Government of Western Australia
Department of Water and Environmental Regulation

Licence

Licence number	L8395/2009/2
Licence holder	Electricity Generation and Retail Corporation T/A Synergy
Registered business address	Australia Place, 11th Floor 15-17 William St PERTH WA 6000
DWER file number	DEC268-2
Duration	01/10/2011 to 30/09/2024
Date of amendment	5/10/2022
Premises details	Pinjar Gas Turbine Power Station Perry Road PINJAR WA 6065 Legal description - Lot 500 on Plan 59628 Certificate of Title Volume 3158 Folio 926 Crown Reserve 50389

Prescribed premises category description (Schedule 1, *Environmental Protection Regulations 1987*)	**Assessed design capacity**
Category 52: Electric power generation: Premises (other than Premises within category 53 or an emergency or standby power generating plant) on which electrical power is generated using a fuel.	584.5 MWe

This licence is granted to the licence holder, subject to the attached conditions, on 5 October 2022, by:

Caron Goodbourn
Digitally signed by Caron Goodbourn
Date: 2022.10.05 13:40:47 +08'00'

Caron Goodbourn
MANAGER, PROCESS INDUSTRIES
an officer delegated under section 20 of the *Environmental Protection Act 1986* (WA)

Contents

Introduction

This Introduction is not part of the Licence conditions.

DWER's industry licensing role

The Department of Water and Environment Regulation (DWER) is a government department for the state of Western Australia in the portfolio of the Minister for Environment. DWER's purpose is to advise on and implement strategies for a healthy environment for the benefit of all current and future Western Australians.

DWER has responsibilities under Part V of the *Environmental Protection Act 1986* (the Act) for the licensing of prescribed premises. Through this process DER works with the business owners, community, consultants, industry and other representatives to prevent, control and abate pollution and environmental harm to conserve and protect the environment. DWER 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 within 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 Environment. You are required to comply with any conditions imposed by the Minister.

Premises description and Licence summary

Pinjar Gas Turbine Power Station is located approximately 50km north of Perth. The power station consists of six Frame 6 gas turbines and three Frame 9 gas turbines. The gas turbines are operated to supply electricity at times of peak demand, in emergency situations and for periodic testing. The primary fuel is natural gas, while units 1 to 5 and 7 can operate on distillate if required.

All turbines are operated remotely and controlled by Systems Operation Control Centre in East Perth. Synergy is responsible for the operation and maintenance of all turbines, plant and equipment at Pinjar. Key air emissions from the premises include nitrogen oxides, sulfur dioxide, particulates, carbon monoxide and volatile organic compounds. However, considering that the power station is only operated to meet peak demand, the risk associated with emissions to air is considered to be low. The premises is located on a Priority 1 water source protection area.

Drainage system at the premises consists of:

- *Level 1 - Containment Drainage System* at each unit which connects the most likely points for oil/chemical release. This collects liquid into tanks in the fuel oil storage area. These are routinely emptied and removed off site for disposal (controlled waste carrier);
- *Level 2 - Bunded Drainage System* which drains the immediate area around each Gas Turbine (predominantly rain water) through oil separators into the relevant North and South evaporation pond. Oil collected in the separators, is taken off site for disposal. The North and South evaporation ponds should never become contaminated with hydrocarbons. The evaporation ponds and the overflow pond are all HDPE double lined; and
- *Level 3 - Stormwater Drainage System* which drains uncontaminated stormwater from other tarmac areas outside the bunded areas and discharge at various sites along the site boundary.

Quarterly groundwater, pond water and oil water separator monitoring and storm water discharge sampling is undertaken as per the requirements of Ministerial Statements 61 and 171 and results are submitted to EPA & Department of Water annually.

Licence history

Date	Reference number	Summary of changes
31/12/2009	L8395/2009/1	New Application
01/10/2011	L8395/2009/2	Re-issue
31/10/2013	L8395/2009/2	Licence amendment to REFIRE format
15/8/2014	L8395/2009/2	Licence amended to change occupier name
29/04/2016	L8395/2009/2	Amendment Notice – CEO initiated amendment to extend expiry date to 30/09/2024
11/10/2018	L8395/2009/2	Amendment Notice - licence holder initiated to remove condition 3.2.3 which allows the licence holder to monitor point source emissions to air at sampling locations that are not in accordance with AS 4323.1
5/10/2022	L8395/2009/2	Licence holder-initiated amendment to remove the requirement to undertake annual emissions monitoring when gas turbines are not operational. Includes CEO initiated amendments to update licence format and remove redundant terminology and conditions

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 In the Licence, unless the contrary intention appears:

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

'AACR' means Annual Audit Compliance Report a report in a format approved by the CEO as presented by the Licence Holder or as specified by the CEO from time to time and published on the Department's website and a copy of the AACR form is accessible from the DWER website;

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

'Approved Methodology' means Pinjar Gas Turbines Station Environmental Licence Compliance, Methodology Report, Report No. GTB05/98, authored by Western Power and dated August 1998;

'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 Water and Environmental Regulation**;**

'CEO' for the purpose of correspondence means**;**

Chief Executive Officer
Department Administering the *Environmental Protection Act 1986*
Locked Bag 10
JOONDALUP DC WA 6027
Telephone: (08) 6364 7000
Facsimile: (08) 6364 7001
Email: info@dwer.wa.gov.au

'CO' means carbon monoxide**;**

'code of practice for the storage and handling of dangerous goods' means the document titled 'Storage and handling of dangerous goods: Code of Practice' published by the Department of Mines and Petroleum, as amended from time to time;

'dangerous goods' has the meaning defined in the Dangerous Goods Safety (Storage and Handling of Non-explosives) Regulations 2007;

‘environmentally hazardous material’ means material (either solid or liquid raw materials, materials in the process of manufacture, manufactured products, products used in the manufacturing process, by-products and waste) which if discharged into the environment from or within the premises may cause pollution or environmental harm. Note: Environmentally hazardous materials include dangerous goods where they are stored in quantities below placard quantities. The storage of dangerous goods above placard quantities is regulated by the Department of Mines and Petroleum;

‘fugitive emissions’ means all emissions not arising from point sources identified in Sections 2.2;

‘Licence’ means this Licence numbered L8395/2009/2 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;

‘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;

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

‘normal operating conditions’ means any operation of a particular process excluding start-up, shut-down and upset conditions, in relation to stack sampling or monitoring;

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

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

‘Schedule 1’ means Schedule 1 of this Licence unless otherwise stated;

‘Schedule 2’ means Schedule 2 of this Licence unless otherwise stated**;**

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

‘SO2’ means sulfur dioxide;

‘STP dry’ means standard temperature and pressure (0o Celsius and 101.325 kilopascals respectively), dry;

‘USEPA’ means United States (of America) Environmental Protection Agency;

‘USEPA Method 7E’ means the Test Method 7E - Determination of Nitrogen Oxides Emissions from Stationary Sources (Instrumental Analyzer Procedure);

‘usual working day’ means 0800 – 1700 hours, Monday to Friday excluding public holidays in Western Australia; and

‘VOCs’ means Volatile Organic Compounds

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.

1.2 General conditions

1.2.1 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.

1.2.2 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.

1.2.3 The Licensee, except where storage is prescribed in section 1.3, shall ensure that environmentally hazardous materials are stored in accordance with the code of practice for the storage and handling of dangerous goods.

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

1.2.5 The Licensee shall implement all practical measures to prevent stormwater run-off becoming contaminated by the activities and operations undertaken at the Premises.

2 Emissions

2.1 Point source emissions to air

2.1.1 The Licensee shall ensure that where waste is emitted to air from the emission points in Table 2.1.1 and identified on the map of emission points in Schedule 1 it is done so in accordance with the conditions of this Licence.

Table 2.1.1: Emission points to air

Emission point reference and location on Map of emission points	Emission Point	Emission point height (m)	Source, including any abatement
A1	Turbine 1	10.6	A Hitachi frame 6 turbine rated at 37.4 MW when firing on natural gas and for baseload operation and 36.6MW when firing on distillate.
A2	Turbine 2	10.6	
A3	Turbine 3	10.6	A European Gas Turbines frame 6 turbine rated at 38.3 MW when firing on natural gas and for baseload operation and 37.5 MW when firing on distillate
A4	Turbine 4	10.6	
A5	Turbine 5	10.6	
A6	Turbine 7	10.6	
A7	Turbine 9	24	A John Brown Engineering frame 9 turbine rated at 116.4 MW when firing on natural gas and for baseload operation.
A8	Turbine 10	24	
A9	Turbine 11	24	An EGT frame 9 turbine rated at 123.7MW when firing on natural gas and for baseload operation.

3 Monitoring

3.1 General monitoring

3.1.1 The licensee shall ensure that all 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 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 non-continuous or CEMS 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, on a rotational basis such that each frame 6 turbine stack (A1-A6) is tested at least once every 6 years and each frame 9 turbine stack (A7-A9) is tested at least once every 3 years, while the turbine is being fired on gas.

Table 3.2.1: Monitoring of point source emissions to air

Emission point reference	Parameter	Units[1,]	Averaging period	Frequency [2,3]	Method
Any one of A1, A2, A3, A4, A5, A6,	NOx	mg/m^3 g/s	Stack Test (minimum 30 minute average)	Annually or at least once every three years for each emission point reference	USEPA Method 7E
Any one of A7, A8, A9				Annually or at least once every six years for each emission point reference	USEPA Method 7E

Note 1: All units are referenced to STP dry
Note 2: All units are referenced to 15% O2.
Note 3: Emissions monitoring of gas turbines 1, 2, 3, 4, 5,7, 9, 10, 11 may be deferred if they are not operational within the emissions testing cycle within a given annual period to the subsequent monitoring period provided that each gas turbine is monitored within a three year period for A1-A6; or within a six year period for A7-A9.

3.2.2 The Licensee shall calculate on a monthly basis emissions data for parameters listed in Table 3.2.2 according to the specifications in that table using the Approved methodology.

Table 3.2.2: Calculations of emissions to air				
Emission point reference	**Parameter**	**Units[1]**	**Frequency[2]**	**Method**
A1-A9	NOx	mg/m^3	Monthly	Approved Methodology
	SO_2	g/s		
	PM			
	CO			
	VOCs			

Note 1: All units are referenced to STP dry
Note 2: All units are referenced to 15% O2.

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

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 must submit to the CEO by 1 October after the end of each annual period, and AACR indicating the extent to which the Licensee has complied with the Conditions in the Licence for the 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 a biennual Annual Environmental Report by 1 October every second year commencing after the end of the annual period 2023. 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
	Quantities of materials used	
	Quality and quantity of wastes produced	
3.2.1	Summary of last testing year for each turbine	
	Test dates for each turbine over the previous 8 annual reporting periods.	Table
3.2.2	Emissions data for the mass flow rate (g/minute) and concentrations for emissions (mg/m^3) from the power generation equipment, for parameters including NOx, SO_2, PM, CO and VOC, for each existing turbine calculated using the Approved Methodology	None specified
4.1.3	Compliance	AACR
4.1.4	Complaints summary	None specified
Table 3.2.1	NOx stack monitoring data	AR1 and NATA laboratory certificates

Note 1: Form is 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 with the data being presented in tabular format and significant results presented in graphical format including a discussion of any peaks in this data.

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	Reporting period	Reporting date	Format or form[1]
-	Copies of original monitoring reports submitted to the Licensee by third parties	Not Applicable	Within 14 days of the CEOs request	As received by the Licensee from third parties

Note 1: Form is 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.

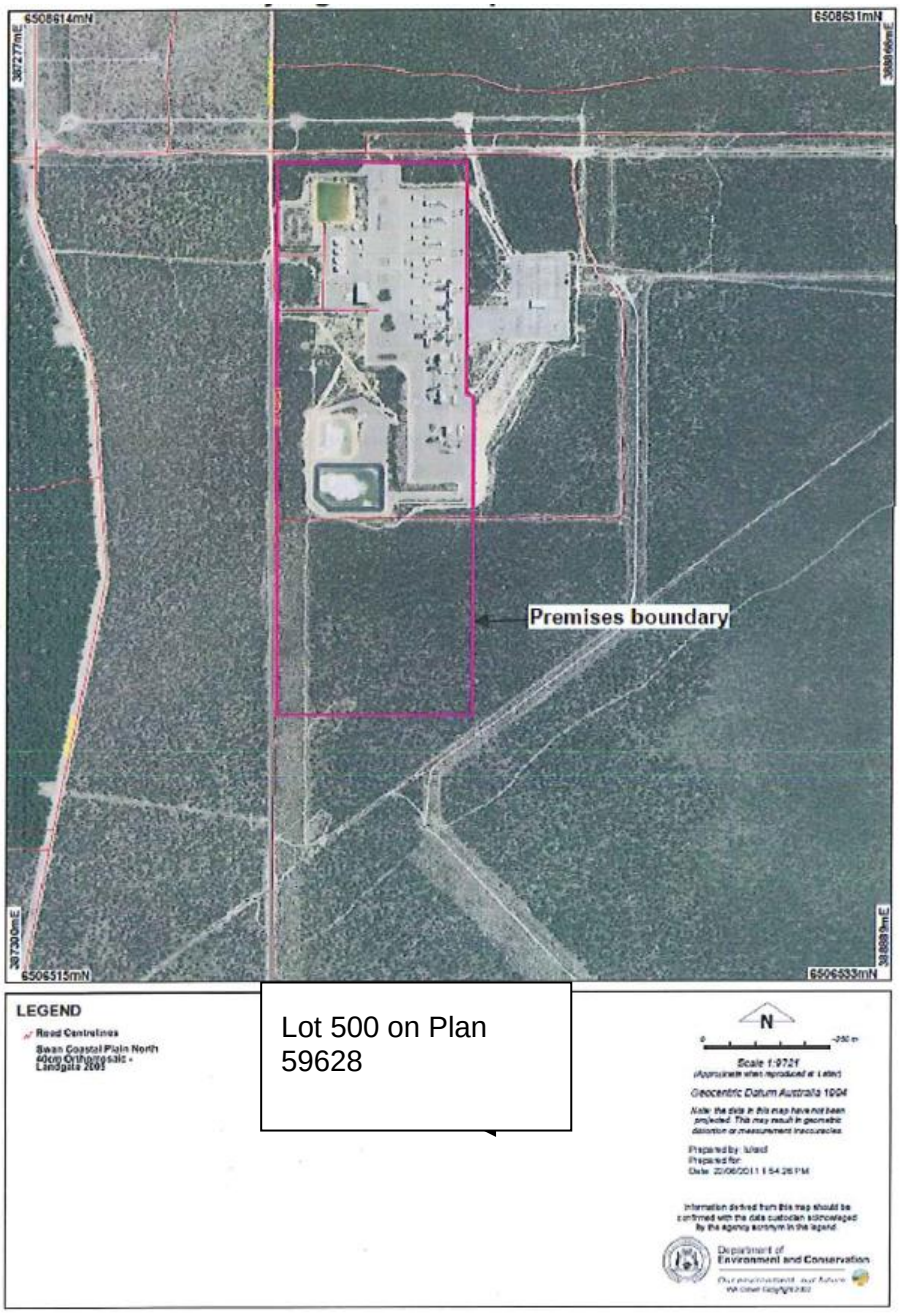
Table 4.3.1: Notification requirements

Condition or table (if relevant)	Parameter	Notification requirement[1]	Format or form[2]
3.1.5	Calibration report	As soon as practicable.	None specified

Schedule 1: Maps

Premises map

The Premises is shown in the map below. The pink line depicts the Premises boundary.



Map of emission points

The locations of the emission points defined in Tables 2.1.1, 3.2.1 and 3.2.2 are shown below.

Schedule 2: Reporting and notification form

Licence: L8395/2009/2

Licensee: Electricity Generation and Retail Corporation T/A Synergy

Form: AR1

Period:

Name: Monitoring of point source emissions to air

Form AR1: Monitoring of point source emissions to air						
Emission point	**Parameter**	**Result[1,2] (mg/m^3)**	**Result[1,2] (g/s)**	**Averaging period**	**Method**	**Sample date & times**
	NOx				USEPA Method 7E	

Note 1:All units are referenced to STP dry

Note 2:All units are referenced to 15% O_2

Signed on behalf of Electricity Generation and Retail Corporation T/A Synergy: ……..Date: …….