic, cadmium, chromium, cobalt, copper, lead, mercury, nickel, vanadium, zinc		Quarterly

3.4 Process monitoring

3.4.1 The Licensee shall undertake the monitoring in Table 3.4.1 according to the specifications in that table.

Table 3.4.1: Process monitoring					
Monitoring point reference	**Process description**	**Parameter**	**Units**	**Frequency**	**Method**
PM1	PM1 - Ash Storage Dam Leachate Well	pH	-	Quarterly	None specified
		Total dissolved solids (calculated from Electrical conductivity), total suspended solids, chloride, sulphate	mg/L		
		Calcium, carbonate, bicarbonate, arsenic, barium, beryllium, boron, cadmium, chromium, cobalt, copper, fluoride, lead, iron, magnesium, manganese, mercury, molybdenum, nickel, selenium, strontium, vanadium, zinc		Annually	

3.5 Ambient environmental quality monitoring

3.5.1 The Licensee shall review their operations upon written notification from DER of any ambient target exceedance within the Collie area, as represented in the map of ambient air emission monitoring sites operated and maintained by Collie airshed power generators. The Licensee shall provide a report within 5 usual working days containing a summary of:

(a) operating conditions of the site for the 48hrs preceding and following the exceedance, including fuel consumption, load and coal sulphur content;
(b) any ambient monitoring data conducted by the Licensee for the 48hrs preceding and following the exceedance;
(c) any meteorological data conducted by the Licensee for the 48hrs preceding and following the exceedance; and
(d) any actions that the licensee has taken towards preventing, controlling or abating pollution or environmental harm since receiving the report; and
(e) any other factors relevant to the exceedance of the target.

3.5.2 The Licensee shall undertake the monitoring in Tables 3.5.1, 3.5.2, 3.5.3 and 3.5.4, according to the specifications in those tables.

Table 3.5.1: Monitoring of ambient marine water quality

Monitoring point reference and location on Map of monitoring locations	Parameter	Units	Averaging period	Frequency [1,2]
WS01-WS04, WP01, WP07	pH	-	Spot sample	Annually
	Temperature	°C		
	Total dissolved solids, total suspended solids, dissolved oxygen, bicarbonate	mg/L		
	Arsenic	µg/L		
	Cadmium			
	Chromium			
	Copper			
	Lead			
	Mercury			
	Vanadium			
	Zinc			

Note 1: Annual monitoring is to be undertaken in November
Note 2: Preferentially sampling shall occur 2 to 7 days after quarterly monitoring is conducted in accordance with Table 3.3.1

Table 3.5.2: Monitoring of marine biota (mussels)

Monitoring point reference and location on Map of monitoring locations	Parameter	Units	Averaging period	Frequency [1,2]
WP01, WP03-WP04, WP07	Arsenic, cadmium, chromium, copper, lead, mercury, vanadium, zinc	mg/kg	Spot sample	Annually

Note 1: Annual monitoring is to be undertaken in November
Note 2: Mussels are to be deployed at the monitoring locations for a period of six weeks prior to undertaking the monitoring.

Table 3.5.3: Monitoring of marine sediment quality				
Monitoring point reference and location on Map of monitoring locations	**Parameter**	**Units**	**Averaging period**	**Frequency[1]**
WP01, WP03-WP04, WP07	Arsenic, cadmium, chromium, copper, lead, mercury, vanadium, zinc	mg/kg	Spot sample	Annually

Note 1: Annual monitoring is to be undertaken in November

Table 3.5.4: Monitoring of ambient groundwater quality				
Monitoring point reference and location on Map of monitoring locations	**Parameter[1]**	**Units**	**Averaging period**	**Frequency**
MP3-MP12, MP14, MP16-20	Standing water level	m(AHD)	Spot sample	Quarterly
	pH	-		
	Total dissolved solids (calculated from Electrical conductivity), chloride, sulphate	mg/L		
MP17-MP20	Aluminium, iron, manganese			
MP17-MP20	Arsenic, selenium		Spot sample	Annually
MP7-12, MP14, MP16-MP20	Potassium, calcium, magnesium, carbonate, bicarbonate, cadmium, chromium, copper, lead, mercury, nickel, zinc			
MP7-12, MP14, MP16	Aluminium, barium, beryllium, boron, bromide, cobalt, fluoride, iron , manganese, nitrate, nitrite, strontium			

Note 1: Standing water level shall be measured prior to sampling each groundwater monitoring location.

4 Information

4.1 Records

4.1.1 All information and records required by the Licence shall:
- (a) be legible;
- (b) if amended, be amended in such a way that the original and subsequent amendments remain legible or are capable of retrieval;
- (c) except for records listed in 4.1.1(d) be retained for at least 6 years from the date the records were made or until the expiry of the Licence or any subsequent licence; and
- (d) for those following records, be retained until the expiry of the Licence and any subsequent licence:
  - (i) off-site environmental effects; or
  - (ii) matters which affect the condition of the land or waters.

4.1.2 The Licensee shall ensure that:
- (a) any person left in charge of the Premises is aware of the conditions of the Licence and has access at all times to the Licence or copies thereof; and
- (b) any person who performs tasks on the Premises is informed of all of the conditions of the Licence that relate to the tasks which that person is performing.

4.1.3 The Licensee shall complete an Annual Audit Compliance Report indicating the extent to which the Licensee has complied with the conditions of the Licence, and any previous licence issued under Part V of the Act for the Premises for the previous annual period.

4.1.4 The Licensee shall implement a complaints management system that as a minimum records the number and details of complaints received concerning the environmental impact of the activities undertaken at the Premises and any action taken in response to the complaint.

4.2 Reporting

4.2.1 The Licensee shall submit to the CEO an Annual Environmental Report by 30 September in each year. The report shall contain the information listed in Table 4.2.1 in the format or form specified in that table.

Table 4.2.1: Annual Environmental Report

Condition or table (if relevant)	Parameter	Format or form[1]
-	Summary of any failure or malfunction of any pollution control equipment and any environmental incidents that have occurred during the annual period and any action taken	None specified
1.3.5	Internal compliance audit of the Collie Power Station Ash Dam Environmental Management Plan	
1.3.4	Annual Ash Storage Dam water balance	
Tables 2.2.2, 2.3.2	Summary of Limit exceedances	
Table 3.2.1	Results of point source emission to air monitoring	
Table 3.3.1	Results of point source emission to surface water monitoring	
Table 3.4.1	Results of process monitoring	
Table 3.5.1	Results of ambient marine water quality monitoring	
Table 3.5.2, Table 3.5.3	Results of ambient marine biota and sediment monitoring	
Table 3.5.4	Results of ambient groundwater quality monitoring	
4.1.3	Compliance	Annual Audit Compliance Report (AACR)
4.1.4	Complaints summary	None specified

Note 1: Forms are in Schedule 2

4.2.2 The Licensee shall ensure that the Annual Environmental Report also contains:
(a) any relevant process, production or operational data recorded under Condition 3.1.3; and
(b) an assessment of the information contained within the report against previous monitoring results and Licence limits and/or targets.

4.2.3 The Licensee shall submit the information in Table 4.2.2 to the CEO according to the specifications in that table.

Table 4.2.2: Non-annual reporting requirements					
Condition or table (if relevant)	**Parameter**	**Averaging period**	**Reporting period**	**Reporting date (after end of the reporting period)**	**Format or form**
1.3.6	Triennial Hydrogeological Assessment and Monitoring Review	-	Triennially (commencing 1 July 2014-30 June 2017)	30 September	None specified
-	Copies of original monitoring reports submitted to the Licensee by third parties	Not applicable	Not Applicable	Within 14 days of the CEOs request	As received by the Licensee from third parties

Note 1: Forms are in Schedule 2

4.3 Notification

4.3.1 The Licensee shall ensure that the parameters listed in Table 4.3.1 are notified to the CEO in accordance with the notification requirements of the table.

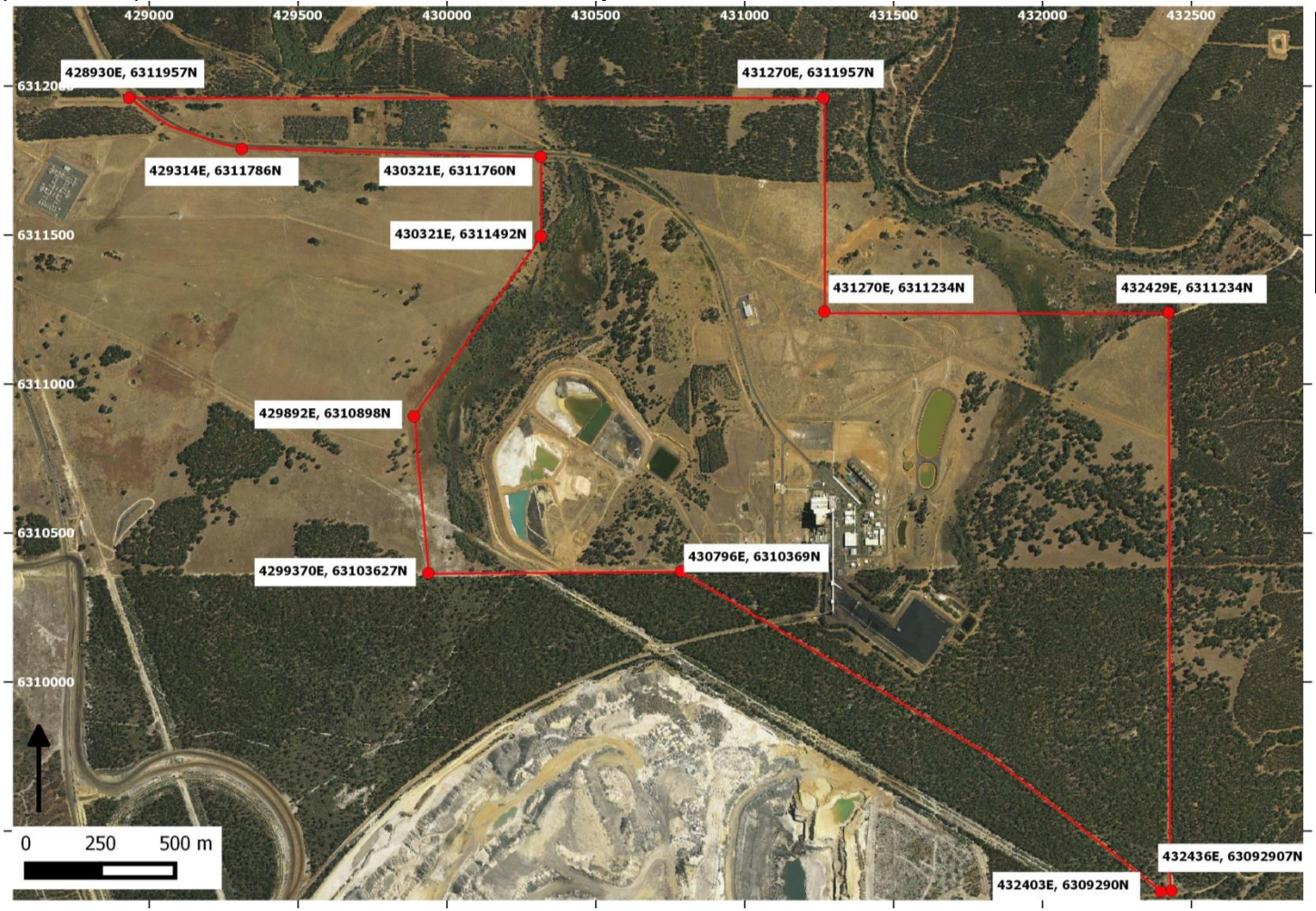
Table 4.3.1: Notification requirements			
Condition or table (if relevant)	**Parameter**	**Notification requirement[1]**	**Format or form[2]**
Tables 2.2.2, 2.3.2	Breach of any limit specified in the Licence	Part A: As soon as practicable on becoming aware of the incident but no later than 5pm of the next usual working day. Part B: Within 7 working days of becoming aware of the exceedance.	N1
3.1.5	Calibration report	As soon as practicable.	None specified

Note 1: Notification requirements in the licence shall not negate the requirement to comply with s72 of the Act
Note 2: Forms are in Schedule 2

Schedule 1: Maps

Premises map

The Premises is shown in the map below. The red line depicts the Premises boundary. The premises boundary excludes the Flyash Australia Operation (L8322/2002) located within the area described in the adjacent table.

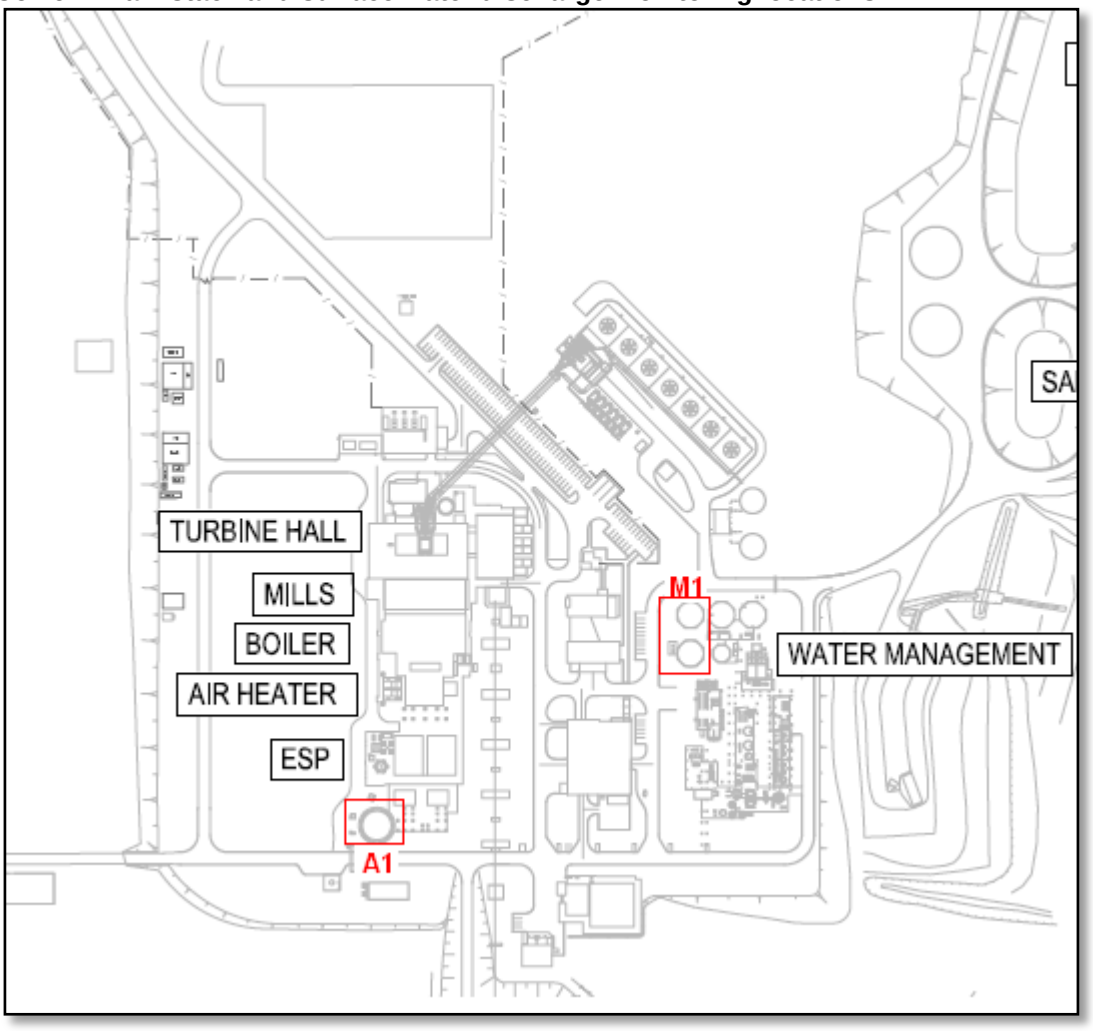


Flyash Australia Premises Boundary	
Easting	***Northing***
431203	6310517
431212	6310517
431199	6310493
431211	6310495
431199	6310479
431203	6310465
431211	6310465

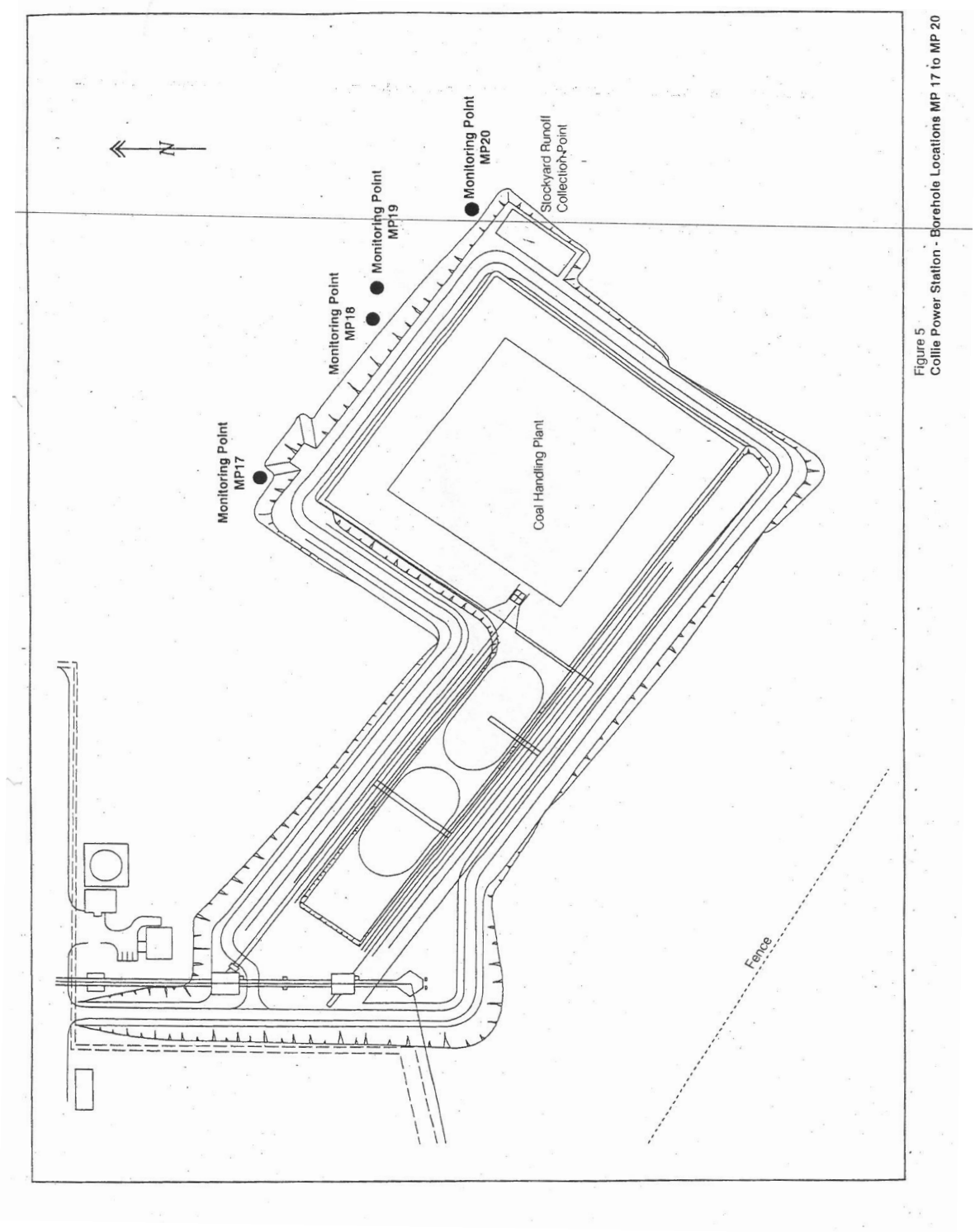
Map of emission points and monitoring locations

The locations of the emission points and monitoring locations defined in Tables 2.2.1, 2.3.1, 3.3.1, 3.4.1, 3.5.1, 3.5.2 and 3.5.4 are shown below.

Collie A main stack and surface water discharge monitoring locations



Coal Stockyard monitoring locations



Ash Storage Dam monitoring locations

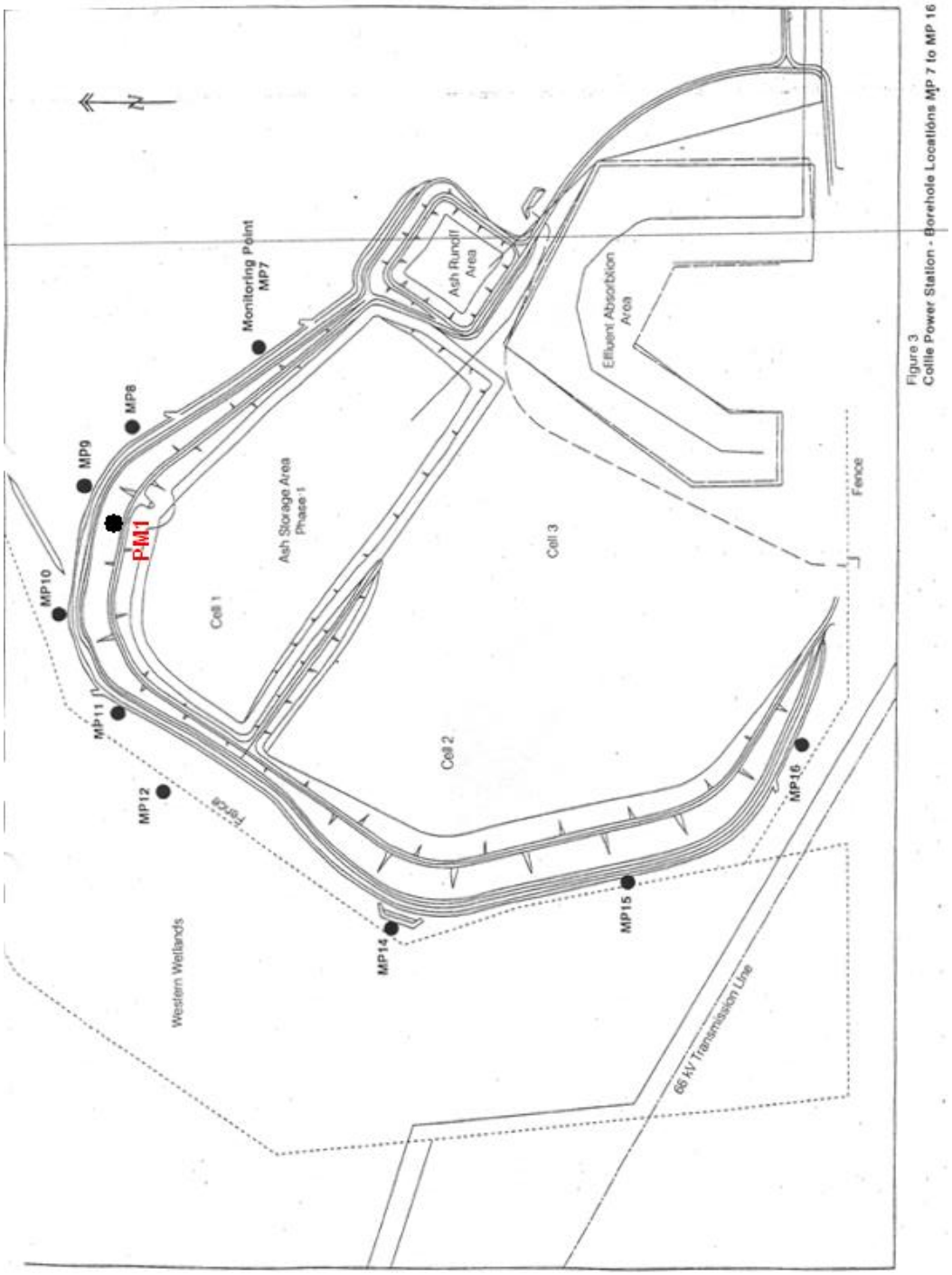


Figure 3
Collie Power Station - Borehole Locations MP 7 to MP 16

Saline Water Dam monitoring locations

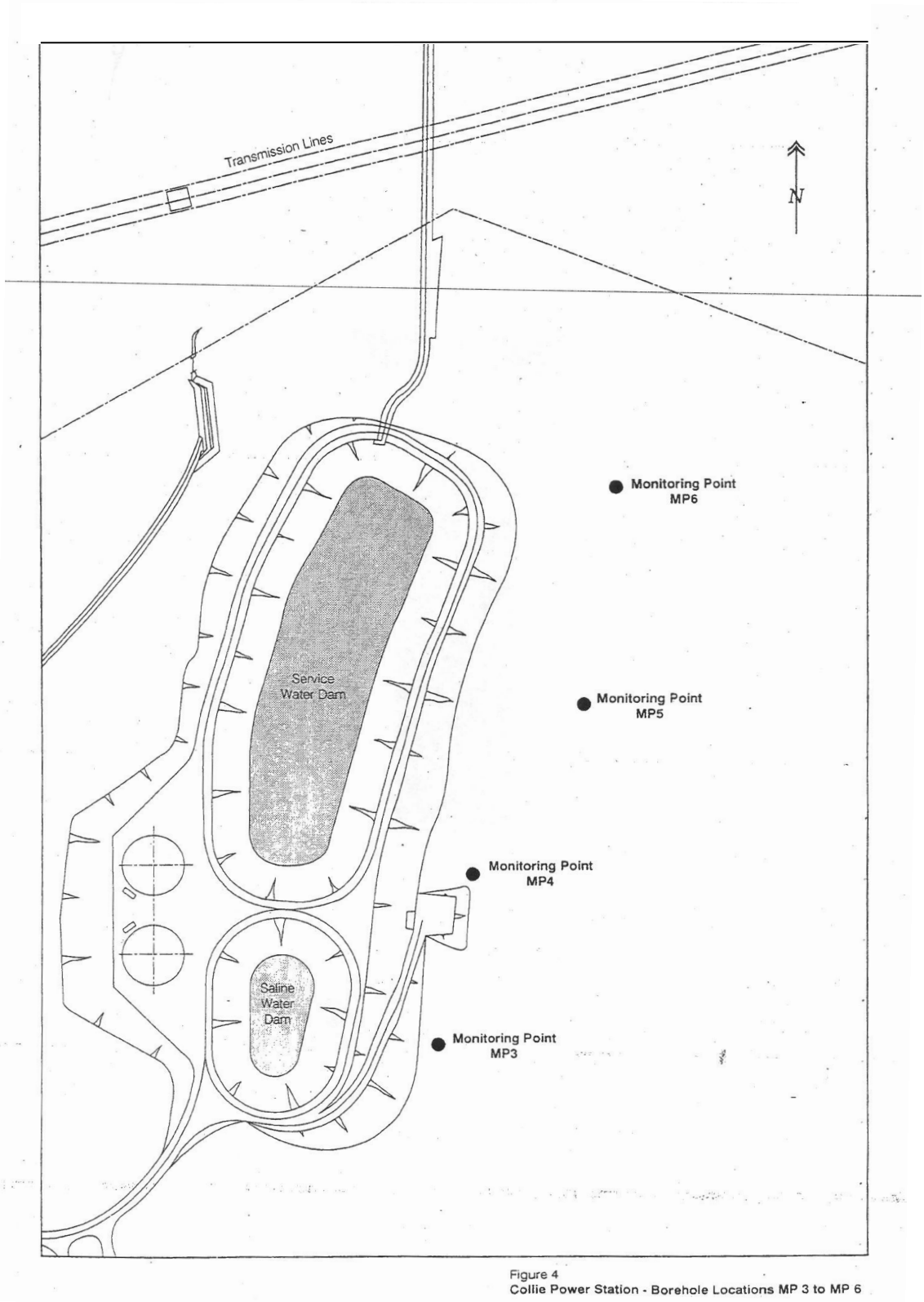
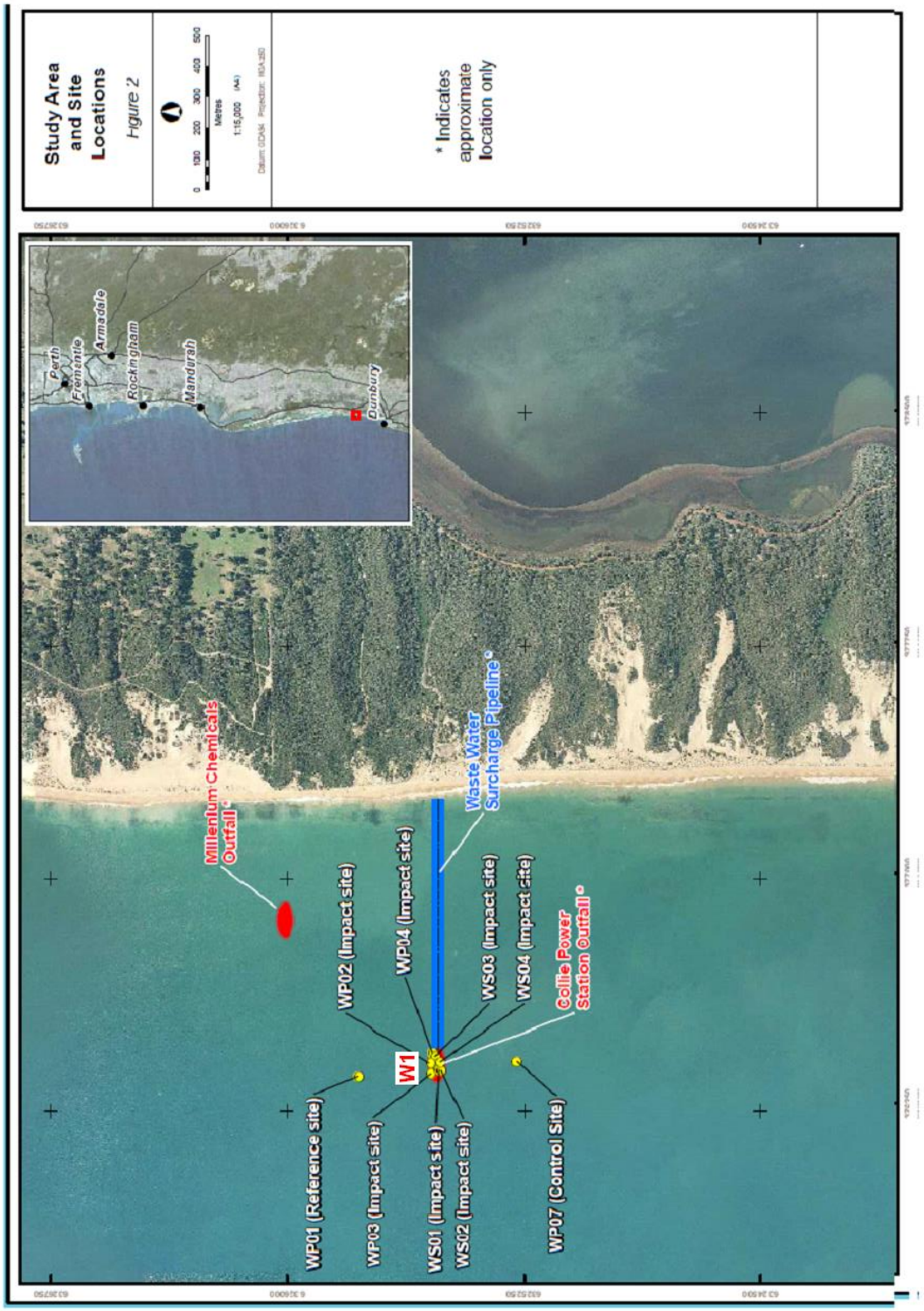


Figure 4
Collie Power Station - Borehole Locations MP 3 to MP 6

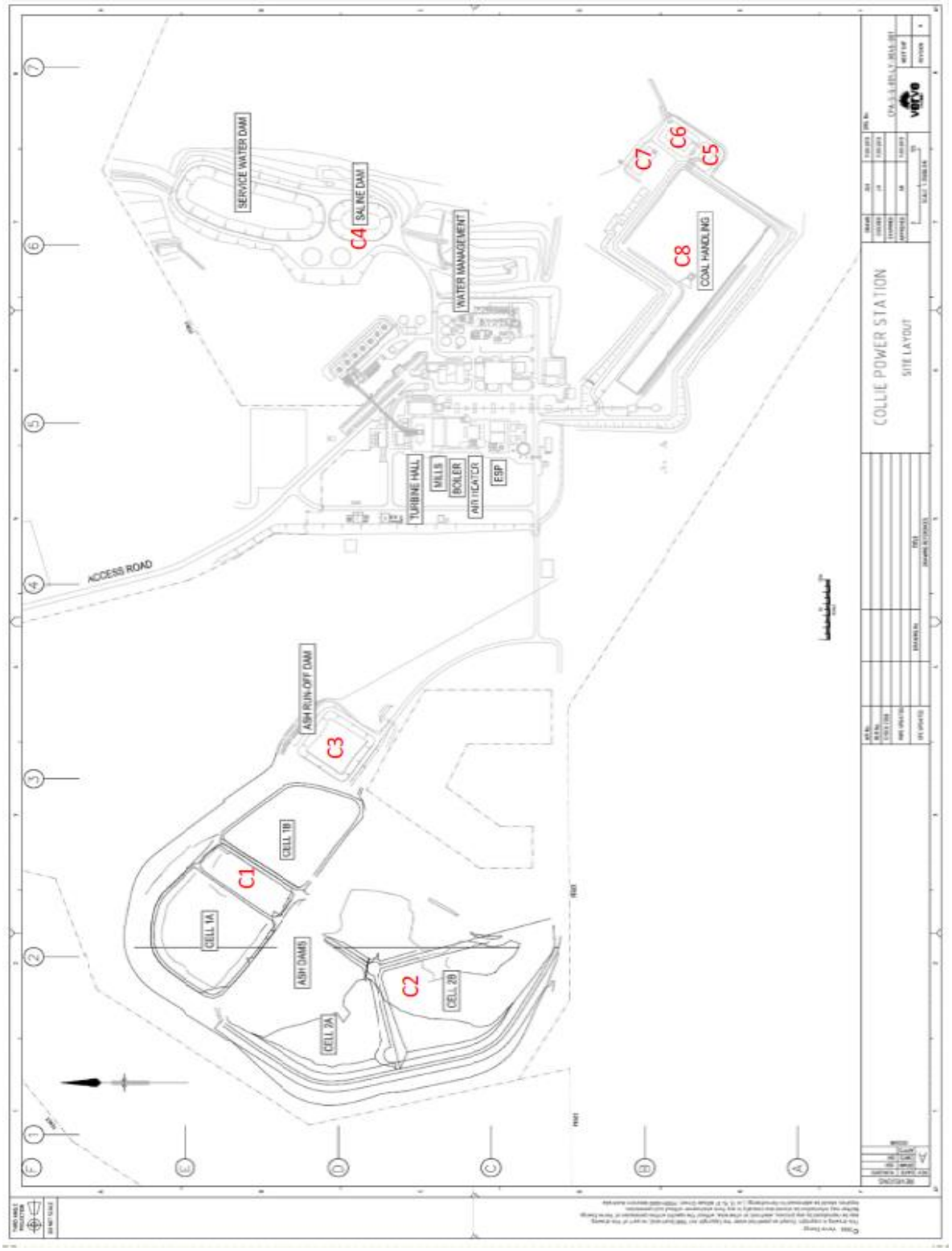
Marine discharge emission and monitoring locations



Note: WS01, WS02, WS03 and WS04 are located 6 metres either side of the diffuser.

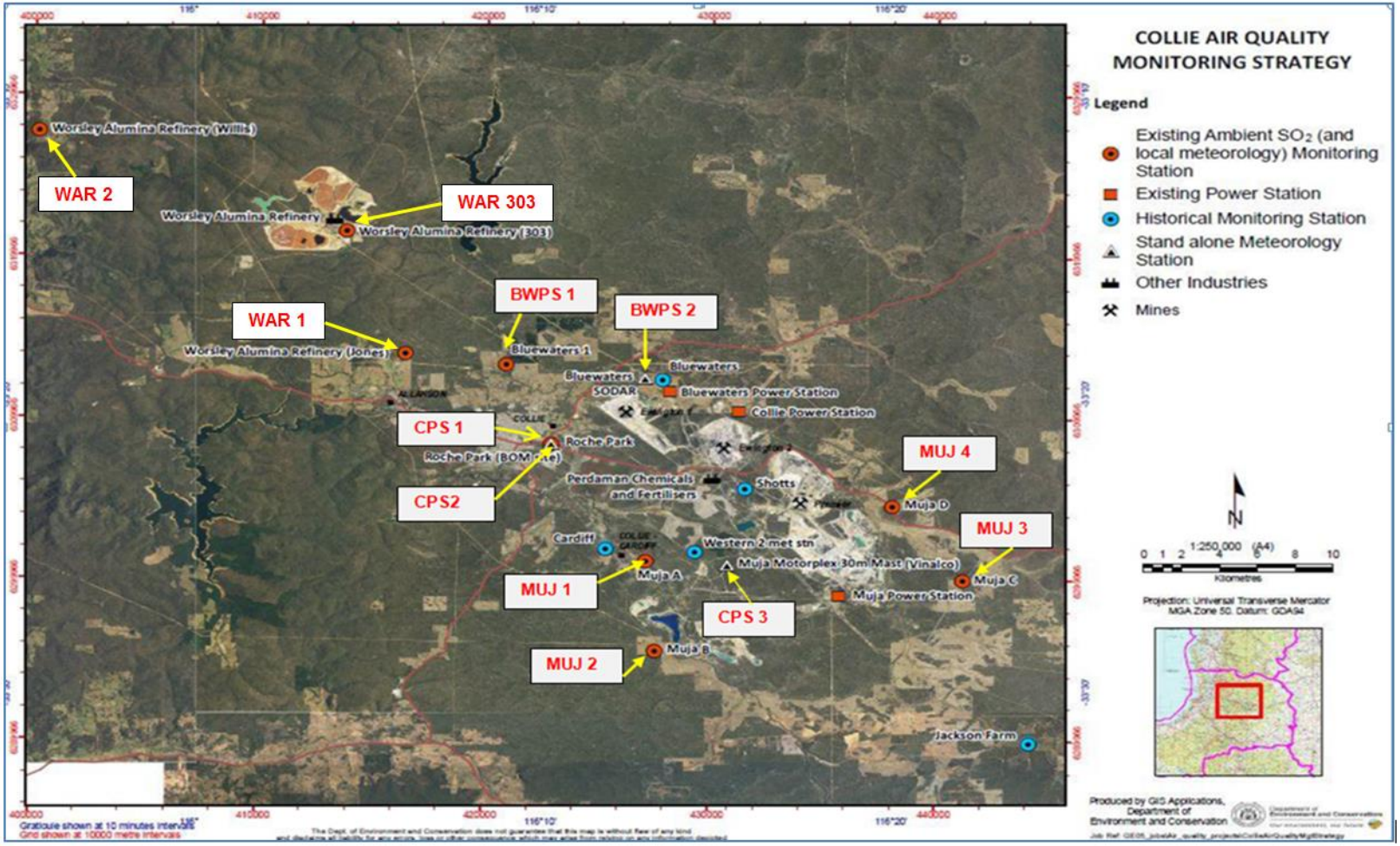
Map of storage locations

The location of the storage areas defined in Table 1.3.1 are shown below.

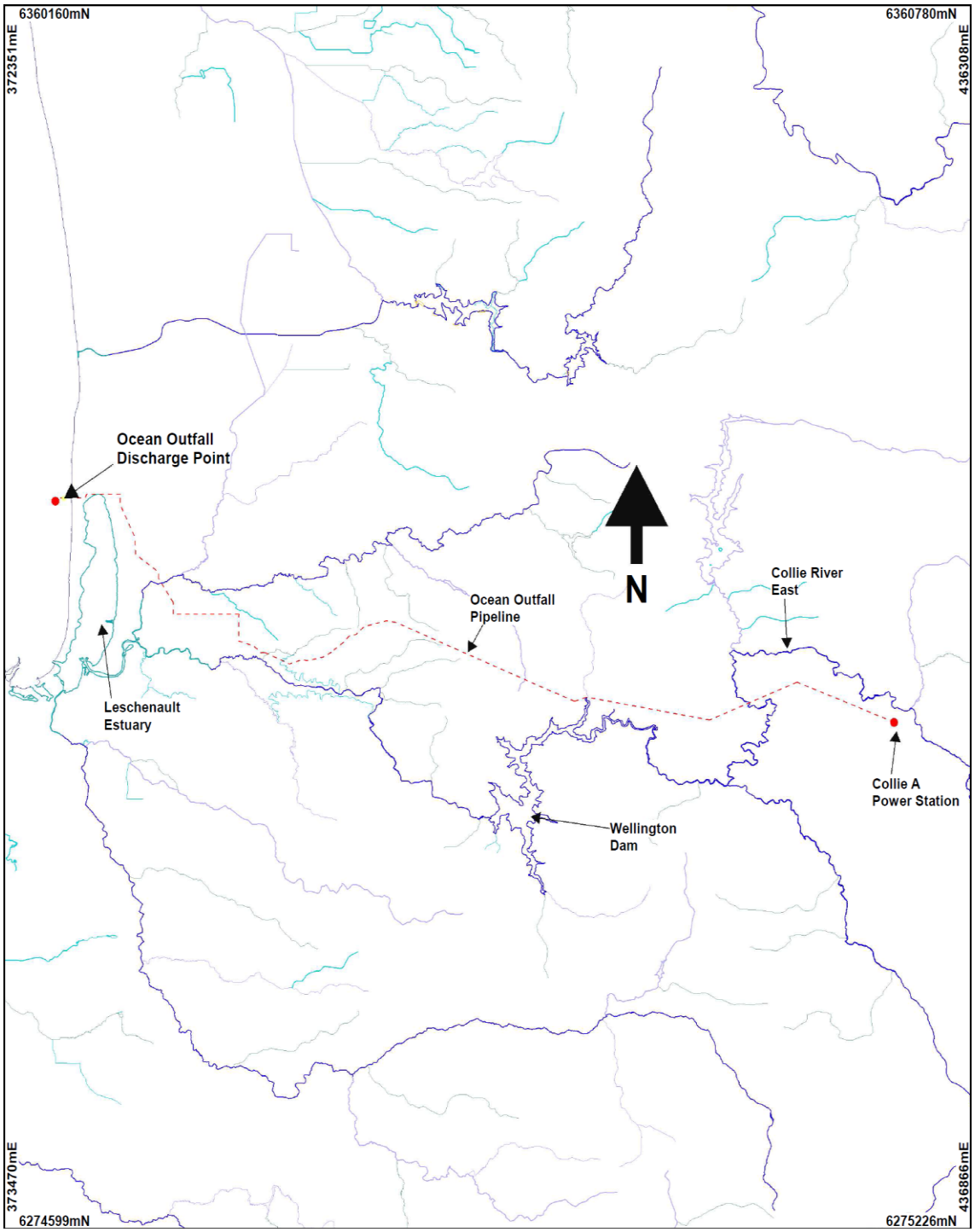


Map of ambient air quality monitoring sites

The locations of the Collie airshed power generators ambient air quality monitoring locations defined in Tables 3.4.1 and 3.5.1 are shown below.



Map of Collie Power Station ocean outfall pipeline



Schedule 2: Reporting & notification forms

These forms are provided for the proponent to report monitoring and other data required by the Licence. They can be requested in an electronic format.

ANNUAL AUDIT COMPLIANCE REPORT PROFORMA

SECTION A

LICENCE DETAILS

Licence Number:	Licence File Number:
Company Name: Trading as:	ABN:
Reporting period: _____ to _____	

STATEMENT OF COMPLIANCE WITH LICENCE CONDITIONS

1. Were all conditions of the licence complied with within the reporting period? (please tick the appropriate box)

Yes ☐ Please proceed to Section C

No ☐ Please proceed to Section B

Each page must be initialled by the person(s) who signs Section C of this Annual Audit Compliance Report (AACR).

Initial:

SECTION B
DETAILS OF NON-COMPLIANCE WITH LICENCE CONDITION.

Please use a separate page for each licence condition that was not complied with.

a) Licence condition not complied with:	
b) Date(s) when the non compliance occurred, if applicable:	
c) Was this non compliance reported to DER?:	
☐ Yes ☐ Reported to DER verbally Date _____ ☐ Reported to DER in writing Date _____	☐ No
d) Has DER taken, or finalised any action in relation to the non compliance?:	
e) Summary of particulars of the non compliance, and what was the environmental impact:	
f) If relevant, the precise location where the non compliance occurred (attach map or diagram):	
g) Cause of non compliance:	
h) Action taken, or that will be taken to mitigate any adverse effects of the non compliance:	
i) Action taken or that will be taken to prevent recurrence of the non compliance:	

Each page must be initialled by the person(s) who signs Section C of this AACR

Initial:

SECTION C

SIGNATURE AND CERTIFICATION

This Annual Audit Compliance Report (AACR) may only be signed by a person(s) with legal authority to sign it. The ways in which the AACR must be signed and certified, and the people who may sign the statement, are set out below.

Please tick the box next to the category that describes how this AACR is being signed. If you are uncertain about who is entitled to sign or which category to tick, please contact the licensing officer for your premises.

If the licence holder is		**The Annual Audit Compliance Report must be signed and certified:**
An individual	□	by the individual licence holder, or
	□	by a person approved in writing by the Chief Executive Officer of the Department of Environment Regulation to sign on the licensee's behalf.
A firm or other unincorporated company	□	by the principal executive officer of the licensee; or
	□	by a person with authority to sign on the licensee's behalf who is approved in writing by the Chief Executive Officer of the Department of Environment Regulation.
A corporation	□	by affixing the common seal of the licensee in accordance with the Corporations Act 2001; or
	□	by two directors of the licensee; or
	□	by a director and a company secretary of the licensee, or
	□	if the licensee is a proprietary company that has a sole director who is also the sole company secretary – by that director, or
	□	by the principal executive officer of the licensee; or
	□	by a person with authority to sign on the licensee's behalf who is approved in writing by the Chief Executive Officer of the Department of Environment Regulation.
A public authority (other than a local government)	□	by the principal executive officer of the licensee; or
	□	by a person with authority to sign on the licensee's behalf who is approved in writing by the Chief Executive Officer of the Department of Environment Regulation.
a local government	□	by the chief executive officer of the licensee; or
	□	by affixing the seal of the local government.

It is an offence under section 112 of the *Environmental Protection Act 1986* for a person to give information on this form that to their knowledge is false or misleading in a material particular. There is a maximum penalty of $50,000 for an individual or body corporate.

I/We declare that the information in this annual audit compliance report is correct and not false or misleading in a material particular.

SIGNATURE: _____

NAME:
(printed) _____

POSITION: _____

DATE: _____/_____/_____

SIGNATURE: _____

NAME:
(printed) _____

POSITION: _____

DATE: _____/_____/_____

Licence: L6637/1995/14 Licensee: Electricity Generation and Retail Corporation
Form: N1 Date of breach:

Notification of detection of the breach of a limit

These pages outline the information that the operator must provide. Units of measurement used in information supplied under Part A and B requirements shall be appropriate to the circumstances of the emission. Where appropriate, a comparison should be made of actual emissions and authorised emission limits.

Part A

Licence Number	
Name of operator	
Location of Premises	
Time and date of the detection	

Notification requirements for the breach of a limit	
Emission point reference/ source	
Parameter(s)	
Limit	
Measured value	
Date and time of monitoring	
Measures taken, or intended to be taken, to stop the emission	

Part B

Any more accurate information on the matters for notification under Part A.	
Measures taken, or intended to be taken, to prevent a recurrence of the incident.	
Measures taken, or intended to be taken, to rectify, limit or prevent any pollution of the environment which has been or may be caused by the emission.	
The dates of any previous N1 notifications for the Premises in the preceding 24 months.	

Name	
Post	
Signature on behalf of Electricity Generation and Retail Corporation T/A Synergy	
Date	

Government of Western Australia
Department of Environment Regulation

Decision Document

Environmental Protection Act 1986, Part V

Proponent: Electricity Generation and Retail Corporation T/A Synergy

Licence: L6637/1995/15

Registered office: Australia Place, 11th Floor
15-17 William St
PERTH WA 6000

ACN: -

Premises address: Collie 'A' Power Station
Boys Home Road
PALMER WA 6225
Being Part of Lot 3001 on Plan 51101

Issue date: 9 October 2014

Commencement date: 18 October 2014

Expiry date: 17 October 2036

Decision

Based on the assessment detailed in this document, the Department of Environment Regulation (DER) has decided to issue an amended licence. DER considers that in reaching this decision, it has taken into account all relevant considerations and legal requirements and that the Licence and its conditions will ensure that an appropriate level of environmental protection is provided.

Decision Document prepared by: Jonathan Bailes
Manager Licensing (Process Industries)

Decision Document authorised by: Ed Schuller
Delegated Officer

Contents

1 Purpose of this Document

This decision document explains how DER has assessed and determined the application and provides a record of DER's decision-making process and how relevant factors have been taken into account. Stakeholders should note that this document is limited to DER's assessment and decision making under Part V of the *Environmental Protection Act 1986.* Other approvals may be required for the proposal, and it is the proponent's responsibility to ensure they have all relevant approvals for their Premises.

2 Administrative summary

Administrative details		
Application type	Works Approval ☐ New Licence ☐ Licence amendment ☒ Works Approval amendment ☐	
Activities that cause the premises to become prescribed premises	**Category number(s)**	**Assessed design capacity**
	12	1.2 million tonnes of coal per annual period
	52	340MWe per annual period
	53	95 000 tonnes per annual period
	61	1,862,000 tonnes per annual period
Application verified Application fee paid	Date: N/A Date: N/A	
Works Approval has been complied with Compliance Certificate received	Yes☐ No☐ N/A☒ Yes☐ No☐ N/A☒	
Commercial-in-confidence claim	Yes☐ No☒	
Commercial-in-confidence claim outcome		
Is the proposal a Major Resource Project?	Yes☐ No☒	
Was the proposal referred to the Environmental Protection Authority (EPA) under Part IV of the *Environmental Protection Act 1986*?	Yes☒ No☐	Referral decision No: 132 and 900 Managed under Part V ☐ Assessed under Part IV ☒
Is the proposal subject to Ministerial Conditions?	Yes☒ No☐	Ministerial statement No: 146 and 394 EPA Report No: 472 and 777

Administrative details	
Does the proposal involve a discharge of waste into a designated area (as defined in section 57 of the *Environmental Protection Act 1986*)?	Yes☒ No☐ Department of Water consulted Yes ☐ No ☒ Amendment not associated with the discharge of waste into a designated area.
Is the Premises within an Environmental Protection Policy (EPP) Area Yes☐ No☒	
Is the Premises subject to any EPP requirements? Yes☐ No☒	

3 Executive summary of proposal and assessment

Collie A Power Station (Collie A) is a 340MWe, single generation unit; coal-fired thermal power station located approximately 10 km east of the town of Collie. The power station has been in operation since 1999 and is owned by Synergy. Electricity generated at this facility supplies customers via the South-West Interconnected System (SWIS).

Pre-crushed coal is delivered to Collie A via an overland conveyor from the Premier Coal Mine, approximately 6 km south-east. Coal is transferred from the stockpiles to the Power Block where it is fed into a boiler with low Nitrogen oxide (NOx) burners. Coal is burnt in the boiler with the resultant heat being used to heat circulating water to generate steam. High-pressure steam is then directed to a turbine hall to spin a single turbine which generates power. Steam exhausted from the turbine is cooled in a condenser and returned to the boiler for reuse.

The primary emissions of the exhaust gases include carbon monoxide (CO), carbon dioxide (CO2), sulfur dioxide (SO2), oxides of nitrogen (NOx) and particulate matter with minor emissions of metals and organics. Waste water is treated on site, and approximately 65% of the treated water is reused on site with the remainder being discharged via the 68 km underground ocean outfall pipeline north of the Leschenault Inlet. The water is discharged through a diffuser at a depth of 10 m approximately 710 m offshore.

Fly ash and bottom ash that is not removed offsite for beneficial use are discharged to the Ash Storage Dam on the premises. Fly ash is slurried with water and transported via a pipeline while bottom ash is collected and intermittently trucked to the Ash Storage Dam. Decant water from the Ash Storage Dam is collected in a lined pond and returned to the power station for reuse or treatment and disposal.

This decision document assesses the licensee's proposal to revise licence limits for discharge to surface water via the ocean outfall pipeline to allow alternative wastewater sources to be discharged via the pipeline. Current licence limits restrict water sources which can be used and disposed of by the power station. Changes to conditions consistent with the current DER licence format have also been described where required in the decision document. DER has considered whether the risk profile of other emissions and discharges from the premises has significantly changed as a result of the proposed amendment. No significant changes have occurred therefore DER has not amended any other conditions relating to emissions and discharges.

4 Decision table

All applications are assessed in line with the *Environmental Protection Act 1986*, the *Environmental Protection Regulations 1987* and DER's Operational Procedure on Assessing Emissions and Discharges from Prescribed Premises. Where other references have been used in making the decision, they are detailed in the decision document.

DECISION TABLE			
Works Approval / Licence section	**Condition number** **W = Works Approval** **L= Licence**	**Justification (including risk description & decision methodology where relevant)**	**Reference documents**
General conditions	L1.2.2(removed)	Previous condition L1.2.2 has been removed from the licence in accordance with DER policy.	General provisions of the *Environmental Protection Act 1986* *Environmental Protection (Unauthorised Discharges) Regulations 2004*
Point source emissions to air	L2.2.2 L3.2.1, Table 3.2.1	The wording of condition 2.2.2 was inconsistent with the requirements specified in Table 2.2.2. The condition wording has been modified to clarify that the point source emission to air values stated in Table 2.2.2 are limits. In addition to this, the notification requirements in Table 4.3.1 have been updated to include notification of exceedances of the limits in Table 2.2.2. The monitoring method for PM_{10} and $PM_{2.5}$ in Table 3.2.1 (condition 3.2.1) has been modified from USEPA Method 201A to laser diffraction of sample collected via USEPA Method 5 or 17. This change was required due to the monitoring port being too small for the sample probe required to comply with USEPA Method 201A requirements. Laser diffraction of a collected particulate matter sample is a suitable alternative method for determination of the PM10 and $PM_{2.5}$ component of a dust sample.	Collie Power Station, Annual Audit Compliance Report, L6637/1995/15, 17 October 2014 – 30 June 2015

DECISION TABLE			
Works Approval / Licence section	**Condition number W = Works Approval L= Licence**	**Justification (including risk description & decision methodology where relevant)**	**Reference documents**
Point source emissions to surface water including point source and ambient monitoring	L1.3.7 L2.3.1 – L2.3.4 L3.3.1 L3.5.2 (Tables 3.5.1 to 3.5.3)	Emission Description *Emission:* Point source emission of treated wastewater from Collie A power station via the ocean outfall pipeline. Wastewater comprises cooling tower blowdown, ash dam return water, reverse osmosis reject water, and water treatment waste which has been treated through a reverse osmosis plant. The premises is also able to accept waste brine from Bluewaters and Muja Power stations, Colltech, and the Synergy Central Water Receival Facility (CWRF) for discharge via the ocean outfall pipeline. *Impact:* Discharge of wastewater to the marine environment has the potential to cause contamination, changes to marine and sediment chemistry, and impact on marine fauna if not appropriately treated, discharged and monitored. *Controls:* Wastewater disposal from Collie A power station via the ocean outfall pipeline was assessed under part IV of the *Environmental Protection Act 1986*. Ministerial Statement 394 required the ocean outfall to be located in an area of low conservation value off the Leschenault Peninsula and for the Licensee to manage the discharge in accordance with an approved environmental management plan. Discharge limits and monitoring requirements were also placed on the wastewater disposal operation through this licence (conditions L2.3.2 and L3.3.1). In addition to monitoring of wastewater discharged, annual ambient water, sediment and biota monitoring in the vicinity of the marine outfall is carried out under the licence. The current marine monitoring program has been undertaken on an annual basis since 1999 when the ocean outfall pipeline was commissioned. The monitoring program includes control and impact monitoring locations identified when initial modelling was carried out as part of the environmental impact assessment for discharge to the marine environment. Risk Assessment: *Consequence:* Minor *Likelihood*: Possible *Risk Rating*: Moderate	Application supporting documentation Collie Power Station Environmental Management Plan, Transfield Worley Power Services, 2014 Australian and New Zealand guidelines for fresh and marine water quality – 2000 Ministerial Statement 394

DECISION TABLE			
Works Approval / Licence section	**Condition number W = Works Approval L= Licence**	**Justification (including risk description & decision methodology where relevant)**	**Reference documents**
		Regulatory Controls: The licence specifies point source emission limits (2.3.2), targets (previous condition 2.3.3), and monitoring requirements (L3.3.1) for point source emissions to surface water via the ocean outfall pipeline. It also contains discharge specifications in conditions 2.3.3 and 2.3.4 to ensure the likelihood of discharge impacting on the marine environment is minimised. The licence included an emission target for total suspended solids (TSS). However, this has been removed in accordance with administrative changes implemented in DER. It is more appropriate for this target to act as in internal management tool to indicate when higher than typical TSS levels are occurring, which could indicate an issue with the water treatment system. TSS levels are generally below 20mg/L. The licensee has requested the emission limits in condition 2.3.2 be revised to allow greater flexibility in the use and disposal of water for power generation in the Collie region. The capacity to fully exploit alternative water sources in the Collie region is currently restricted by some of the limits on the discharge to surface water specified in the licence. The licensee has proposed the following changes to current discharge limits: • Increase the licence limit for cobalt from 0.1 mg/L to 0.23 mg/L; • Increase the licence limit for zinc from 0.5 mg/L to 1.6 mg/L; • Remove licence limits for common seawater ions including sulfate, sodium, chloride, calcium, magnesium and potassium; • Remove the licence limit for silica; and • Modify concentration-based limits for nutrients phosphate and nitrate to load based limits. Seawater ions The current emission limits were developed based on a combination of background seawater quality and the treatment capacity of the wastewater treatment system. The limits for common seawater ions were based on typical seawater quality and did not	

DECISION TABLE			
Works Approval / Licence section	**Condition number W = Works Approval L= Licence**	**Justification (including risk description & decision methodology where relevant)**	**Reference documents**
		account for dilution. They are therefore set at or below background. Initial modelling and design of the ocean outfall diffuser predicted there would be a 100 fold dilution factor within a six-meter mixing zone of the diffuser. Current modelling indicates that the initial dilution factor is 229. The major seawater ions are not considered to be contaminants in the marine environment, and there are no marine ANZECC & ARMCANZ (2000) guidelines applicable. Given the low risk posed by these parameters and the lack of guidelines the limits have been removed from the licence. <u>Silica, cobalt, and zinc</u> The current licence limits for silica, cobalt and zinc have been based on the predicted quality of discharge water and the initial prediction of a 100 fold dilution factor within a six-meter mixing zone of the diffuser. The current limits are however lower than the trigger derived from the ANZECC & ARMCANZ (2000) guidelines. The background concentrations of these parameters are higher than the 99% species protection guideline, and therefore, the 95% species protection value has been used to calculate an appropriate limit. Current modelling indicates that the initial dilution factor is significantly higher than 100 and has been conservatively calculated as 229. The limits for cobalt and zinc have been increased in accordance with the recalculated dilution factor and based on ANZECC & ARMCANZ (2000) guidelines. This is summarised in the table below: **Parameter** / **ANZECC trigger (mg/L)** / **Background (mg/L)** / **Initial dilution** / **Revised trigger (mg/L)** / **Present limit (mg/L)** Cobalt / 0.001[1] / 0.00001[2] / 229 / 0.23 / 0.1 Zinc / 0.007 / 0.00015[2] / 229 / 1.6 / 0.5 Notes: 1. ANZECC & ARMCANZ (2000) 99% guideline is below background. 95% guideline adopted as recommended by EPA (2015) 2. From Table 13 of McAlpine et al. (2005) The limit for silica has been removed as silica is not considered to be a contaminant in the marine environment and there are is marine ANZECC & ARMCANZ (2000) guideline	

DECISION TABLE			
Works Approval / Licence section	**Condition number W = Works Approval L= Licence**	**Justification (including risk description & decision methodology where relevant)**	**Reference documents**
		applicable. Other discharges from prescribed premises to the marine environment are not required to monitor for silica, and the licences do not contain limits for silica. <u>Nutrients</u> It is recognised that the overall load of nutrients entering the environment is more important that the concentration being discharged at any one time. The licensee has proposed that the current concentration limits are converted to load based daily limits, which have been calculated in accordance with the table below. Although the load limits correspond to an increase of the previous concentration limits, the revised loads are considered low risk, specifically, when comparing to other discharges to the same environment.	

Nutrient	Limit (mg/L)	Volume (ML/day)	Present load		Recommended limit	
			(kg/day)	(t/day)	(kg/day)	(t/day)
Phosphate	2	4.4	8.8	0.0088	17.6	0.017
Nitrate	5	4.4	22	0.022	44	0.044

<u>Monitoring</u>
The ambient marine monitoring program specified in condition L3.5.2 (Tables 3.5.1 to 3.5.3) remains on the licence to detect changes in the marine environment which may indicate an impact is occurring from the Collie A ocean discharge. The monitoring program has been occurring on an annual basis since 1999 and has not detected any significant changes which would indicate an impact is occurring. The current monitoring program includes targets for marine water quality which are based on ANZECC & ARMCANZ (2000) guideline trigger values for protection of 99% of species in a marine ecosystem. These targets have been removed from the licence in accordance with administrative changes implemented within DER. The targets should remain in the licensee's environmental management plan as internal triggers to detect and react to potential impacts from the wastewater discharge through comparison between control and impact site monitoring results.

DECISION TABLE			
Works Approval / Licence section	**Condition number W = Works Approval L= Licence**	**Justification (including risk description & decision methodology where relevant)**	**Reference documents**
		Residual Risk *Consequence:* Minor *Likelihood*: Possible *Risk Rating*: Moderate	
Fugitive emissions	L2.6.1 (removed)	The risk of fugitive dust has been reviewed as part of this licence amendment in line with administrative changes made within DER. Emission Description *Emission:* Dust emissions from coal transfer points, coal stockpiles, fly ash handling and storage, and open and trafficable areas. *Impact:* Dust emissions have the potential to reduce local air quality and have a nuisance impact on sensitive receptors outside the premises boundary. There is potential for minor reversible impact and local concern if dust emissions from the Premises are not managed appropriately. The surrounding area is predominantly State Forest, coal mining, and power generation activities, with the nearest sensitive receptor being more than 4.5 km from the power station. *Controls*: Dust management is described in the Transfield Worley Power Services (the power station operator), Environmental Management Plan and Dust Management Plan. Sprinkler systems are in place at the coal storage stockpile and ash storage dam for use as required. Trafficable areas are sealed or treated with water or other suppressants to minimise dust emissions from open areas and vehicle movements. Routine maintenance and housekeeping is undertaken to prevent accumulation of dust. Fly ash is transferred in a slurry form to the ash storage dam and residual moisture in the facility assists in reducing the likelihood of dust emissions. DER has no recent records of dust complaints relating to the premises. Risk Assessment *Consequence:* Insignificant *Likelihood*: Unlikely	General provisions of the *Environmental Protection Act 1986* Collie Power Station Environmental Management Plan, Transfield Worley Power Services, 2014 Transfield Worley Power Services, Collie Power Station, Dust Management Procedure, 2015

DECISION TABLE			
Works Approval / Licence section	**Condition number W = Works Approval L= Licence**	**Justification (including risk description & decision methodology where relevant)**	**Reference documents**
		Risk Rating: Low Regulatory Controls DER is satisfied that appropriate controls are in place to prevent and minimise fugitive emissions and therefore deems it appropriate to remove previous generic condition 2.6.1 relating to fugitive dust emissions from the operating licence. General provisions of the *Environmental Protection Act 1986* are sufficient to regulate this impact.	
Improvements	L4.1.1-L4.1.2 (removed)	Improvement Requirements IR1 to IR7 have been removed as part of this licence amendment as the licensee has provided the required information by the specified date of completion. Correspondence has been provided to the licensee advising of DER's review and assessment of the improvement conditions. No further improvements are required to be included on the licence as part of this amendment.	Muja Power Station SODAR Station in accordance with L4706/1972/17 Implementation Proposal Muja Power Station Ambient SO_2 monitoring sites in accordance with L4706/1972/17 Implementation Proposal Collie Power Station Continuous Emission Monitoring

DECISION TABLE			
Works Approval / Licence section	**Condition number W = Works Approval L= Licence**	**Justification (including risk description & decision methodology where relevant)**	**Reference documents**
			Implementation Plan Collie Power Station Dust Management Procedure 2015 Collie Power Station – Department of Environment Regulation Refire Licence Requirements (IR5 & IR6)
Information	L4.2.1 L4.2.2 L4.3.1	**Reporting** A review of reporting requirements in condition 4.2.1has been undertaken resulting in table numbers being updated as appropriate and reporting parameters being described in further detail to ensure reporting requirements are clear. **Notification** Condition 4.3.1 has been amended to remove notification requirements in the event of failure or malfunction of pollution control equipment or environmental incidents, as this replicated the requirements of section 72 of the EP Act. Notification requirements in the event of a target exceedance have also been removed as the licence no longer specifies any targets.	NA
Licence Duration	-	The licence expiry date has been changed to October 2036 in accordance with the notice published on 29 April 2016 and DER Guidance Statement on Licence Duration.	DER website

5 Advertisement and consultation table

Date	Event	Comments received/Notes	How comments were taken into consideration
22/08/2014	Proponent sent a copy of draft instrument	09/09/2014 – Meeting held between DER and Synergy to discuss the licence conditions and their implications. 14/09/2014 –Meeting between DER and Synergy to discuss licence conditions.	DER considered feedback provided by the proponent and incorporated changes where appropriate. DER formally responded to the proponent on issues raised.
25/02/2016	Office of the Environmental Protection Authority (OEPA) consulted on the regulation of the ocean outfall through Part IV of the *Environmental Protection Act 1986.*	OEPA recommended that matters related to emissions and discharges of waste should continue to be regulated under Part V of the *Environmental Protection Act 1986.*	N/A
Draft	Proponent sent a copy of draft instrument	No comments.	N/A

6 Risk Assessment

Note: This matrix is taken from the DER Corporate Policy Statement No. 07 - Operational Risk Management

Table 1: Emissions Risk Matrix

Likelihood	Consequence				
	Insignificant	Minor	Moderate	Major	Severe
Almost Certain	Moderate	High	High	Extreme	Extreme
Likely	Moderate	Moderate	High	High	Extreme
Possible	Low	Moderate	Moderate	High	Extreme
Unlikely	Low	Moderate	Moderate	Moderate	High
Rare	Low	Low	Moderate	Moderate	High