Government of **Western Australia**
Department of **Environment and Conservation**

Your ref: L8725/2013/1
Our ref: 2012/006425
Enquiries: Margaret Redfern
Phone: 08 9621 3401
Fax: 08 9621 3410
Email: Margaret.redfern@dec.wa.gov.a

The Manager
Perth Energy Pty Ltd
Level 4
165 Adelaide Terrace
PERTH WA 6004

Dear Sir/Madam,

***ENVIRONMENTAL PROTECTION ACT 1986*: LICENCE GRANTED**

Premises
Merredin Peak Power Station
LOT 191 ROBARTSON ROAD, MERREDIN
Licence Number: L8725/2013/1

A licence under the *Environmental Protection act 1986* (the Act) has been granted for the above premises. The Department of Environment and Conservation will advertise the issuing of this licence in the public notices section of *The West Australian* newspaper.

The licence includes attached conditions. Under Section 58(1) of the Act, it is an offence to contravene a condition of a licence. This offence carries a penalty of up to $125,000 and a daily penalty of up to $25,000

In accordance with section 102(1)(c) of the Act, you have 21 days to appeal the conditions of the licence. Under section 102(3)(a) of the Act, any other person may also appeal the conditions of the licence. To lodge an appeal contact the Office of the Appeals Convenor on 6467 5190 or by email at admin@appealsconvenor.wa.gov.au.

Where a licence is issued for more than one year it requires payment of an annual fee and will cease to have effect if the fee is unpaid. It is the occupier's responsibility to lodge a fee application and pay the annual fee in sufficient time to avoid incurring a late payment fee and for processing to be completed before the licence anniversary date.

If you have any queries regarding the above information, please contact Margaret Redfern on 08 9621 3401.

Yours sincerely

Officer delegated under Section 20
of the *Environmental Protection Act 1986*

Thursday, 14 March 2013

enc: *Environmental Protection Act 1986* Licence 8725/2013/1

WHEATBELT REGION
7 Wald Street, Narrogin
Phone: (08) 9881 9222 Fax: (08) 9881 3297
Postal Address: PO Box 100, Narrogin, Western Australia 6312
www.dec.wa.gov.au

Department of
Environment and Conservation
Our environment, our future

Licence

Environmental Protection Act 1986, Part V

Licensee: Merredin Energy Pty Ltd

Licence: L8725/2013/1

Registered office: Level 4, 165 Adelaide Terrace
EAST PERTH WA 6004

ACN: 135 889 851

Premises address: Merredin Peak Power Station
Lot 193 on Plan 72480, Robartson Road
MERREDIN WA 6424

Issue date: Thursday, 14 March 2013

Commencement date: Sunday, 17 March 2013

Expiry date: Friday, 16 March 2018

Prescribed Premises Category
Schedule 1 of the Environmental Protection Regulations 1987

Category number	Category description	Category production or design capacity	Premises production or design capacity
52	Electric power generation	≥ 10 MWe in aggregate (using a fuel other than natural gas)	82 MWe

Conditions of Licence
Subject to the conditions of licence set out in the attached pages.

W. M. Elliott

Wayne Elliott
Officer delegated under Section 20
of the *Environmental Protection Act 1986*

Contents

Introduction

This Introduction is not part of the Licence conditions.

Who we are
The Department of Environment and Conservation (DEC) is a Government Department in the portfolio of the Minister for the Environment. Our purpose is to protect and conserve the State's environment on behalf of the people of Western Australia.

Our industry licensing role
DEC has responsibilities under Part V of the *Environmental Protection Act 1986* (the Act) for the licensing of prescribed premises. We also monitor and audit compliance with works approvals and licence conditions, take enforcement action as appropriate and develop and implement 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 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. These 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 should comply with your licence. Non-compliance with your licence is an offence and strict penalties exist for those who do not comply. Additional guidance on pollution prevention can be found in the Department of Water's Water Quality Protection Guidelines and Codes of Practice accessed through:
http://www.water.wa.gov.au/Managing+water/Water+quality/Water+quality+protection+guidelines/default.aspx

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
Merredin Peak Power station (Stage 1) is an 82 MWe power station located 8km south of Merredin with the nearest residence located 1.8km south east of the premises. It consists of two 41.7MWe GE Frame 6B open cycle gas turbine (OCGT) units and will function as a peaking plant to provide additional capacity to the South West Interconnected System (SWIS) during periods of high demand (most likely the summer period where temperatures exceed 40°C). The Merredin Peak Power Station is expected to operate for up to 300 hours maximum per annum and will operate on low sulphur diesel fuel, which will be stored in three 150 kL self bunded fuel tanks.

The gas turbines have evaporative coolers and water injection to increase output at high ambient temperatures. Additional water injection is also use to control NOx emissions by reducing the peak combustion temperature. A water treatment plant exists on site which will provide demineralised water for water injection during operation. Wastewater from the treatment plant will be stored in a HDPE lined evaporation pond.

The main issues associated with this premises are air emissions in particular oxides of nitrogen. Each of the two OCGT units will discharge to a 20m stack where stack emission monitoring will be required annually.

This Licence is for the operation of a new facility established under works approval W4892/2011/1.

The licences and works approvals issued for the Premises since 19/05/2011 are:

Instrument log		
Instrument	**Issued**	**Description**
W4892/2011/1	19/05/2011	New application

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 In the Licence, unless the contrary intention appears:

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

"annual" means the inclusive period from 1 August until 31 July in the following year;

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

"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;

"Code of Practice for the Storage and handling of dangerous goods" means the current version of the Storage and handling of dangerous goods, Code of Practice, Dept of Mines and Petroleum, Government of Western Australia;

"Contact Address" for the purpose of correspondence and advice means:
Regional Leader – Industry Regulation
Department of Environment and Conservation
PO Box 100
Narrogin WA 6312
Telephone: (08) 9621 3400
Facsimile: (08) 9621 3410

Email: wheatbeltir@dec.wa.gov.au;

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

"Director" means Director, Environmental Regulation Division of the Department of Environment and Conservation for and on behalf of the Chief Executive Officer as delegated under Section 20 of the *Environmental Protection Act 1986;*

"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;

"fugitive emissions" means all emissions not arising from point sources identified in Sections 2.2, 2.3, 2.4 and 2.5;

"hardstanding" means a surface with a permeability of 10^{-9} metres/second or less;

"Licence" means this Licence numbered L8725/2013/1 and issued under the *Environmental Protection Act 1986;*

"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;

"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;

"placard quantity" has the meaning defined in the Dangerous Goods Safety (Storage and Handling of Non-explosives) Regulations 2007;

"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;

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

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

"waste" has the meaning defined in the *Environmental Protection Act 1986*;

1.1.3 Any reference to an Australian or other standard in the Licence means the relevant parts of the current version of that standard.

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 maintain all pollution control and monitoring equipment to the manufacturer's specification or any internal management system.

1.2.3 The Licensee, except where storage is prescribed in section 1.3, shall only store substances that are classed as dangerous goods below placard quantities or environmentally hazardous materials not classified as dangerous goods if they 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.

1.3 Premises operation

1.3.1 The Licensee shall ensure that the power generation equipment is not operated for more than 300 hours per year.

1.3.2 The Licensee shall ensure that fuel used in the power generation equipment has a sulphur content of less than 10 mg/kg.

1.3.3 The Licensee shall ensure that unloading of fuel tankers is undertaken on a hardstanding.

1.3.4 The Licensee shall ensure that the hardstanding described in condition 1.3.3 will:
(a) be graded and include sumps designed to allow the recovery of liquid; and
(b) include valves, pumps and meters associated with unloading operations wherever practical. Otherwise the equipment shall be adequately protected (e.g. bollards) and contained in an area designed to permit recovery of spilled fuel.

1.3.5 The Licensee shall manage the evaporation pond such that:
(a) a minimum top of embankment freeboard of 300mm is maintained;
(b) storm water runoff is prevented from entering the evaporation pond or causing the erosion of outer pond embankments;
(c) overtopping of the evaporation pond does not occur except as a result of an extreme rainfall event (greater than 1 in 10 year event of 72 hours duration);and
(d) no overflow from the evaporation pond leaves the Premises.

2 Emissions

2.1 General

2.1.1 The Licensee shall record and investigate the exceedance of any descriptive or numerical limit, and/or target in this section.

2.2 Point source emissions to air

2.2.1 The Licensee is permitted, subject to conditions in the Licence, to emit waste to the atmosphere from the emissions points listed in Table 2.2.1 and identified in the Map of emission points in Schedule 1.

Table 2.2.1: Point source emission points to air

Emission point reference	Emission point reference on Map of emission points	Emission Point	Emission point height (m)	Source, including any abatement
A1	A1	Stack	20	Gas Turbine 1 (41.7 MWe) with water injection.
A2	A2	Stack	20	Gas Turbine 2 (41.7 MWe) with water injection.

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.

Table 2.2.2: Point source emission limits to air

Emission point reference	Parameter	Limit (including units)[1]	Averaging period
A1 & A2	Oxides of nitrogen	109 mg/m^3	30 minute average

Note 1: All units are referenced to STP dry and to 15% O_2

2.3– 2.4 Point source emissions to surface waters and groundwater

There are no specified conditions relating to point source emissions to surface waters or groundwater in these sections.

2.5 Emissions to land

There are no specified conditions relating to emissions to land in this section.

2.6-2.8 Fugitive emissions, odour and noise

There are no specified conditions relating to fugitive emissions, odour or noise in these sections.

3 Monitoring

3.1 General monitoring

3.1.1 The Licensee shall record production or throughput data and any other process parameters relevant to any non-continuous or CEMS monitoring undertaken.

3.1.2 The Licensee shall have all monitoring equipment referred to in any condition of the Licence calibrated in accordance with the manufacturer's specifications, the requirements of the Licence and any relevant Australian standard.

3.1.3 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 Director 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]	Frequency[2,4]	Method
A1 and A2	Sulphur dioxide	mg/m^3 g/s	Annually	USEPA Method 6
	Nitrogen oxides			USEPA Method 7E or 7D
	Carbon monoxide			USEPA Method 10
	PM			USEPA Method 5 or USEPA Method 17

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: All units are referenced to and to 15% O_2.
Note 4: Annual monitoring should be undertaken at least 9 months apart.

3.2.2 The Licensee shall ensure that sampling required under Condition 3.2.1 of the Licence is undertaken at sampling locations in compliance 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 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.

3.3-3.4 Monitoring of point source emissions to surface water and groundwater

There are no specified conditions relating to monitoring of point source emissions to surface water and groundwater in this section.

3.5 Monitoring of emissions to land

There are no specified conditions relating to monitoring of emissions to land in this section.

3.6 Monitoring of inputs and outputs

There are no specified conditions relating to monitoring of inputs and outputs in this section.

3.7-3.9 Process, ambient environmental quality and meteorological monitoring

There are no specified conditions relating to process, environmental quality or meteorological monitoring in this section.

4 Improvements

4.1 Improvement programme

There are no specified improvement conditions in this section.

5 Information

5.1 Records

5.1.1 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 5.1.1(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 groundwater.

5.1.2 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.

5.1.3 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 year.

5.1.4 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.

5.2 Reporting

5.2.1 The Licensee shall submit to the Director at the Contact Address an annual environmental report within 28 calendar days after of the end of the Annual Period. The report shall contain the information listed in Table 5.2.1 in the format or form specified in that table.

Table 5.2.1: Annual environmental report		
Condition or table (if relevant)	**Parameter**	**Format or form[1]**
	Summary of any failure or malfunction of any pollution control equipment or any incidents that have occurred during the year and any action taken	None specified
1.3.1	Operational hours	
2.2.2	Limit exceedances	
3.2.1	Stack emissions monitoring data	AR1
5.1.3	Compliance	AACR
5.1.4	Complaints summary	None specified

Note 1: Forms are in Schedule 2

5.2.2 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;
(b) an assessment of the information contained within the report against previous monitoring results and Licence limits and/or targets; and
(c) a list of any original monitoring reports submitted to the Licensee from third parties in the reporting period and make these reports available on request.

5.3 Notification

5.3.1 The Licensee shall ensure that the parameters listed in Table 5.3.1 are notified to the Director at the Contact Address and in accordance with the notification requirements of the table.

Table 5.3.1: Notification requirements			
Condition or table (if relevant)	**Parameter**	**Notification requirement[1]**	**Format or form[2]**
3.1.3	Calibration report	As soon as practicable.	None specified
2.1.1	Breach of any limit specified in the Licence	Part A: As soon as practicable but no later than 5PM of the next usual working day. Part B: As soon as practicable	N1
	Any failure or malfunction of any pollution control equipment or any incident which has caused, is causing or may cause pollution		

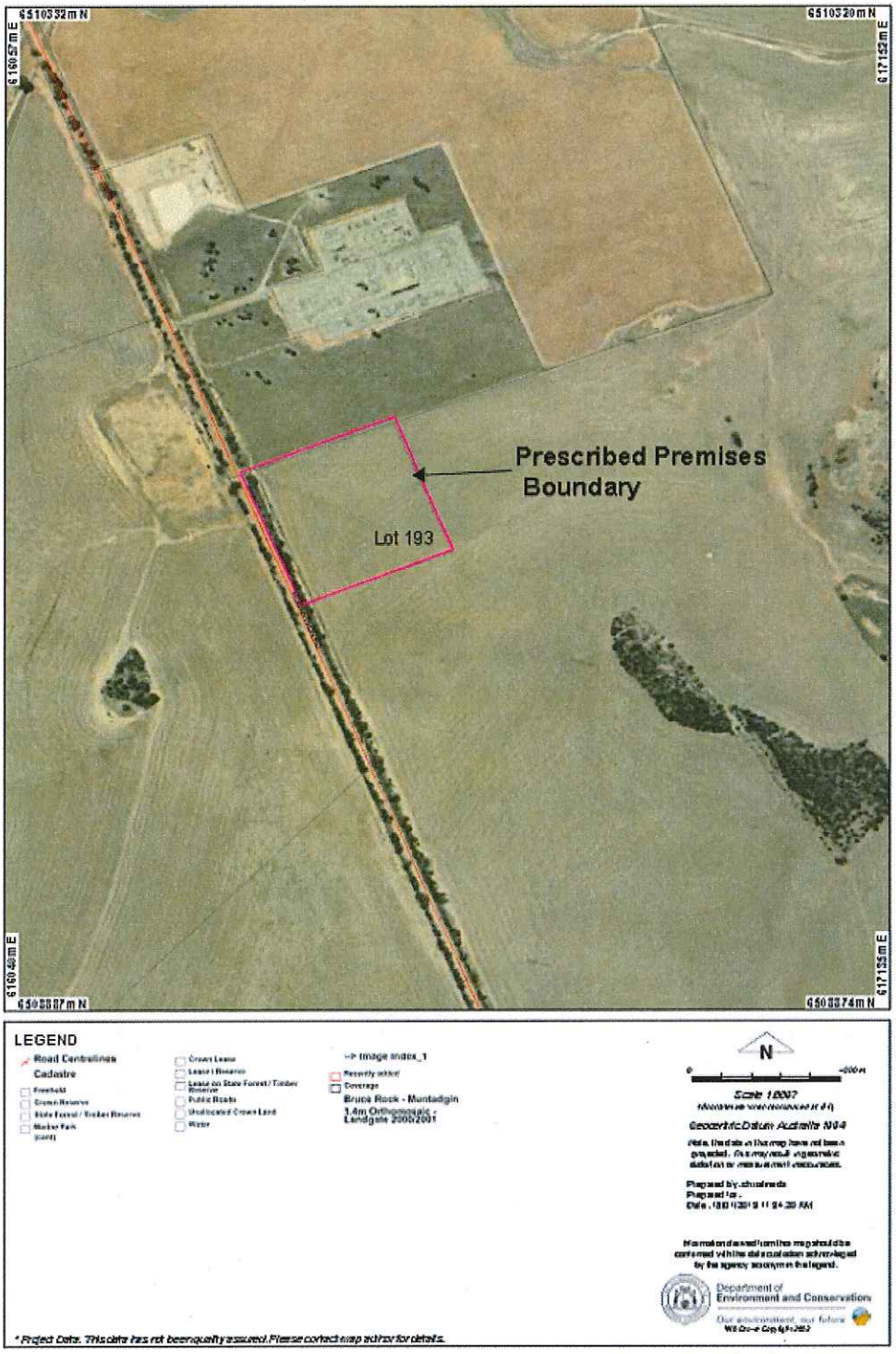
Note 1: No notification requirement in the Licence shall negate the requirement to comply with s72 of the Act.
Note 2: Forms are in Schedule 2

Department of
Environment and Conservation
Our environment, our future

Schedule 1: Maps

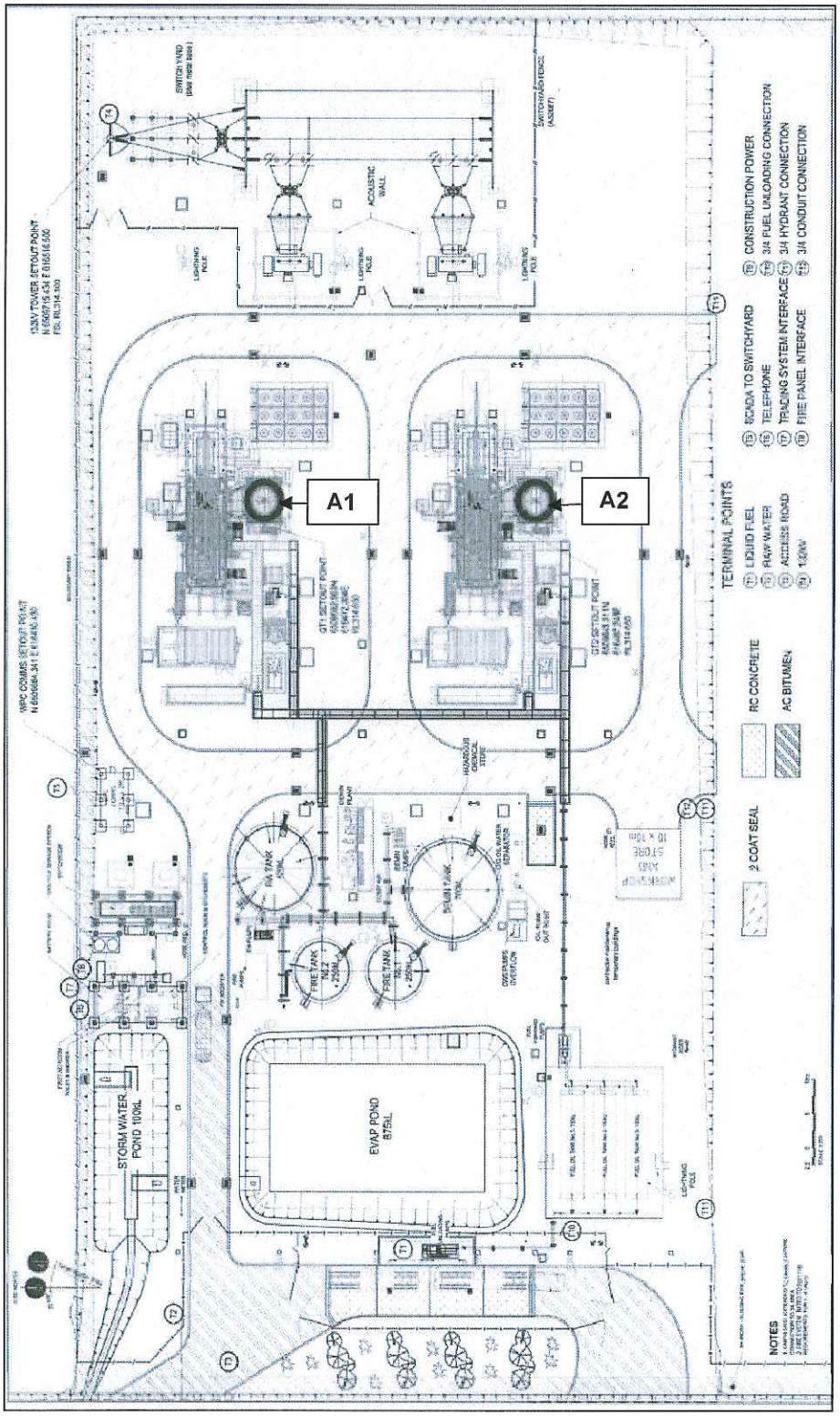
Premises map

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 Table 2.2.1 are shown below.



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.

Copies of the original monitoring reports must also be submitted.

Licence:	L8725/2013/1	Licensee:	Merredin Energy Pty Ltd
Form:	AACR	Period :	
Name:	Annual audit compliance report		

Annual audit compliance report

Section A: Statement of compliance with Licence conditions

Were all conditions of licence complied with within the reporting period?		
Yes	□	Initial Sections A & B, then proceed to Section C
No	□	Initial Section A, then 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

a) Licence condition not complied with?	
b) Date(s) b) Date(s) and time(s) the non compliance occurred, if applicable?	
c) Was this non compliance reported to DEC?	
☐ Yes, and ☐ Reported to DEC verbally Date ☐ Reported to DEC in writing Date	☐ No
d) Has DEC taken, or finalised any action in relation to the non compliance?	
e) Summary of particulars of 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	

Please use a separate page for each Licence condition that was not complied with. Each page must be initialled by the person(s) who signs Section C of this AACR

Initial:

Section C: Signature and certification

This AACR may only be signed by a person(s) with legal authority to sign it as defined 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 AACR must be signed and certified:
an individual	□	by the individual Licence holder, or
	□	by a person approved in writing by the Chief Executive Officer (CEO) of DEC to sign on the Licensee's behalf.
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 CEO of DEC.
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 CEO of DEC.
a local government	□	by the CEO 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 AACR is correct and not false or misleading in a material particular.

Signature:

_____

Name: (printed)

_____

Position:

_____

Date:

_____/_____/_____

Signature:

_____

Name: (printed)

_____

Position:

_____

Date:

_____/_____/_____

Seal (if signing under seal)

Licence: L8725/2013/1
Form: AR1
Name: Monitoring of point source emissions to air

Licensee: Merredin Energy Pty Ltd
Period:

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**
A1	Sulfur dioxide					
A2						
A1	Nitrogen oxides					
A2						
A1	Carbon monoxide					
A2						
A1	PM					
A2						

Note 1: All units are referenced to STP dry
Note 2: All units are referenced to 15% O_2

Signed on behalf of Merredin Energy Pty Ltd: ..... Date: .....

Licence: L8725/2013/1 Licensee: Merredin Energy Pty Ltd
Form: N1 Date of breach:

Notification of detection of the breach of a limit or any failure or malfunction of any pollution control equipment or any incident which has caused, is causing or may cause pollution.

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	
To be notified as soon as practicable and no later than 5PM of the next working day	
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	

Notification requirements for any failure or malfunction of any pollution control equipment or any incident which has caused, is causing or may cause pollution	
To be notified as soon as practicable and no later than 5PM of the next working day	
Date and time of event	
Reference or description of the location of the event	
Description of where any release into the environment took place	
Substances potentially released	
Best estimate of the quantity or rate of release of substances	
Measures taken , or intended to be taken, to stop any emission	
Description of the failure or accident	

Part B - to be submitted as soon as practicable

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 unauthorised emissions from the installation in the preceding 24 months.	

Name*	
Post	
Signature on behalf of Merredin Energy Pty Ltd	
Date	

Department of
Environment and Conservation
Our environment, our future

Decision Document

Environmental Protection Act 1986, Part V

Proponent: Merredin Energy Pty Ltd

Licence: L8725/2013/1

Registered office:	Level 4, 165 Adelaide Terrace EAST PERTH WA 6004
ACN:	135 889 851
Premises address:	Lot 193 on Plan 72480, Robartson Road MERREDIN WA 6424
Issue date:	Thursday, 14 March 2013
Commencement date:	Sunday, 17 March 2013
Expiry date:	Friday, 16 March 2018

Decision

Based on the assessment detailed in this document, the Department of Environment and Conservation (DEC), has decided to issue [a] works approval. DEC considers that in reaching this decision, it has taken into account all relevant considerations and that the Works Approval and its conditions will ensure that an appropriate level of environmental protection is provided.

Decision document prepared by: Christine Pustkuchen
Regional Environmental Officer

Decision Document Authorised By: Alan Kietzmann
Regional Leader

Contents

1 Purpose of this Document

This decision document explains how DEC has assessed and determined the application for a works approval or licence, and provides a record of DEC's decision-making process and how relevant factors have been taken into account. Stakeholders should note that this document is limited to DEC'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.

Works approval and licence conditions
DEC has three types of conditions that may be imposed on works approvals and licences. They are as follows;

Standard conditions (SC)

DEC has standard conditions that are imposed on all works approvals and licences regardless of the activities undertaken on the Premises and the information provided in the application. These are included as the following conditions on works approvals and licences:

Works approval conditions: 1.1.1-1.1.3, 1.2.1, 1.2.2, 5.1.1 and 5.1.2.

Licence conditions: 1.1.1-1.1.3, 1.2.1-1.2.4, 5.1.1-5.1.4 and 5.2.1.

For such conditions, justification within the Decision Document is not provided.

Optional standard conditions (OSC)

In the interests of regulatory consistency DEC has a set of optional standard conditions that can be imposed on works approvals and licences. DEC will include optional standard conditions as necessary, and are likely to constitute the majority of conditions in any licence. The inclusion of any optional standard conditions are justified in Section 4 of this document.

Non standard conditions (NSC)

Where the proposed activities require conditions outside the standard conditions suite DEC will impose one or more non-standard conditions. These include both premises and sector specific conditions, and are likely to occur within few licences. Where used, justification for the application of these conditions will be included in Section 4.

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)**	**Design Capacity**
	52 – Electrical Power Generation	82 MWe
Application Verified Application Fee Paid	Date: Date:	
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: Managed under Part V ☒ Assessed under Part IV ☐
Is the proposal subject to Ministerial Conditions?	Yes ☐ No ☒	Ministerial Statement No: EPA Report No:
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 ☒	
Is the Premises within an Environmental Protection Policy (EPP) Area Yes ☐ No ☒ If Yes include details of which EPP(s) here.		
Is the Premises subject to any EPP requirements? Yes ☐ No ☒ If Yes, include details here, e.g. Site is subject to SO_2 requirements of Kwinana EPP.		

3 Executive summary of proposal

The Merredin Peak Power Station (MPPS) is an 82 MWe power station located 8km south of Merredin on vacant land adjacent to the Western Power terminal substation. The site is surrounded by pastoral land with the nearest residence located approximately 1.8km south east of the premises.

The power station consists of two 41.7 MWe open cycle gas turbine (OCGT) units (each with a dedicated 20 metre (m) exhaust stack) and will function as a peaking plant to provide additional capacity to the South West Interconnected System (SWIS), during periods of high demand. It is expected that the MPPS will only operate up to 300 hours (hrs) maximum per annum, and will mostly operate on days where the temperature exceeds 40 °C. There is the potential for the MPPS to be run during gas supply interruptions but, even then, operation is most unlikely to exceed 300 hours per year.

The two turbines are directly coupled to electricity generators which link to dedicated power transformers. They will be powered by low sulphur diesel and cooled by an evaporative cooling water system. Additional water injection will also be used to control NOx emissions by reducing the peak combustion temperature. Water will be sourced from the Water Corporation's existing scheme water system and will be stored within three onsite tanks. Two of these tanks (250 kL each) will be dedicated to the fire fighting system and the third (529 kL) to store raw water for cooling. Water for injection will be treated in a water treatment plant and stored within a 700kL demineralisation tank. The wastewater stream will be directed to an 875 kL HDPE lined evaporation pond.

The OCGT units will be fuelled by low sulphur diesel which will be stored within three 150 kL tanks. The fuel tanks are fully bunded with any spills, leaks and collected rainwater being directed to a three staged oil/water separator with a 9 000 L storage capacity. The fuel unloading area is located on a concrete hard stand with raised entry and exit to form a bund. Any spillage will also be directed to the oil/water separator.

Cut-off drainage swales have been constructed on the southern and eastern boundaries of the site to ensure run-off from surrounding land will not drain onto the site. Stormwater run-off from within the site will drain into a sedimentation settling pond prior to release into the environment.

The station is operated remotely under contract by Western Power System Management. There is no permanent on-site staff but the power station will be inspected regularly and staff will attend for periods during maintenance and overhauls.

4 Decision Table

All applications are assessed under the *Environmental Protection Act 1986*, the Environmental Protection Regulations 1987, DEC's Policy Statement - Limits and targets for prescribed premises 2006 and the risk matrix attached to this decision document in Appendix A. Where other references have been used in making the decision they are detailed in the decision table.

DECISION TABLE				
Works Approval / Licence Section	**Condition Number W = Works Approval L= Licence**	**OSC or NSC**	**Justification (including risk description & decision methodology where relevant)**	**Reference Documents**
General Conditions	L1.2.5	OSC	The optional standard condition L1.2.5 has not been added to the licence as stormwater management commitments made by Merredin Energy Pty Ltd (Merredin Energy) are adequate. See Emissions to Land section of table.	Application supporting documentation
	L1.3.1 to L1.3.5	NSC	The MPPS is intended to be operated as a backup power supply for the SWIS during periods of high demand. It is expected that the power station will operate up to a maximum of 300 hours per year and therefore will not result in significant air emissions (see Appendix 1). Therefore NSC 1.3.1 has been added to the licence to restrict operating hours to 300hrs per year. To control SOx emissions Merredin Energy have committed to using ultra – low sulphur diesel to fuel the MPPS. Air quality modelling for SOx has been based on the use of diesel fuel with low sulphur content below 10mg/kg (see Appendix 1). To ensure low sulphur fuel is used NSC 1.3.2 has been added to the licence. Fuel unloading activities will occur within a concrete hardstand area that drains into a collection tank and then an oil/water interceptor. To minimise the risk of a significant diesel spill being released into the environment and to ensure that all fuel unloading activities occur within this hardstand area NSCs L1.3 - 1.3.4 have been added to the licence (see Land emissions section of table). Wastewater from demineralisation is directed to a HDPE lined 875kL evaporation pond. NSC 1.3.5 has been added to the licence to ensure the Licensee maintains sufficient freeboard on the evaporation pond to prevent overflows during extreme weather events (see emissions to land section of table).	Environmental Protection (Unauthorised Discharges Regulations, 2004). Application supporting documentation.
Emissions General	L2.1.1	OSC	Limits have been set through condition 2.2.2 of the licence and therefore OSC regarding recording and investigation of exceedances of limits or targets has been included.	

DECISION TABLE				
Works Approval / Licence Section	**Condition Number W = Works Approval L= Licence**	**OSC or NSC**	**Justification (including risk description & decision methodology where relevant)**	**Reference Documents**
Point source emissions to air including monitoring	L2.2.1 to 2.2.2 and L3.2	N/A	**Operation** *Emission Significance* – 3 *Socio-political context* – Low *Risk Assessment* – *C* - Licence conditions Point source air emissions will be generated during operation from two emission points (20m stack located on each gas turbine) as described in condition 2.2.1. Each turbine has a water injection system to lower NOx emissions. A limit for NOx has been placed on the licence under condition 2.2.2. Details of DEC's assessment and decision making are included in Appendix 1.	Environmental Protection (Unauthorised Discharges Regulations, 2004). National Enviromental Protection measures (NEPM) (Ambient Air Quality), 1997 NEPM (Air Toxics) 1996. Application supporting documentation
Point source emissions to surface water including monitoring	L2.3 and L3.3	N/A	**Operation** *Emission Significance* – 1 *Socio-political context* –No concern or interest *Risk Assessment* – E –no regulation, other management mechanisms There will be no point source emissions to water during operation of the MPPS. The nearest surface water body is approximately 3.2km away from the premises. No specified conditions relating to point source emissions to water or the monitoring of such emissions are required to be added to the licence.	Application supporting documentation
Point source emissions to groundwater including monitoring	L2.4 and L3.4	N/A	**Operation** *Emission Significance* – 1 *Socio-political context* –No concern or interest *Risk Assessment* – E –no regulation, other management mechanisms There will be no point source emissions to groundwater during operation of the MPPS. The depth to groundwater in the area is approximately 2-7 meters below ground level (mbgl). No specified conditions relating to point source emissions to groundwater or the monitoring of such emissions are required to be added to the licence.	Application supporting documentation

DECISION TABLE				
Works Approval / Licence Section	**Condition Number W = Works Approval L= Licence**	**OSC or NSC**	**Justification (including risk description & decision methodology where relevant)**	**Reference Documents**
Emissions to land including monitoring	L2.5 L1.3.3 L1.3.5	N/A	**Operation** *Emission Significance* – 3 *Socio-political context* –No concern or interest *Risk Assessment* – D- Other management mechanisms, licence conditions. The bulk fuel storage system on site consists of three independent 150kL storage tanks located on a concrete bund which drains into an oil/water separator. Fuel is delivered to site by road tankers on an 'as need' basis. To minimise an emission to land through hydrocarbon spills and leaks unloading activities will occur within a bunded concrete hardstand area which also drains into the oil/water separator. The oil/water interceptor pit, drainage systems, fuel tanks and bunded areas will be inspected regularly to ensure these are maintained and operating appropriately. Spill clean-up kits containing absorbent materials are also maintained onsite adjacent to fuel storage facilities and the workshop. All hydrocarbons will be stored in accordance with *AS1940-2004 Storage and Handling of Flammable and Combustible Liquids*. To minimise the risk of a significant diesel spill being released into the environment and to ensure that all fuel unloading activities occur within this hardstand area NSCs 1.3.3 - 1.3.4 have been added to the licence. To prevent seepage onto land during operation the evaporation pond has been lined with a HDPE liner over a sand base. The liner joins have been welded on site by fusion and have been pressure tested to ensure there are no leaks. To ensure that the evaporation pond is managed appropriately NSC 1.3.5 has been added to the licence to ensure that a sufficient freeboard is maintained to prevent overflows during extreme weather events. To prevent discharges to land through the release of contaminated stormwater into the environment, stormwater cut-off drainage swales have been constructed on the southern and eastern boundaries of the site to ensure run-off from surrounding land will not drain onto the site. Stormwater run-off from within the site will drain into a sedimentation settling pond prior to release into the environment. Based on this assessment and the inclusion of conditions in section 1.3 no additional conditions relating to emissions to land or the monitoring of these emissions are required to be added to the licence.	Application supporting documentation Environmental Protection (Unauthorised Discharges) Regulations 2004. Code of Practice for the Storage and Handling of Dangerouse Goods, Department of Mines and Petroleum, Government of Western Australia.

DECISION TABLE				
Works Approval / Licence Section	**Condition Number W = Works Approval L= Licence**	**OSC or NSC**	**Justification (including risk description & decision methodology where relevant)**	**Reference Documents**
Fugitive Emissions	L2.6	N/A.	**Operation** *Emission Significance* – 1 *Socio-political context* –No concern or interest *Risk Assessment* – E –no regulation, other management mechanisms No fugitive emissions of dust are anticipated during operation of the MPPS. Access to the site is via a sealed road. No specified conditions have been added to the licence regarding fugitive dust emissions. Light emissions will be generated during operation as outdoor floodlight masts have been installed along the access road, fuel unloading area and adjacent to the gas turbine generator packages. Light emissions are not expected to have a significant impact on the offsite environment as the nearest sensitive receptor is approximately 1.8km away. No specified conditions regarding fugitive light emissions are required to be added to the licence.	Application supporting documentation. General provisions of the *Enviromental Protection Act 1986*
Odour	L2.7	N/A.	**Operation** *Emission Significance* – 1 *Socio-political context* –No concern or interest *Risk Assessment* – E – No regulation, other management mechanisms Minor odour emissions are expected during operation from the burning of diesel within the generators. However, given the distance to the nearest sensitive receptor (1.8km) the impact of odour emissions is not expected to be significant. No specified conditions relating to odour emissions have been added to the licence.	Application supporting documentation. General provisions of the *Enviromental Protection Act 1986*
Noise	L2.8	N/A.	**Operation** *Emission Significance* – 3 *Socio-political context* – No concern or interest *Risk Assessment* – D= other management mechanisms/licence conditions /other regulatory tools. Noise emission will be emitted during operation of the power station engines.	Application supporting documentation. Environmental Protection (Noise) Regulations 1997.

DECISION TABLE				
Works Approval / Licence Section	**Condition Number W = Works Approval L= Licence**	**OSC or NSC**	**Justification (including risk description & decision methodology where relevant)**	**Reference Documents**
			The noise impacts on neighbouring residents has been minimised by the construction of a 2m high noise bund topped with a 1.75m acoustic fence and installing baffles (attenuator) in the exhaust stacks. Noise modelling in 2011 demonstrated that expected noise emissions will reached 35 dB (A) at the nearest sensitive receptor (residence 1.8km away). This level was verified during commissioning where 32 dB (A) was measured during monitoring (including tonal adjustment of 5 dB (A)). *Environmental Protection (Noise) Regulations 1997 requirements* Day: 45 dB (L_{A10}) – 32 dB (71% of guideline) Sunday/Public Hol: 40 dB (L_{A10}) – 32 dB (80% of guideline) Evening: 40 dB (L_{A10}) – 32 dB (80% of guideline) Night: 35 dB (L_{A10}) – 32 dB (91% of guideline) As demonstrated the expected noise emissions during operation will comply with the Environmental Protection (Noise) Regulations 1997 (Regulations). It's expected that the power station will operate between 12pm – 6pm any day of the week, however it is possible that the power station many need to operate at night. Even though noise levels are 90% of the night time limit outlined in Regulations it is not expected that noise emissions will significantly impact nearby residences due to the short period of time it will be operating (<300hrs a year). Merredin Energy is required to comply with the Environmental Protection (Noise) Regulations 1997. These regulations adequately protect nearby receptors and therefore no specified conditions relating to noise emissions have been added to the licence.	
Monitoring General	L3.1.1 to 3.1.3	OSC	As monitoring will be required for point source air emissions OSC 3.1.1-3.1.3 have been added to the licence to ensure monitoring data is recorded and that monitoring equipment is calibrated in accordance with the manufacturer's specifications. See Appendix 1.	
Monitoring of inputs and outputs	L3.6 L1.3.2	NSC	NSC 1.3.2 has been added to the licence to limit the amount of sulphur content in the fuel used to fire the power station to 10mg/kg. This will ensure that SOx emissions are kept low. Monitoring of the sulphur content in the diesel fuel is	Application supporting documentation.

DECISION TABLE				
Works Approval / Licence Section	**Condition Number W = Works Approval L= Licence**	**OSC or NSC**	**Justification (including risk description & decision methodology where relevant)**	**Reference Documents**
			not required as sulphur content will be restricted through Merredin Energy's contractual agreement with their fuel supplier. No specific conditions relating to monitoring of inputs or outputs have been added to the licence.	
Process Monitoring	L3.7	N/A.	No specified conditions relating to process monitoring is required to be added to the licence.	
Ambient Quality Monitoring	L3.8	N/A.	No specified conditions relating to ambient quality monitoring is required to be added to the licence as air quality modelling have demonstrated that ground level concentrations (GLC) at sensitive receptors will be well below NEPM standards. Limits placed on the licence under condition L2.2.2 will ensure that ambient air quality will remain below NEPM standards. See Appendix 1.	National Enviromental Protection measures (NEPM) (Ambient Air Quality), 1997 NEPM (Air Toxics) 1996. Application supporting documentation.
Meteorological monitoring	L3.9	N/A.	Monitoring of meteorological conditions is not required to adequately manage emissions from this proposal and therefore have not been added to the licence.	
Improvements	L4.1	N/A.	No specific improvements are required by DEC as the proposal is for a new premise. It has been assessed that the management measures committed to by Merredin Energy are adequate to manage the potential emissions and discharges produced from the site. No specific conditions relating to improvements have been added to the licence.	
Information	L5.1.1 to L5.1.4	N/A	Standard conditions relating to the management of records and complaints, notification requirements and the submission of an annual audit compliance report and annual environmental report are included on the licence. No other specific conditions relating to Information is required to be added to the licence.	

5 Advertisement and Consultation Table

Date	Event	Comments received/Notes	How comments were taken into consideration
04/02/2013	Application advertised in West Australian (or other relevant newspaper)	No comments received.	N/A.
05/03/2013	Draft assessment report and conditions referred to proponent for comment.	Proponent confirmed acceptance of draft without any further changes.	No changes required.

6. Appendix 1

Point source emissions to air including monitoring

For a power station, the principle emissions associated with its operation are emissions to air. Expected emissions to air for each General Electric (GE) PG6581 gas turbine at 100% load under STP conditions (0 °C and 101.3 kPa, dry) is shown below.

Table 1

Pollutant	Emission concentration	Emission Rate
Nitrogen Dioxide (NO_2)	109 mg/m^3	12.83 g/s
Carbon Monoxide (CO)	19 mg/m^3	3.22 g/s
Sulphur Dioxide (SO_2)	1.4 mg/m^3	0.058 g/s
Total Particulates (TP)	10 mg/m^3	1.38 g/s

Notes: Emissions at guaranteed ambient conditions at 41°C, peak load with evap-cooler switched on, and maximum water injection.
SO_2 based on max sulphur content in distillate fuel of 10mg/kg (10ppm).

As shown above the main pollutant of concern is NOx. Expected NOx emissions do not comply with the NSW Protection of the Environment Operations (Clean Air) Regulations 2010 (NSW Clean Air Regs) (Table 2). Merredin Energy have proposed that the criteria outlined in the NSW Clean Air Regs is not appropriate for the MPPS as they do not take into account factors such as the location of the source, proximity to sensitive receptors and the number of operation hours. Merredin Energy consider that a more appropriate limit to use is 120 mg/m^3, provided by the European Union 2001 – *Directive 2001/80EC of the European Parliament and of the Council of 23 October 2001 on the limitation of emissions of certain pollutants into the air from large combustion plant* (European Directive) which is more rigorously derived and considers the size of the unit as well as the number of hours the unit will operate (e.g. intermittent source).

The exceedence of the NOx criteria found in the NSW Clean Air Regs is acceptable to DEC as the power station will only be operating for up to 300 hours (10days) a year and ground level concentrations (GLC) at the nearest sensitive receptor meets the National Environmental Protection Measure (NEPM) guidelines (discuss below under Ambient air quality). Further to this NOx emissions comply with the UK Integrated Pollution Prevention and Control (IPPC) Sector Guidance Note – Combustion Activities, Consultation draft 2005 (IPPC – Combustion Sector) were a limit of 125mg/m^3 is outlined for gas turbines operating on liquid fuels.

Table 2

Pollutant	Emission concentration	Limit	% of standard	Standard
NO_2	109 mg/m^3	90 mg/m^3	120%	NSW Clean Air Regs
CO	19 mg/m^3	100 mg/m^3	19%	IPPC -Combustion Sector
SO_2	1.4 mg/m^3	66 mg/m^3	2%	IPPC -Combustion Sector
TP	10 mg/m^3	50 mg/m^3	20%	NSW Clean Air Regs

Ambient air quality

An air quality assessment was carried out in 2011 by Merredin Energy to determine the potential effects on ground level air quality at nearest sensitive receptors using the AERMOD model. This assessment was reviewed by DEC during the works approval process and was found to be acceptable.

The Assessment Criteria used by the proponent (and subsequently accepted by DEC) was from the following sources:

- WHO air quality guidelines for particulate matter, ozone, nitrogen dioxide and sulphur dioxide. World Health Organisation (WHO) 2000; and
- National Environment Protection (Ambient Air Quality) Measure. National Environment Protection Council (NEPC);

The results of the modelling are presented in the table below and represent the maximum GLC predicted by the dispersion modelling.

Pollutant	Average Time	Assessment Criteria ($\mu g/m^3$)	Assessment Criteria Source	Max GLCs anywhere on Grid ($\mu g/m^3$)	Max GLCs at distance to nearest residences or greater ($\mu g/m^3$)	Percentage of Limit at nearest residences
Carbon Monoxide (CO)	8 hours	10	NEPM (1998)	16	4.3	0.04%
Nitrogen Dioxide (NO_2)	1 hour	246	NEPM (1998)	20	19	8%
	Annual	62	NEPM (1998)	0.56	0.13	0.2%
Nitrogen Oxides (NOx)	24 hours	75	WHO (2000)	27.6	7.2	10%
	Annual	30	WHO (2000)	1.9	0.35	1.2%
Particulate less than 2.5µm diameter ($PM^{2.5}$)	24 hours	25	NEPM (2003)	3.0	0.77	3.1%
	1 year	8	NEPM (2003)	0.2	0.04	0.5%
Sulphur Dioxide (SO_2)	1 hour	572	NEPM (1998)	0.3	0.29	0.05%
	24 hours	228	NEPM (1998)	0.12	0.03	0.01%
	Annual	57	NEPM (1998)	0.009	0.002	0.003%

Note: $PM_{2.5}$ has been used as the particulate emitted is of a small size and PM2.5 has lower criteria than PM10. This is it will be more stringent criteria.

As shown above pollutant concentrations will be below their respective standards and guidelines at all locations. The closest to the adopted criteria is the 24-hour NOx concentration which is 37% of the WHO vegetation criteria. Comparison to the NEPM health standards at the nearest residences indicate that the maximum concentrations will be at most 8% of the 1-hour NO_2 standard followed by $PM_{2.5}$ at 3.1% of its standard. Other pollutants such as CO and SO_2 are at most 0.05% of their respective standards at nearest residences.

The GLC's demonstrated by the model are based on a worst case scenario (4 gas turbines continuously at peak load) and are not likely to occur. Only two gas turbines have been constructed and operation of the power station will be restricted to a maximum of 300 hours per year. DEC accepts the proponent's conclusions that on this basis, these emissions are not considered to have the potential to give rise to significant pollution.

Limits/Targets

During commissioning emissions tests were carried out in September 2012. Results from this testing did not verify the emission concentrations that were used in the 2011 Air Quality Assessment model with PM and NOx emission concentrations exceeded those that were used in the model. Merredin Energy has confirmed that during testing engine 1 was not operating at full load, ambient temperature was much lower then what was modeled and that the water injection system was not operating

efficiently. Merredin Energy has reconfirmed that under normal operating conditions (ambient temperatures greater than 40°C and water injection system operating at capacity) the modeled concentrations will not be exceeded.

As modelled NOx emissions already exceed the NSW Clean Air Regs and commissioning stack testing indicated NOx levels higher then those modeled, an emission limit for NOx will be placed on the licence through conditions 2.2.1 and 2.2.2. The limit will reflect the emission level that has been considered within the 2011 Air Quality Assessment and demonstrated through this assessment, to not pose a significant risk to the environment.

Emissions Monitoring

Monitoring requirements have been imposed through condition 3.2.1 for the parameters used in the 2012 Air Quality Assessment model. The methods for monitoring are consistent with those proposed by the proponent and are considered appropriate. Conditions 3.2.2 and 3.2.3 have been included to require sampling to comply with AS 4323.1 and for all non-continuous sampling and analysis to be undertaken by a NATA accredited laboratory. These conditions are required to ensure the monitoring data is reliable and accurate.

Appendix A
EMISSIONS AND DISCHARGES RISK ASSESSMENT MATRIX

Note: These matrix are taken from the current DEC Officer's Guide to Emissions and Discharges Risk Assessment May 2006.

Table 3: Measures of Significance of Emissions

Emissions as a percentage of the relevant emission or ambient standard		Worst Case Operating Conditions (95th Percentile)			
		>100%	50 – 100%	20 – 50%	<20%*
Normal Operating Conditions (50th Percentile)	>100%	5	N/A	N/A	N/A
	50 – 100%	4	3	N/A	N/A
	20 – 50%	4	3	2	N/A
	<20%*	3	3	2	1

*For reliable technology, this figure could increase to 30%

Table 4: Socio-Political Context of Each Regulated Emission

		Relative proximity of the interested party with regards to the emission				
		Immediately Adjacent	Adjacent	Nearby	Distant	Isolated
Level of Community Interest or Concern*	5	High	High	Medium High	Medium	Low
	4	High	High	Medium High	Medium	Low
	3	Medium High	Medium High	Medium	Low	No
	2	Low	Low	Low	Low	No
	1	No	No	No	No	No

Note: These examples are not exclusive and professional judgement is needed to evaluate each specific case

*This is determined by DEC using the DEC "Officer's Guide to Emissions and Discharges Risk Assessment" May 2006.

Table 5: Emissions Risk Reduction Matrix

		Significance of Emissions				
		5	4	3	2	1
Socio-Political Context	High	A	A	B	C	D
	Medium High	A	A	B	C	D
	Medium	A	B	B	D	E
	Low	A	B	C	D	E
	No	B	C	D	E	E

PRIORITY MATRIX ACTION DESCRIPTORS
A = Do not allow (fix)
B = licence condition (setting limits + EMPs - short timeframes)(setting targets optional)
C = licence condition (setting targets + EMPs - longer timeframes)
D= EIPs, other management mechanisms/licence conditions (monitoring/reporting)/other regulatory tools
E = No regulation, other management mechanisms