Government of **Western Australia**
Department of **Environment Regulation**

Your ref: L8723/2012/1
Our ref: 2012/007985
Enquiries: Tanya Gilders
Phone: 6467 5540
Fax: 6467 5562
Email: tanya.gilders@der.wa.gov.au

Mr Ben Tan
Tesla Northam Pty Ltd
68 St Georges Terrace
PERTH WA 6000

Dear Mr Tan

***ENVIRONMENTAL PROTECTION ACT 1986* – AMENDMENT TO LICENCE**
Licence: L8723/2012/1
Premises: Avon Industrial Park Peak Power Station

Further to my letter dated 15 August 2013, please find enclosed your amended *Environmental Protection Act 1986* licence.

If you have any questions or objections relating to the licence, please do not hesitate to contact the enquiries officer above on 6467 5540 for clarification or discussion of any grievances you have.

If you are concerned about, or object to any aspect of the amendment, you may lodge an appeal with the Minister for the Environment within 21 days from the date on which this licence is received. The Office of the Appeals Convenor can be contacted on 6467 5190 to find out the procedure and fee.

Members of the public may also appeal the amendments. The Appeals Registrar at the Office of the Appeals Convenor can be contacted after the closing date of appeals to check whether any appeals were received.

Yours sincerely

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

29 August 2013

enc: Environmental Protection Act 1986 Licence L8723/2012/1
copy to: Local Government Authority: Shire of Northam

TL0571 v2.0

Government of **Western Australia**
Department of **Environment Regulation**

Licence

Environmental Protection Act 1986, Part V

Proponent: Tesla Northam Pty Ltd

Licence: **L8723/2013/1**

Registered office:	Level 3, Exchange House 68 Saint Georges Terrace PERTH WA 6000
ACN	146 754 298
Premises address:	Avon Industrial Park Peak Power Station Lot 5 on Plan 25370 GRASS VALLEY WA 6403
Issue date:	Thursday, 21 February 2013
Commencement date:	Monday, 25 February 2013
Expiry date:	Friday, 30 September 2016

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: premises (other than premises within category 53 or an emergency or standby power generating plant) on which electrical power is generated using a fuel.	10 megawatts or more in aggregate (using a fuel other than natural gas)	10 MW

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

.....
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 Regulation (DER) is a Government Department in the portfolio of the Minister for Environment. DER's purpose is to protect and conserve the State's environment on behalf of the people of Western Australia.

Our industry licensing role
DER 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. DER 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. 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 should 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

The Avon Power Station is a new premises designed to provide peak loading capacity into the Western Power South West Interconnected System (SWIS) as required by the network operator. Land surrounding the Avon Power Station is predominately utilised for industrial and agricultural activities. The nearest sensitive receptors are located approximately 1.4 kilometres (km) to the north.

The Avon Power Station includes five diesel fuelled Caterpillar type 3516B-HD generator sets designed to generate 10 megawatts (MWe) of power to the SWIS. Generators will run on diesel consuming 2,625 litres (L) per hour and operate for no more than 200 hours per year. The fuel system for the power station will consist of one approximately 55,000L tank to provide greater than 20 hour power station runtime capacity.

The most significant emissions will be oxides of nitrogen from burning diesel while particulates, carbon monoxide and sulphur oxides will also be emitted but at less significant rates. Gaseous emissions resulting from the combustion of diesel in the five generators will be discharged via a 12.5 metres (m) multi-flue stack to ensure that particulate matter is adequately dispersed. Generators will be maintained and serviced quarterly to ensure all machinery is running at its most efficient and optimal to minimise emissions.

This Licence is the result of an amendment sought by the Licensee to align the expiry date and reporting period to 30 September.

The licences and works approvals issued for the Premises 24/11/2012 are:

Instrument log		
Instrument	**Issued**	**Description**
W5053/2011/1	24/11/2012	New application
L8723/2013/1	21/02/2013	New licence
L8723/2013/1	30/08/2013	Amendment

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

1.1.1 In the Licence, definitions from the Act 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 period" means the inclusive period from 1 October until 30 September 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;

"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;

"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, Wheatbelt Region
Department of Environment Regulation
PO Box 100
NARROGIN WA 6312
Telephone: (08) 9621 3400
Facsimile: (08) 9621 3410
Email: wheatbeltir@der.wa.gov.au;

"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;

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

"Licence" means this Licence numbered L8707/2012/1 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;

"NOx" means oxides of nitrogen;

"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;

"PM10" means particles with an aerodynamic diameter of less or equal to 10 μm;

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

"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;

"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; 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 current version of that standard.

1.1.4 Any reference to a Guideline or Code of Practice in the Licence means the current version of the Guideline or Code of Practice.

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 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 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 200 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 hardstand with a low permeability (10^{-9} m/s or less).

1.3.4 The Licensee shall ensure that the hardstand described in condition 1.3.3 will:
(a) be graded and include a sump 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 (eg. bollards) and contained in an area designed to permit recovery of spilled fuel.

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 emissions to air

Emission point reference	Emission point reference on Map of emission points	Emission Point and source	Emission point height (m)	Source, including any abatement
A1	A1	Stack 1 – multi-flued stack	12.5	Five generator units (2 MWe each)

2.3-2.4 Point source emissions to surface waters and groundwater

There are no specified conditions relating to point source emissions to surface water 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]	Method
A1	Volatile Organic Compounds	mg/m^3 g/s	Every 500 hours of operation	USEPA Method 18
A1	Sulfur dioxide	mg/m^3 g/s	Every 500 hours of operation	USEPA Method 6 or 6C
A1	Nitrogen oxides	mg/m^3 g/s	Every 500 hours of operation	USEPA Method 7E or 7D
A1	Carbon monoxide	mg/m^3 g/s	Every 500 hours of operation	USEPA Method 10

Note 1: All units are referenced to STP dry.
Note 2: Monitoring shall be undertaken to reflect normal operating conditions, all five units to be operating at >90% load, and any limits or conditions on inputs or production.
Note 3: All units are referenced to 3% 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 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 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 or 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 program

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 waters.

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 annual period.

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 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
1.3.1	Operational hours	None specified
3.2	Stack emissions monitoring	
5.1.3	Compliance	AACR
5.1.4	Complaints summary	None specified

5.2.2 The Annual Environmental Report shall also contain:
(a) any relevant process, production or operational data recorded under Condition 3.1.2;
(b) an assessment of the information contained within the report against previous monitoring results and Licence limits and/or targets; and
(c) any original monitoring reports submitted to the Licensee from third parties.

5.2.3 The Licensee shall submit the information in Table 5.2.2 to the Director at the Contact Address according to the specifications in that table.

Table 5.2.2: Non-annual reporting requirements

Condition or table (if relevant)	Parameter	Reporting period	Reporting date (after end of the reporting period)	Format or form[1]
Table 3.2.1	Volatile Organic Compounds, Sulphur dioxide, Nitrogen oxides and Carbon monoxide.	Every 500 hours of operation	28 calendar days	AR1

Note 1: Forms are in Schedule 2

5.3 Notification

5.3.1 Parameters listed in Table 5.3.1 shall be 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
	Any failure or malfunction of any pollution control equipment or any incident which has caused, is causing or may cause pollution	Part A: As soon as practicable as but no later than 5pm of the next usual working day. Part B: As soon as practicable	N1

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

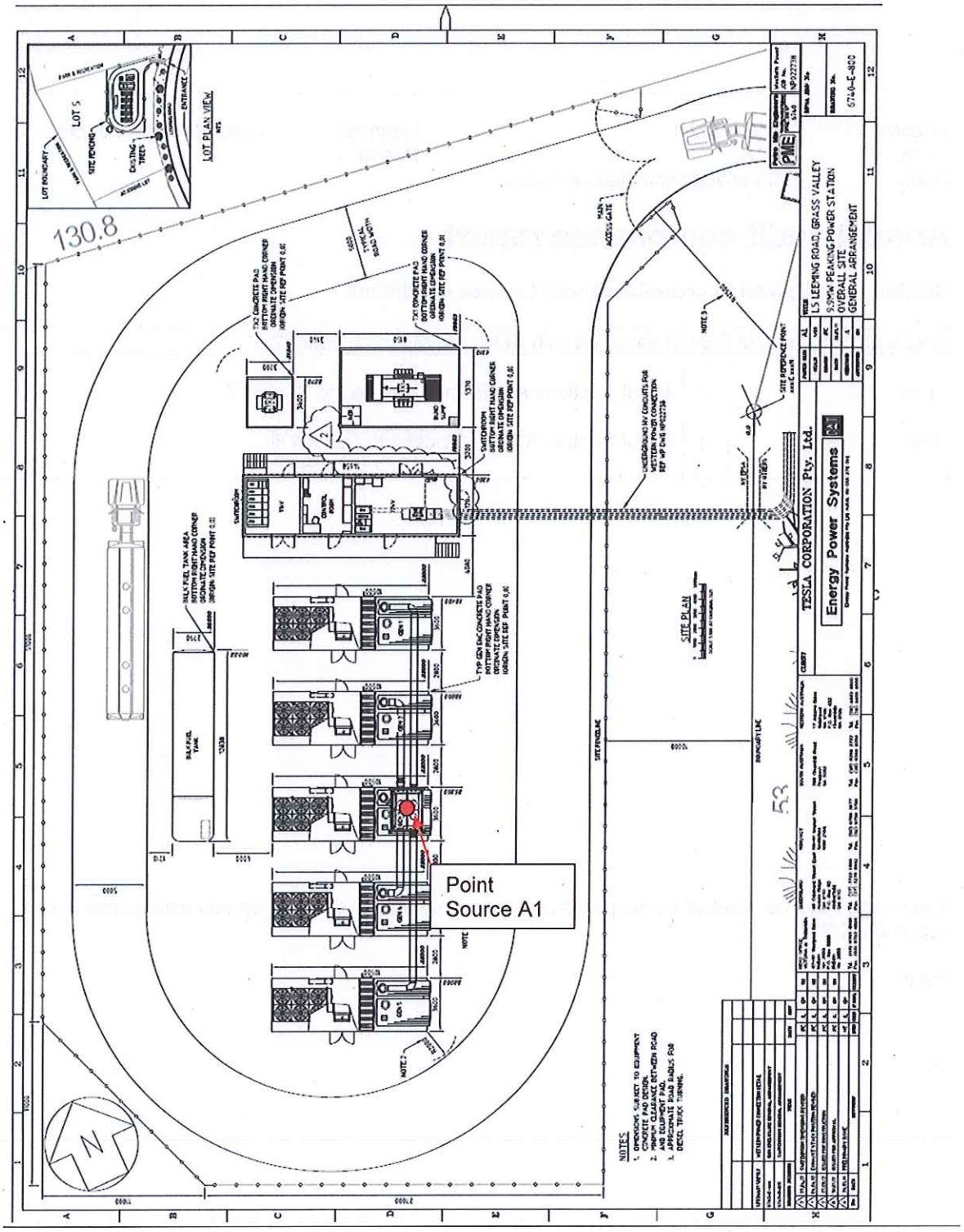
Schedule 1: Maps

Premises map

The Premises is shown in the map below. The yellow line defines the Premises boundary but it is also listed in Table 1.2.1. The definition in the maps should prevail if any discrepancy exists.

Map of emission points

The locations of the emission point defined in Tables 2.2.1and 3.2.1 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.

Licence: L8723/2012/1
Form: AACR
Name: Annual audit compliance report

Licensee: Tesla Northam Pty Ltd
Period :

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 DER?	
☐ Yes, and ☐ 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 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 must 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 DER 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 DER.
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 DER.
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: L8723/2012/1 Licensee: Tesla Northam Pty Ltd
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/m3)**	**Result[1,2] (g/s)**	**Averaging period**	**Method**	**Sample date & times**
A1	Volatile Organic Compounds	mg/m^3	g/s		USEPA Method 18	
A1	Sulfur dioxide	mg/m^3	g/s		USEPA Method 6	
A1	Nitrogen oxides	mg/m^3	g/s		USEPA Method 7E or 7D	
A1	Carbon monoxide	mg/m^3	g/s		USEPA Method 10	
A1	PM_{10}	mg/m^3	g/s		USEPA Method 5 or USEPA Method 17	
A1	$PM_{2.5}$	mg/m^3	g/s		USEPA Method 5 or USEPA Method 17	

Note 1: All units are referenced to STP dry
Note 2: All units are referenced to 3% O_2

Signed on behalf of Tesla Northam Pty Ltd: ..... Date: .....

Licence: L8723/2012/1 Licensee: Tesla Northam 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	
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	
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

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 Tesla Northam Pty Ltd	
Date	

Government of **Western Australia**
Department of **Environment Regulation**

Decision Document

Environmental Protection Act 1986, Part V

Proponent: Tesla Northam Pty Ltd

Licence: **L8723/2013/1**

Registered office:	Level 3, Exchange House 68 Saint Georges Terrace PERTH WA 6000
ACN	146 754 298
Premises address:	Avon Industrial Park Peak Power Station Lot 5 on Plan 25370 GRASS VALLEY WA 6403
Issue date:	21/02/2013
Commencement date:	25/02/2013
Expiry date:	30/09/2016

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: Tanya Gilders
.....
Environmental Officer

Decision Document Authorised By: Alan Kietzmann
.....
Regional Leader

Contents

1 Purpose of this Document

This decision document explains how DER has assessed and determined the application for a works approval or licence, 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.

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

Standard conditions (SC)

DER 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, 1.2.2-1.2.4, 5.1.1 and 5.1.2.

Licence conditions: 1.1.1-1.1.3, 1.2.1, 1.2.3-1.2.5, 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 DER has a set of optional standard conditions that can be imposed on works approvals and licences. DER 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 DER will impose one or more non-standard conditions. These include both premises and sector specific conditions, and are likely to occour 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** 52	**Design Capacity** 10 MWe
Application Verified Application Fee Paid	Date: 22/11/2012 Date: 29/11/2012	
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, eg Site is subject to SO_2 requirements of Kwinana EPP.		

3 Executive summary of proposal

Tesla Northam Pty Ltd (Tesla) have constructed the Avon Industrial Park Peak Power Station (Avon Power Station) in accordance with W5053/2011/1 and are now proposing to operate this facility. The Avon Power Station is designed to provide peak loading capacity into the Western Power South West Interconnected System (SWIS) as required by the network operator. Land surrounding the Avon Power Station is predominately utilised for industrial activities. The nearest sensitive receptor is a farmhouse located approximately 1.4 kilometers (km) to the north east.

The Avon Power Station includes five diesel fuelled Caterpillar type 3516B-HD generator sets designed to generate 10 megawatts (MW) of power to the SWIS. Generators will run on diesel consuming 2,625 L per hour and operate for no more than 200 hours per year. The fuel system for the Avon Power Station will consist of one approximately 55,000 litre (L) tank to provide greater than 20 hour power station runtime capacity.

The most significant emissions will be oxides of nitrogen from burning diesel while particulates, carbon monoxide and sulphur oxides will also be emitted but at less significant rates. Gaseous emissions resulting from the combustion of diesel in the five generators will be discharged via a 12.5 metre (m) multi-flue stack to ensure that particulate matter is adequately dispersed. Generators will be maintained and serviced quarterly to ensure all machinery is running efficiently and at optimal performance, in an effort to minimise emission production.

4 Decision Table

All applications are assessed under the *Environmental Protection Act 1986*, the Environmental Protection Regulations 1987, DER'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	L1.3.1 L1.3.2 L1.3.3 L1.3.4	NSC	**Operation** *Emission Significance* - 3 *Socio-political context* - No concern or interest. *Risk Assessment* - D – licence conditions Five Caterpillar type 3516B-HD generator sets have been installed onsite to power the plant. Low to moderate cumulative point source air emissions are expected from the operation of the Avon Power Station. However, cumulative air emissions are likely to increase the emission significance to moderate when air emissions from other industry are included. The Avon Power Station is only intended for use as a backup power supply to the SWIS and will not result in significant air emissions when operating for short periods (Appendix 1). Therefore NSC1.3.1 has been added to the licence to restrict the amount of time that the facility can remain operational each year. NSC1.3.2 has also been introduced to the licence to ensure that a cleaner grade of diesel fuel is used for power generation. To remain consistent with Tesla's Harris Road Power Station Licence (L8581/2011/1) and to protect the environment from significant diesel spills further operational conditions have been added to the licence. Tesla will be required under NSC1.3.3 and NSC 1.3.4 to ensure that unloading of fuel tankers is undertaken over a low permeability hardstand that is graded to sumps for	Environmental Protection (Unauthorised Discharges Regulations, 2004). National Environmental Protection Council Act, 1996. NEPM (Ambient Air Quality), 1997 NEPM (Air Toxics), 1996. Application supporting documentation.

			disposal.	
Emissions General	L2.1.1	N/A	There are no emission limits set through section 2 of the licence.	N/A.
Point source emissions to air including monitoring	L1.3.1 L1.3.2 L2.2.1 L3.2.1 to 3.2.3	OSC NSC	**Operation** *Emission Significance* - 3 *Socio-political context* – No concern or interest. *Risk Assessment* - D – Licence conditions, limits set Details of DER's assessment and decision making are included in Appendix 1.	Environmental Protection (Unauthorised Discharges Regulations, 2004). National Environmental Protection Council Act, 1996. National Environment Protection Measures (NEPM) (Ambient Air Quality), 1997 NEPM (Air Toxics), 1996. Application supporting documentation.
Point source emissions to surface water including monitoring	L2.3	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 surface water during operation of the Avon Power Station. There are no surface watercourses on the site, but there are several in the surrounding area. There is a minor perennial watercourse to the west of the site with several branches extending to the south of the site. No specified conditions relating to point source emissions to water or the monitoring of such emissions are required to be added to the works approval or licence.	Application supporting documentation.

Emissions to land including monitoring	L1.3.3 L1.3.4 L2.5	N/A	**Operation** *Emission Significance* – 3 *Socio-political context* – Low concern or interest *Risk Assessment* – D – Other management mechanisms, licence conditions Any leak or spill of chemicals/hydrocarbons could result in contamination of soils and leaching to groundwater. Chemicals stored and used on site include: • Ethylene Glycol/Water: for cooling systems (3,350L) • Engine lubrication oil SAE 15W40 (2,275L) • Mineral oil for main transformer (4,571L) • Mineral oil for auxiliary transformer (629L) These chemicals will be contained in self-bunded tanks or placed within portable bunds. The onsite storage of hydrocarbons is proposed to be a maximum of 55,000L in a safe fill, self-bunded, double skinned fuel tank. Loading and unloading pump and connections will be located in a bunded area that is drained to a sump for the collection of spills and leaks. Although the likelihood of a spill/ leak during the transport, storage or unloading of chemicals and hydrocarbons is considered very low, the environmental impacts of such a discharge would be high due to the significant volumes used during operation. Therefore a moderate risk rating has been assigned. NSC1.3.3 and 1.3.4 have been included within the licence to ensure that operating procedures further reduce the risk of a discharge of hydrocarbons to land and seepage to groundwater.	Australian Standards AS1940 and AS1692 Dangerous Goods Safety (Storage and Handling of Non-explosives) Regulations 2007. Code of Practice for the Storage and Handling of Dangerous Goods, Department of Mines and Petroleum, Government of Western Australia. Environmental Protection (Controlled Waste) Regulations. Environmental Protection (Unauthorised Discharges) Regulations 2004. Application supporting documentation.
Point source emissions to groundwater including monitoring	L2.4	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	Application supporting documentation.

			operation of the Avon Power Station. The potential for groundwater contamination from Avon Power Station emissions is discussed under the "Emissions to land including monitoring" section. No specified conditions have been added to the licence regarding point source emissions to groundwater.	
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 Avon Power Station. Access to the site is via a sealed driveway with the five diesel generators surrounded by blue metal. Air emissions of Particulate less than 2.5µm diameter (PM10) and Particulate less than 2.5µm diameter (PM2.5) are discussed in greater detail in Appendix 1. No specified conditions have been added to the licence regarding fugitive emissions.	Application supporting documentation. General provisions of the *Environmental 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 (1.4 km) the impact of odour emissions is expected to be insignificant. No specified conditions relating to odour emissions have been added to the licence.	Application supporting documentation. General provisions of the *Environmental Protection Act 1986.*
Noise	L2.8	N/A	**Operation** *Emission Significance* – 2 *Socio-political context* – No concern or interest *Risk Assessment* – E – No regulation, other management mechanisms Noise from the generators is likely to contribute to the overall noise emissions of the Avon Industrial Park. Noise emitted during the operation of the power generators will only occur during Western	Environmental Protection (Noise) Regulations 1997. Application supporting documentation.

			Power's SWIS peak load periods, which will require a maximum operation time of 200 hours per year. Measurements taken during commissioning found that although modelling conducted prior to construction was significantly underestimated, noise will not exceed the 61 A-weighted decibels (dB(A)) limit for industrial receptors set under the Environmental Protection (Noise) Regulations 1997. With a tonal adjustment of 5 dB(A) measurements at the southern and eastern boundaries could exceed the assigned levels when operating the Avon Power Station. However, tonality is found at 50 hertz (Hz), at a point where audibility is likely to be low. Therefore industrial receptors to the south and east are unlikely to experience exceedances of the Environmental Protection (Noise) Regulations 1997 and the expected cumulative noise impact of the Avon Power Station on nearby receptors is low to moderate. Should noise levels exceed standards, Tesla will identify the source of noise and investigate noise abatement and mitigation measures such as sound-proofing of equipment. Tesla are 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 L3.1.3	OSC	No site specific monitoring conditions have been added to the licence. All monitoring required in the licence are specified under OSC's 3.1.1 to 3.1.3, which require the recording of monitoring data and calibration of monitoring equipment.	
Monitoring of inputs and outputs	L1.3.2	NSC	Burning low grade diesel fuel could result in significant air emissions from the Avon Power Station. Premises operation condition NSC 1.3.2 requires Tesla to use only low sulphur content diesel. No specific monitoring of diesel will be required as Tesla have committed to purchasing only low sulphur content diesel from a reputable supplier.	
Process Monitoring	L3.7	N/A	There are no specified conditions relating to process monitoring.	

Ambient Quality Monitoring	L3.8	N/A	Monitoring of emissions from the stack during commissioning validated ambient air quality modelling conducted ahead of construction. Therefore stack testing will be an adequate indicator of ground level concentrations and will ensure that the potential for air pollutants to exceed limits set under NEPM are identified and prevented.	National Environmental Protection Council Act, 1996. National Environment 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 specified conditions have not been added to the licence.	
Improvements	L4.1	N/A	No specific improvements are required by DER as the proposal is for a new premises. It has been assessed that the management measures committed to by Tesla 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 5.1.4 L5.2.1 to 5.2.3 L5.3.1	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 have been added to the licence.	

5 Advertisement and Consultation Table

Date	Event	Comments received/Notes	How comments were taken into consideration
28/01/2013	Application advertised in The West Australian	No comments received	
28/01/2013	Application referred to interested parties listed: • Department of Health • Shire of Northam	No comments received	
04/02/2013	Proponent sent a copy of draft instrument	Minor comments received	Comments acceptable to DER and licence amended.
16/08/2013	Proponent sent a copy of draft amended instrument	No comments received	

6. Appendix 1

Point source emissions to air including monitoring

The principle emissions of concern for the Avon Power Station are emissions to air. DER has reviewed Tesla's impact assessment for emissions to air from the premises and is satisfied that the assessment provided by Tesla has been undertaken in an appropriate manner. In this review DER has ensured Tesla is adopting best practicable measures to prevent and minimise emissions to air and is satisfied that appropriate controls will be adopted at the premises.

Tesla modelled the potential effects on air quality from emissions to air using Ausplume which is accepted by DER as a suitable model. The way in which Tesla has used the dispersion model, its selection of input data and the assumptions made have been reviewed and DER is satisfied that the modelling presents reliable conclusions on the predicted concentrations of all pollutants.

The results of the modelling are presented in Table 1 below and represent the maximum ground level concentrations (GLCs) predicted by the dispersion modelling. Modelling was validated by monitoring conducted during commissioning. The most significant emission measured was nitrogen oxides (NOx), which was discharged from the stack at a rate of 361.08 grams per minute (g/min) of operation of each generator set. This is consistent with modelling results which predicted a NOx emission rate of 360 g/min per generator.

Table 1: Ground level concentrations of air pollutants for the proposed Northam Power Station

Pollutant	Average Time	Assessment Criteria (mg/m^3)	Assessment Criteria Source	GLCs (with background levels) (mg/m^3)	Percentage of Limit (%)
Carbon Monoxide (CO)	15 minutes	100	WHO (2000)	0.44	0.44 %
	1 hour	30	WHO (2000)	0.35	1.17 %
	8 hours	10	NEPM (1998)	0.23	2.3 %
Nitrogen Dioxide (NO_2)	1 hour	0.246	NEPM (1998)	0.065	26.42%
	1 year	0.062	NEPM (1998)	0.003	4.84%
Particulate less than 10µm diameter (PM10)	24 hours	0.05	NEPM (1998)	0.04	80%
	1 year	0.03	NEPM (1998)	0.003	10 %
Particulate less than 2.5µm diameter (PM2.5)	24 hours	0.025	NEPM (2003)	0.014	56%
	1 year	0.008	NEPM (2003)	0.003	37.5%
Sulphur Dioxide (SO_2)	10 minutes	N/A	N/A	0.027	N/A
	1 hour	0.52	NEPM (1998)	0.019	3.7 %

	24 hours	0.21	NEPM (1998)	0.008	3.81 %
	1 year	0.06	NEPM (1998)	0.002	3.33 %
Acetaldehyde	1 hour	0.042	NSW DER (2005)	$7.1x10^{-7}$	0.002 %
Benzene	1 hour	0.029	NSW DER (2005)	$2.2 x10^{-5}$	0.08%
Formaldehyde	1 hour	0.02	NSW DER (2005)	$2.2 x10^{-6}$	0.01 %
PAHs	1 hour	0.0004	NSW DER (2005)	$3.2 x10^{-10}$	0.01 %
Toluene	1 hour	0.36	NSW DER (2005)	$8x10^{-6}$	0.02 %
Xylenes	1 hour	0.19	NSW DER (2005)	$5.5 x10^{-6}$	0.03 %

WHO – World Health Organisation
NEPM – National Environment Protection Measures
NSW DER – New South Wales Department of Environment Regulation

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

- National Environmental Protection (Ambient Air Quality) Measure Variation. National Environment Protection Council (NEPC), 2003.
- National Environment Protection (Ambient Air Quality) Measure. National Environment Protection Council, NEPC, 1998;
- NSW Approved Methods for the Modelling and Assessment of Air Pollutants in NSW (August 2005); and
- WHO air quality guidelines for particulate matter, ozone, nitrogen dioxide and sulphur dioxide. World Health Organisation (WHO) 2000.

Based on the results of the modelling DER has considered the following emissions as being insignificant: CO, acetaldehyde, formaldehyde, benzene, petroleum aromatic hydrocarbons, toluene and xylenes. SO_2 emissions have also been considered as insignificant as modelling calculations suggest that SO_2 will contribute less than 5% of NEPM guidelines as they will be controlled through the use of low sulphur fuel.

Emissions of NO_2, PM10 and PM2.5 were not initially considered as being insignificant. When assessed in terms of cumulative impact on ambient air quality NO_2, PM10 and PM2.5 were modelled with a maximum one hour concentration at 26%, 80% and 56% of NEPM guidelines respectively at the site boundary. Of this, the Avon Power Station will contribute a small percentage of NEPC emissions criteria with the remaining emissions stemming from surrounding industry. The Avon Power Station will contribute approximately 11.8% for NO_2, 0.16% for PM10 and 0.03% for PM2.5 of NEPM emissions criteria with the remaining emissions stemming from surrounding industry. Therefore PM10 and PM2.5 emissions can be considered out as insignificant when focusing on Tesla's contribution to ambient concentrations while NO_2 is assessed as a low risk emission.

NO_2 emission predictions above are based on a worst case scenario assuming that the Avon Power Station will remain operational over the whole year, which in practice would not occur. Due to the short duration and infrequent use of the Avon Power Station, modelled NO_2 emissions decrease over a one year period to around 0.9%. Modelling submitted in the works approval has since been verified by air quality sampling at the stack during commissioning, which demonstrated that NOx emission rates in particular were equivalent modelling results

Limits/Targets
Given that the generators are standard and will be maintained on a regular basis, limits to point source air emissions are not considered necessary. However, non standard conditions have been included within the licence to restrict the time of operation to 200 hours per year. This will ensure that air emissions remain low over a yearly average.

Emissions Monitoring
Based on the findings of the air quality assessment that reveal high background levels, DER has imposed monitoring conditions for Volatile Organic Compounds, sulphur dioxide, nitrogen oxides and Carbon monoxide. These point source emissions to air through condition 3.2.1 to ensure that Avon Power Station's contribution to ambient air pollutants remains low.

The methods for monitoring are consistent with those proposed by the proponent and are considered appropriate. Conditions 3.2.2-3.2.3 have been included to require all samples to be undertaken at sampling locations in compliance with AS 4323.1 and analysis to be undertaken by a NATA accredited laboratory. These conditions are required to ensure the monitoring data is reliable and accurate.

As the Avon Power Station is only operational for a maximum of 200 hours per year, frequent monitoring was not considered appropriate by DER. It is recommended that point source emissions be monitored every 500 hours of operation to identify any variances from modelling inputs used to calculate ambient air emission exceedances of NEPM. Monitoring will also demonstrate the continued efficiency of the Avon Power Station.

Tesla has committed to conducting quarterly servicing of each generator set to ensure all machinery is running at its most efficient and optimal to minimise emissions.

Appendix A

EMISSIONS AND DISCHARGES RISK ASSESSMENT MATRIX

Note: These matrix are taken from the current DER 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 DER using the DER "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