



Licence

Environmental Protection Act 1986, Part V

Licensee: NewGen Power Kwinana Pty Ltd

Licence: L8271/2008/1

Registered office: Level 33, 225 George Street
 SYDNEY NSW 2000

ACN: 116 827 546

Premises address: Kwinana Gas-Fired Power Plant
 Lot 22 Leath Road
 NAVAL BASE WA 6165
 as depicted in Schedule 1

Issue date: 9 October 2008

Commencement date: 9 October 2008

Expiry date: 8 October 2028

Prescribed premises category

Schedule 1 of the Environmental Protection Regulations 1987

Category number	Category description	Category production or design capacity	Approved premises production or design capacity
52	Electric power generation	≥ 20 MWe in aggregate (using natural gas) or ≥ 10 MWe in aggregate (using a fuel other than natural gas)	330 MWe

Conditions of Licence

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

Date signed: 29 July 2016

.....
 Jonathan Bailes
 Manager Licensing (Process Industries)

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



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Introduction

This Introduction is not part of the Licence conditions.

DER's industry licensing role

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

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

Licence requirements

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

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

<http://www.slp.wa.gov.au/legislation/statutes.nsf/default.html>

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

- *Environmental Protection (Unauthorised Discharges) Regulations 2004* – these Regulations make it an offence to discharge certain materials such as contaminated stormwater into the environment other than in the circumstances set out in the Regulations.
- *Environmental Protection (Controlled Waste) Regulations 2004* - these Regulations place obligations on you if you produce, accept, transport or dispose of controlled waste.
- *Environmental Protection (Noise) Regulations 1997* – these Regulations require noise emissions from the Premises to comply with the assigned noise levels set out in the Regulations.

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



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

Licence fees

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

Ministerial conditions

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

Premises description and Licence summary

The 320 MWe Kwinana Power Station is a combined cycle, gas-fired, base load power station that has been in commercial operation by NewGen Power Kwinana since December 2008.

The premises is located on the shore of Cockburn Sound in the northern end of the Kwinana Industrial Area. Directly to the east of the site is more heavy industry and Rockingham Road. On the eastern side of Rockingham Road are light industries and residential areas. A buffer zone exists between the industrial and residential areas as defined in the Kwinana Air Quality Environmental Protection Policy. The footprint of the plant is approximately four hectares.

Kwinana Gas-Fired Power Plant is part of the South West Interconnected System (SWIS). The plant comprises a 170 MWe gas turbine unit, an 80MWe heat recovery steam generator and steam turbine with an additional 80MWe available from supplementary (or duct) firing, providing a total nominal capacity of 330 MWe. The main air emissions from the plant are oxides of nitrogen. The plant is fuelled by natural gas from the North-West Shelf, which is processed through low NOx burners.

Seawater from Cockburn Sound is used for cooling purposes and to increase the efficiency of the plant. Seawater is pumped from Western Power’s pumping basin and is supplied via the existing Kwinana Power Station intake structures. Cooling water is chlorinated before use and returned to Cockburn Sound via a gravity-fed undersea pipeline which extends approximately 300m offshore and contains a diffuser array to promote mixing. Some wastewater from the water treatment plant is added to the cooling water prior to entering the sub-sea pipeline. Liquid waste from the demineralisation plant and blowdown is sent to a lined evaporation pond.

This Licence is the result of an amendment sought by the licensee on completion of the gas turbine and compressor blading upgrade with an increase in design capacity from 320MWe to 330MWe. No significant changes have occurred to the risk profile of emissions and discharges as a result of this upgrade and therefore, DER has not amended conditions relating to emissions and discharges. However, conditions containing targets have been removed in accordance with administrative changes implemented in DER, and the licence has been updated to the current licence template. The licence expiry date and Licensee’s registered business address have also been updated.

The licences and works approvals issued for the Premises are:

Instrument log		
Instrument	Issued	Description
L8271/2008/1	09/10/2008	New application
L8271/2008/1	30/07/2009	Licence amendment
L8271/2008/1	03/06/2010	Licence amendment
L8271/2008/1	07/11/2013	Licence amendment
L8271/2008/1	29/07/2016	Licence amendment – Licensee initiated for the upgraded gas turbine and compressor blading



Severance

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

END OF INTRODUCTION

Licence conditions

1 General

1.1 Interpretation

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

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

“**Act**” means the *Environmental Protection Act 1986*;

“**annual period**” means the inclusive period from 1 January until 31 December in that year;

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

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

“**AS/NZS 5667.10**” means the Australian Standard AS/NZS 5667.10 *Water Quality – Sampling – Guidance on sampling of waste waters*;

“**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 Guideline Continuous Emission Monitoring System (CEMS) Code for Stationary Source Air Emissions published by the Department of Environment Regulation;

“**CEO**” means Chief Executive Officer of the Department of Environment Regulation;

“**CEO**” for the purpose of correspondence means:

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

“**Licence**” means this Licence numbered L8271/2008/1 and issued under the Act;

“**Licensee**” means the person or organisation named as Licensee on page 1 of the Licence;

“**NATA**” means the National Association of Testing Authorities, Australia;



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

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

“**PEMS**” means predictive emissions monitoring system;

“**PEMS Quality Assurance Manual**” means NewGen Power, Kwinana Power Station – Predictive Emission Monitoring System Quality Assurance Manual, Gas Turbine/Heat Recovery System Generator, Report Number: RAW14002B;

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

“**RATA**” means relative accuracy test audit;

“**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;

“**six monthly**” means the two inclusive periods from 1 January to 30 June and 1 July to 31 December in that year;

“**spot sample**” means a discrete sample representative at the time and place at which the sample is taken;

“**start-up**” means the period when plant or equipment is brought from inactivity to normal operating conditions;

“**STP dry**” means standard temperature and pressure (0°Celsius and 101.325 kilopascals respectively), dry;

“**USEPA**” means United States (of America) Environmental Protection Agency;

“**USEPA PS-16**” means United States (of America) Environmental Protection Agency *Performance Specification 16 for Predictive Emissions Monitoring Systems and Amendments to Testing and Monitoring Provisions*;

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

“**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.

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



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

Table 2.2.1: Point source emission points to air			
Emission point reference	Emission Point and source	Emission point height (m)	Source, including any abatement
A1	Heat Recovery Steam Generator Stack	60	Unit 1 - Gas turbine (170 MWe) fitted with dry low NO _x burners Unit 2 - Steam turbine (160 MWe)

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 targets to air			
Emission point Reference	Parameter	Target (including units) ^{1,2,3}	Averaging period
A1	Nitrogen oxides (NO _x)	70 mg/m ³	CEMS or PEMS (1 hour average)

Note 1: All units are referenced to STP dry

Note 2: All units are referenced to 15% O₂

Note 3: Targets do not apply during startup and shutdown

2.2.3 The Licensee shall take the relevant management action in the case of an event in Table 2.2.3

Table 2.2.3: Management actions		
Emission point reference	Event	Management action
A1	Start up and shutdown	The Licensee shall take all practical measures to minimise emissions.

2.3 Point source emissions to surface water

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



Table 2.3.1: Emission points to surface water		
Emission point reference	Description	Source including abatement
W1	Cooling water discharge pipe to Cockburn Sound	Seawater used for cooling
		Water Treatment Plant wastewater, only when at least one pump used for cooling water discharge is operational

2.3.2 The Licensee shall not cause or allow point source emissions to surface water greater than the limits listed in Table 2.3.2

Table 2.3.2: Point source emission limits to surface water			
Emission point reference	Parameter	Limit (including units)	Averaging period
W1	Residual chlorine	0.5 ppm	Spot sample

3 Monitoring

3.1 General monitoring

3.1.1 The licensee shall ensure that:

- (a) all water samples are collected and preserved in accordance with AS/NZS 5667.1;
- (b) all wastewater sampling is conducted in accordance with AS/NZS 5667.10; and
- (c) all laboratory samples are submitted to a laboratory with current NATA accreditation for the parameters to be measured unless indicated otherwise in relevant table.

3.1.2 The Licensee shall ensure that:

- (a) monthly monitoring is undertaken at least 15 days apart; and
- (b) six monthly monitoring is undertaken at least 5 months apart.

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

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

3.2 Monitoring of point source emissions to air

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



Table 3.2.1: Monitoring of point source emissions to air				
Emission point reference	Parameter	Units ^{1,3}	Frequency ²	Method
A1	Volumetric flow rate	m ³ /s	Six monthly	USEPA Method 1 or USEPA Method 2
	Carbon dioxide	% v/v		USEPA method 3A
	Oxygen	% v/v		USEPA method 3A
	Moisture content	% H ₂ O of stack gas		USEPA Method 4
	Nitrogen oxides	mg/m ³		Continuous
		g/s	CEMS or PEMS	
	mg/m ³			

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 15% O₂

3.2.2 The Licensee shall ensure that sampling required under Condition 3.2.1 of the Licence is undertaken at sampling locations in accordance with AS4323.1 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.

3.2.4 For any parameter in Table 3.2.1 requiring continuous monitoring, the Licensee shall ensure that the CEMS is regularly operated, maintained and calibrated in accordance with the CEMS Code with the following exemptions:

- (a) A PEMS may be used in place of CEMS.
- (b) Where a PEMS is used, the Licensee shall:
 - (i) not be required to demonstrate the dynamic calibration function of the CEMS as currently required by the CEMS Code;
 - (ii) be required to conduct daily sensor checks and define the operating envelope as part of the availability requirement;
 - (iii) target 95% monthly availability;
 - (iv) meet 90% monthly availability; and
 - (v) maintain the PEMS quality assurance manual.

3.3 Monitoring of point source emissions to surface water

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

Table 3.3.1: Monitoring of point source emissions to surface water				
Emission point reference	Parameter	Units	Frequency	Method
W1	Residual chlorine	mg/l	Monthly	Not specified ¹
	Temperature	Degrees Celsius	Continuous	Not specified ¹

Note 1: In field non-NATA accredited sampling permitted



3.4 Monitoring of inputs and outputs

3.4.1 The Licensee shall undertake the monitoring specified in Table 3.4.1.

Table 3.4.1: Monitoring of inputs and outputs			
Input/Output	Parameter	Units	Frequency
L1 - Cooling water inlet	Temperature	°Celsius	Continuous

4 Information

4.1 Records

4.1.1 All information and records required by the Licence shall:

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

4.1.2 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.

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

4.2 Reporting

4.2.1 The Licensee shall submit to the CEO an annual environmental report within 60 calendar days after of the end of the annual period. The report shall contain the information listed in Table 4.2.1 in the format or form specified in that table.

Table 4.2.1: Annual environmental report		
Condition or table (if relevant)	Parameter	Format or form ¹
-	Summary of any failure or malfunction of any pollution control equipment or any incidents that have occurred during the year and any action taken	None specified
4.1.2	Compliance	Annual Audit Compliance report (AACR)
4.1.3	Complaints summary	None specified
Table 2.2.2, 2.3.2	Limit and Target exceedances	None specified
Table 3.2.1	Volumetric flow rate, carbon dioxide, oxygen, moisture content, nitrogen oxides	AR1
Table 3.3.1	Residual Chlorine and temperature	WR1
Table 3.4.1	Temperature	None specified
-	List of quality assurance procedures required to ensure compliance with the licence	None specified

Note 1: Forms are in Schedule 2



- 4.2.2 The Licensee shall ensure that the annual environmental report also contains an assessment of the information contained within the report against previous monitoring results and Licence limits and/or targets.
- 4.2.3 The Licensee shall ensure that results from PEMS or CEMS are made available on request as tabulated data and time series graphs including:
- (a) times and dates;
 - (b) unavailability of abatement;
 - (c) target or limit exceedances; and
 - (d) an assessment of the information contained within the report against previous submissions and Licence limits and/or targets.
- 4.2.4 The Licensee shall submit the information in Table 4.2.2 to the CEO according to the specifications in that table.

Table 4.2.2: Non-annual reporting requirements				
Condition or table (if relevant)	Parameter	Reporting period	Reporting date (after end of the reporting period)	Format or form
-	Copies of original monitoring reports submitted to the Licensee by third parties	Not Applicable	Within 14 days of the CEO's request	As received by the Licensee from third parties

4.3 Notification

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

Table 4.3.1: Notification requirements			
Condition or table (if relevant)	Parameter	Notification requirement¹	Format or form²
3.1.5	Calibration report	As soon as practicable.	None specified
2.1.1	Breach of any limit or target specified in the Licence	Part A: As soon as practicable but no later than 5PM on the next usual working day after becoming aware of the exceedance. Part B: As soon as practicable but within seven working days of that exceedance becoming known.	N1

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



Schedule 1: Maps

Premises map and map of emission points

The Premises is shown on the map below. The yellow line depicts the Premises boundary.

The locations of the emission points defined in Tables 2.2.1 and 2.3.1 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.

ANNUAL AUDIT COMPLIANCE REPORT PROFORMA

SECTION A

LICENCE DETAILS

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

STATEMENT OF COMPLIANCE WITH LICENCE CONDITIONS

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

Yes Please proceed to Section C

No Please proceed to Section B

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

Initial:



SECTION C

SIGNATURE AND CERTIFICATION

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

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

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

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

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

SIGNATURE: _____

SIGNATURE: _____

NAME:
(printed) _____

NAME:
(printed) _____

POSITION: _____

POSITION: _____

DATE: ____/____/____

DATE: ____/____/____

SEAL (if signing under seal)



Licence: L8271/2008/1
Form: AR1
Name: Monitoring of point source emissions to air

Licensee: NewGen Power Kwinana Pty Ltd
Period :

Form AR1: Monitoring of point source emissions to air						
Emission point	Parameter	Result¹	Result¹ (g/s)	Averaging period	Method	Sample date & times
A1	Volumetric flow rate	m ³ /s			USEPA Method 1 or AS4323.1 and USEPA Method 2	
A1	Carbon dioxide	% v/v			USEPA method 3A	
A1	Oxygen	% v/v			USEPA method 3A	
A1	Moisture content	% H ₂ O of stack gas			USEPA Method 4	
A1	Nitrogen oxides	mg/m ³			USEPA Method 7E	

Note 1: All units are referenced to STP dry

Signed on behalf of NewGen Power Kwinana Pty Ltd:Date:



Licence: L8271/2008/1
 Form: WR1
 Name: Monitoring of point source emissions to surface water

Licensee: NewGen Power Kwinana Pty Ltd
 Period :

Form WR1: Monitoring of point source emissions to water					
Emission point	Parameter	Result (mg/m3)	Averaging period	Method	Sample date & times
W1	Residual chlorine	mg/L	Spot sample		
W1	Temperature	Celsius	Spot sample		

Note 1: All units are referenced to STP dry

Signed on behalf of NewGen Power Kwinana Pty Ltd: Date:



Licence: L8271/2008/1
Form: N1

Licensee: NewGen Power Kwinana Pty Ltd
Date of breach:

Notification of detection of the breach of a limit.

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

Part A

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

Notification requirements for the breach of a limit

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

Part B

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

Name	
Post	
Signature on behalf of	
Date	



Decision Document

Environmental Protection Act 1986, Part V

Proponent: **NewGen Power Kwinana Pty Ltd**

Licence: **L8271/2008/1**

Registered office: Level 33, 225 George Street
SYDNEY NSW 2000

ACN: 116 827 546

Premises address: Kwinana Gas-Fired Power Plant
Lot 22 Leath Road
NAVAL BASE WA 6165

Issue date: 9 October 2008

Commencement date: 9 October 2008

Expiry date: 8 October 2028

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.

Decision Document prepared by: Irene Vasquez
Licensing Officer

Decision Document authorised by: Jonathan Bailes
Delegated Officer



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1 Purpose of this Document

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



2 Administrative summary

Administrative details		
Application type	Works Approval <input type="checkbox"/>	
	New Licence <input type="checkbox"/>	
	Licence amendment <input checked="" type="checkbox"/>	
	Works Approval amendment <input type="checkbox"/>	
Activities that cause the premises to become prescribed premises	Category number(s)	Assessed design capacity
	52 – Electric power generation	330 MWe
Application verified	Date: 08/12/2015	
Application fee paid	Date: 16/12/2015	
Works Approval has been complied with	Yes <input type="checkbox"/>	No <input type="checkbox"/> N/A <input checked="" type="checkbox"/>
Compliance Certificate received	Yes <input type="checkbox"/>	No <input type="checkbox"/> N/A <input checked="" type="checkbox"/>
Commercial-in-confidence claim	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>
Commercial-in-confidence claim outcome	N/A	
Is the proposal a Major Resource Project?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>
Was the proposal referred to the Environmental Protection Authority (EPA) under Part IV of the <i>Environmental Protection Act 1986</i> ?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>
		Referral decision No: Managed under Part V <input type="checkbox"/> Assessed under Part IV <input type="checkbox"/>
Is the proposal subject to Ministerial Conditions?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>
		Ministerial statement No: 698 EPA Report No:1190
Does the proposal involve a discharge of waste into a designated area (as defined in section 57 of the <i>Environmental Protection Act 1986</i>)?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>
	Department of Water consulted Yes <input type="checkbox"/> No <input type="checkbox"/>	
Is the Premises within an Environmental Protection Policy (EPP) Area	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>
	<i>State Environmental (Cockburn Sound) Policy 2005 (SEP).</i> <i>Environmental Protection (Kwinana)(Atmospheric Wastes) Policy 1999 (Kwinana EPP)</i>	
Is the Premises subject to any EPP requirements?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>
	Premises is within Area A of the Kwinana EPP.	



3 Executive summary of proposal and assessment

The 320 MWe Kwinana Power Station is a combined cycle, gas-fired, base load power station that has been in commercial operation by NewGen Power Kwinana since December 2008.

The premises is located on the shore of Cockburn Sound in the northern end of the Kwinana Industrial Area. Directly to the east of the site is more heavy industry and Rockingham Road. On the eastern side of Rockingham Road are light industries and residential areas. A buffer zone exists between the industrial and residential areas as defined in the Kwinana Air Quality Environmental Protection Policy. The footprint of the plant is approximately four hectares.

Kwinana Gas-Fired Power Plant is part of the South West Interconnected System (SWIS). The plant comprises a 170 MWe gas turbine unit, an 80MWe heat recovery steam generator and steam turbine with an additional 80MWe available from supplementary (or duct) firing, providing a total nominal capacity of 330 MWe. The main air emissions from the plant are oxides of nitrogen. The plant is fuelled by natural gas from the North-West Shelf, which is processed through low NOx burners.

Seawater from Cockburn Sound is used for cooling purposes and to increase the efficiency of the plant. Seawater is pumped from Western Power's pumping basin and is supplied via the existing Kwinana Power Station intake structures. Cooling water is chlorinated before use and returned to Cockburn Sound via a gravity-fed undersea pipeline which extends approximately 300m offshore and contains a diffuser array to promote mixing. Some wastewater from the water treatment plant is added to the cooling water prior to entering the sub-sea pipeline. Liquid waste from the demineralisation plant and blowdown is sent to a lined evaporation pond.

This Licence is the result of an amendment sought by the licensee on completion of the gas turbine and compressor blading upgrade with an increase in design capacity from 320MWe to 330MWe. No significant changes have occurred to the risk profile of emissions and discharges as a result of this upgrade and therefore, DER has not amended conditions relating to emissions and discharges. However, the licence has been updated to the current licence template. The licence expiry date and Licensee's registered business address have also been updated.



4 Decision table

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

DECISION TABLE			
Works Approval / Licence section	Condition number	Justification (including risk description & decision methodology where relevant)	Reference documents
Front page of licence (page 1)	Expiry date of licence	The expiry date has been extended in line with DER's Amendment of Licence Expiry Dates Project effective as of 29 April 2016.	Current Company Extract: Report summary for NewGen Power Kwinana Pty Ltd dated 26 April 2016
	Registered office address.	The Licensee's registered office details have been updated to reflect current details.	
General conditions	N/A	<p>Condition 1.1.5 has been deleted as it contained explanatory text only.</p> <p><u>Emission Description</u> <i>Emission:</i> Contaminated stormwater runoff within operational areas. Minor leaks and spills of environmentally hazardous materials and hydrocarbons from equipment and machinery. <i>Impact:</i> Contamination of soil and groundwater through unlined stormwater drainage systems. Groundwater is present at a depth of 3-5 metres and flows towards Cockburn Sound. <i>Controls:</i> The licensee holds a Dangerous Goods licence for Compressed Natural Gas. Environmentally hazardous materials on the premises are Hydrochloric Acid (HCl) and Sodium Hydroxide (NaOH) which are stored in a bunded area and are duly placarded. This storage area is roofed and bunded and contains a collection sump which can be easily pumped out. Spill kits are present around the HCl/NaOH storage tanks and within the water treatment plant building.</p> <p><u>Risk Assessment</u> <i>Consequence:</i> Insignificant <i>Likelihood:</i> Possible</p>	<p><i>Environmental Protection (Unauthorised Discharges) Regulations 2004</i></p> <p><i>Environmental Protection Act 1986 – Part V</i></p> <p>Department of Mines and Petroleum - <i>Dangerous Goods Safety (Storage and Handling of Non-Explosives) Regulations 2007</i></p>



DECISION TABLE			
Works Approval / Licence section	Condition number	Justification (including risk description & decision methodology where relevant)	Reference documents
		<p><i>Risk Rating: Low</i></p> <p><u>Regulatory Controls</u> Condition 1.2.3 of the previous licence related to the storage of dangerous goods and has been removed from the licence as it relates to secondary activities. The storage of these materials above placard quantities is subject to the Department of Mines and Petroleum regulatory requirements. The unauthorised discharge of environmentally hazardous materials into the environment is also subject to the provisions of the <i>Environmental Protection (Unauthorised Discharges) Regulations 2004</i>.</p> <p>General conditions have been removed from the licence .The <i>Environmental Protection (Unauthorised Discharges) Regulations 2004</i> and the general provisions of the <i>Environmental Protection Act 1986</i> regulate the discharge of potentially contaminated stormwater off site.</p> <p><u>Residual risk</u> <i>Consequence: Insignificant</i> <i>Likelihood: Possible</i> <i>Residual Risk Rating: Low</i></p>	
Premises operation	N/A	The previous licence did not require conditions relating to premises operation. No significant changes have occurred and therefore DER has not amended conditions relating to premises operation.	
Emissions general	2.1.1	The licence contains targets and limits. Therefore, condition 2.1.1 regarding recording and investigation of limit and target exceedances has been retained.	
Point source emissions to air including monitoring	2.2.1 – 2.3.2 3.2.1 – 3.2.4	<p>Conditions 2.2.1 and 2.3.1 have been updated. Table 2.2.1 has also been updated to reflect the two units and their new design capacity.</p> <p>Condition 3.2.4 has also been updated to reference PEMS along with CEMS as this monitoring system is maintained as a supplement for data evaluation. Two CEMS sensors operate in parallel to ensure reliability is achieved. The PEMS quality assurance manual has been amended to reflect the new plant upgrades.</p>	PEMS Quality Assurance Manual



DECISION TABLE			
Works Approval / Licence section	Condition number	Justification (including risk description & decision methodology where relevant)	Reference documents
Point source emissions to surface water including monitoring	N/A	DER has considered whether the risk profile of emissions and discharges for point source emissions to surface water including monitoring has varied as a result of this licence amendment. No significant changes have occurred and therefore DER has not amended these conditions.	-
Point source emissions to groundwater including monitoring	N/A	The previous licence did not require conditions relating to point source emissions to groundwater including monitoring. No significant changes have occurred and therefore DER has not amended conditions relating to these emissions and discharges. Conditions 2.4 and 3.4 of the previous licence have been removed to reflect current licence template layout as they referred to no conditions.	-
Emissions to land including monitoring	N/A	The previous licence did not require conditions relating to emissions to land including monitoring. No significant changes have occurred and therefore DER has not amended conditions relating to these emissions and discharges. Conditions 2.5 and 3.5 of the previous licence have been removed to reflect current licence template layout as they referred to no conditions.	-
Fugitive emissions	N/A	The previous licence did not require conditions relating to fugitive emissions. No significant changes have occurred and therefore DER has not amended conditions relating to these emissions and discharges. Condition 2.6 of the previous licence has been removed to reflect current licence template layout as they referred to no conditions.	-
Odour	N/A	The previous licence did not require conditions relating to odour emissions. No significant changes have occurred and therefore DER has not amended conditions relating to these emissions and discharges. Condition 2.7 of the previous licence has been removed to reflect current licence template layout as it referred to a condition that specified no conditions relating to emissions in this section.	-
Noise	N/A	The previous licence did not require conditions relating to noise emissions. No significant changes have occurred and therefore DER has not amended conditions relating to these emissions and discharges. Condition 2.8 of the previous licence has been removed to reflect current licence template layout as it referred to a condition that specified no conditions relating to emissions in this section.	-



DECISION TABLE			
Works Approval / Licence section	Condition number	Justification (including risk description & decision methodology where relevant)	Reference documents
Monitoring general	3.1.1 – 3.1.4	General monitoring conditions 3.1.1 – 3.1.4 remain in the licence. Previous condition 3.1.3 has been deleted as the condition is not enforceable as it does not clearly state the outcome that must be achieved.	-
Monitoring of inputs and outputs	3.4.1	DER has considered whether the risk profile of emissions and discharges for monitoring of inputs and outputs has varied as a result of this licence amendment. No significant changes have occurred and therefore DER has not amended conditions relating to monitoring of inputs and outputs.	
Improvements	N/A	The previous licence did specify an improvement condition which was completed on the 15 May 2014. Condition 4.1.1 has been removed from this licence as the PEMS Quality Assurance Manual has been submitted and subsequently acknowledged by DER.	PEMS Quality Assurance Manual
Process monitoring	N/A	The previous licence did not require conditions relating to process monitoring. No significant changes have occurred and therefore DER has not amended conditions relating to these emissions and discharges. Condition 3.7 – 3.9 of the previous licence has been removed to reflect current licence template layout as it referred to a condition that specified no conditions relating to emissions in this section.	-
Ambient environmental quality monitoring	N/A	The previous licence did not require monitoring of ambient environmental quality monitoring. No significant changes have occurred and therefore DER has not amended conditions relating to ambient environmental quality monitoring. Condition 3.7 – 3.9 of the previous licence has been removed to reflect current licence template layout as it referred to a condition that specified no conditions relating to emissions in this section.	-
Meteorological monitoring	N/A	The previous licence did not require the monitoring of meteorology. No significant changes have occurred and therefore DER has not amended conditions relating to meteorological monitoring. Condition 3.7 – 3.9 of the previous licence has been removed to reflect current licence template layout as it referred to a condition that specified no conditions relating to emissions in this section.	-
Information	N/A	Previous condition 4.1.4 has been deleted as the condition is not enforceable as the requirements for compliance are not clear. It is not a defence to offences under the EP Act for the Licensee or its agents to claim they were unaware of licence conditions.	-



DECISION TABLE			
Works Approval / Licence section	Condition number	Justification (including risk description & decision methodology where relevant)	Reference documents
Licence Duration	N/A	This licence amendment is sought by the licensee due to the completion of the gas turbine and compressor blading upgrade. The licence duration has been extended in accordance with DER Guidance Statement: Licence Duration.	DER Guidance Statement: Licence Duration.

5 Advertisement and consultation table

Date	Event	Comments received/Notes	How comments were taken into consideration
20/05/2016	Proponent sent a copy of draft instrument	The Licensee objected to the target in condition 2.2.2 becoming a limit and requested the limit be removed on the basis of the low risk posed by NOx emissions.	The Delegated Officer has determined to keep the target in the licence. As neither the change of the target to a limit nor the removal of the target was within the scope of the original application, insufficient information is available to justify the change. The premises is also subject to Ministerial conditions, and there was insufficient time to liaise with the Office of the Environmental Protection Authority on this matter. In the interest of progressing the current amendment application, the condition has been unaltered pending a reassessment of emissions to air.



6 Risk Assessment

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

Table 1: Emissions Risk Matrix

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