



# Decision Document

## *Environmental Protection Act 1986, Part V*

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**Proponent:** Regional Power Corporation Pty Ltd

**Licence:** L8818/2014/1

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**Registered office:** 18 Brodie Hall Drive  
Technology Park  
BENTLEY WA 6102

**Premises address:** South Hedland (Temporary Generation) Power Station  
Lot 601 on Deposited Plan 70566  
Boodarie Station Access Road  
BOODARIE WA 6722

**Issue date:** Thursday, 19 February 2015

**Commencement date:** Monday, 23 February 2015

**Expiry date:** Saturday, 22 February 2020

### **Decision**

Based on the assessment detailed in this document, the Department of Environment Regulation (DER), has decided to issue a licence. DER considers that in reaching this decision, it has taken into account all relevant considerations.

Decision Document prepared by: Damian Thomas  
Licensing Officer

Decision Document authorised by: Jonathan Bailes  
Manager Licensing



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## 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: 1.1.1-1.1.4, 1.2.1, 1.2.2, 5.1.1 and 5.1.2.

Licence conditions: 1.1.1-1.1.4, 1.2.1-1.2.4, 5.1.1-5.1.4 and 5.2.1.

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

#### Optional standard conditions (OSC)

In the interests of regulatory consistency 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 is 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 occur within few licences. Where used, justification for the application of these conditions will be included in Section 4.



## 2 Administrative summary

Administrative details		
Application type	Works Approval <input type="checkbox"/>	
	New Licence <input checked="" type="checkbox"/>	
	Licence amendment <input type="checkbox"/>	
	Works Approval amendment <input type="checkbox"/>	
Activities that cause the premises to become prescribed premises	<b>Category number(s)</b>	<b>Assessed design capacity</b>
	52	68 megawatts
Application verified	Date: 16 April 2014	
Application fee paid	Date: 19 June 2014	
Works Approval has been complied with	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A <input type="checkbox"/>	
Compliance Certificate received	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A <input type="checkbox"/>	
Commercial-in-confidence claim	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	
Commercial-in-confidence claim outcome		
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 type="checkbox"/> No <input checked="" type="checkbox"/>	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 <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 checked="" type="checkbox"/>
Is the Premises within an Environmental Protection Policy (EPP) Area	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	
If Yes include details of which EPP(s) here.		
Is the Premises subject to any EPP requirements?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	
If Yes, include details here, e.g. Site is subject to SO <sub>2</sub> requirements of Kwinana EPP.		



### 3 Executive summary of proposal

Regional Power Corporation Pty Ltd trading as Horizon Power (HP) operates the Hedland Precinct Power Project (HPPP), located in the Boodarie Industrial Estate, approximately 13 km south of Port Hedland and approximately 6 km west of South Hedland.

The nearest residences to the power station are:

- the South Hedland Rural Estate, 5 km to the east southeast;
- the town of South Hedland, 6 km to the northeast; and
- Boodarie Homestead, approximately 8 km to the west.

The closest industrial activity is the existing Alinta DEWAP Power Station, adjacent to the power station. The power station is located within the northern boundary of the Turner River Water Reserve, a Public Drinking Water Source Area (PDWSA), which has not been assigned a Protection Area rating by the Department of Water (DoW).

The 68 megawatt (MW) HPPP is the first of two stages of development. The original project proposed by HP comprised a permanent facility with a design capacity of 120 MW. Due to funding constraints and long lead times for permanent generation capacity, HP proposed the 68 MW HPPP as an interim solution (Stage 1). The HPPP has an anticipated operating life of five years. The HPPP generation units operated under this Licence provide consistency of power supply by meeting the predicted short term and peak power demands for the Port Hedland region until the procurement and construction of the permanent power station (Stage 2). The permanent Stage 2 project will be constructed under works approval W5729/2014/1 which has been issued to TEC Hedland Pty Ltd (TECH) and is not subject to this licence application. It is anticipated that the Stage 1 HPPP will be decommissioned/augmented into the Stage 2 TECH project upon commencement of operation of the permanent power station.

The HPPP comprises of four open cycle gas turbine generators. Each gas turbine unit has a rated output of 26 MW and uses natural gas as its primary fuel source. Diesel fuel is stored onsite as a secondary fuel source in the event of any disruption to the gas supply.

The HPPP is a source of a number of emissions to the atmosphere as a result of combustion of natural gas and diesel fuel. Emissions include greenhouse gases and other pollutants, such as carbon monoxide (CO), oxides of nitrogen (NO<sub>x</sub>), sulphur dioxide (SO<sub>2</sub>) and particulate matter (PM), however, NO<sub>x</sub> is the principle emission of concern for the HPPP. There is a Guaranteed Performance Specification (GPS) for each of the units to achieve a NO<sub>x</sub> emission limit of 34 ppmvd while running on gas and 96 ppmvd while running on diesel. These limits have been included on the Licence. HP is also restricted to operating the temporary power station for a maximum of 200 hours per year on diesel fuel to minimise emissions associated with diesel operation. The HPPP was constructed under works approval W5048/2011/1 and HP have submitted a Verification Report (VR) after commissioning of the HPPP as required under works approval W5048. The VR provides an assessment of turbine operation and associated air emissions.



## 4 Decision table

All applications are assessed under the *Environmental Protection Act 1986*, the *Environmental Protection Regulations 1987*, DER's *Policy Statement No 7 – Operational Risk Management* and the risk matrix attached to this Decision Document in Section 6. Where other references have been used in making the decision they are detailed in the decision table.

DECISION TABLE				
Works Approval / Licence section	Condition number W = Works Approval L = Licence	OSC or NSC	Justification (including risk description & decision methodology where relevant)	Reference documents
General conditions	L1.2.3 - 1.2.5 1.3.2	OSC NSC	<p><b>Operation</b></p> <p><u>Emission Description</u></p> <p><i>Emission:</i> Contaminated or potentially contaminated stormwater from activities on the Premises including hydrocarbon fuel spills.</p> <p><i>Impact:</i> Contamination of surrounding land and surface water drainage systems. Potential impacts on ecology of surface water from the addition of sediment and hydrocarbons.</p> <p><i>Controls:</i> The proponent will store approximately 550,000 litres of diesel fuel on site in five self bunded storage tanks. There will be existing hydrocarbon traps to eliminate the potential for spills to enter the environment at transfer points. Waste oils will be stored on site in self bunded containers prior to disposal off site. Stormwater from paved, service yards areas and building roofs that may contain oily water will be collected at various locations and will be directed to numerous oil water separator (OWS) units on site. Oily water from these areas will be treated to less than 10mg/L Total Recoverable Hydrocarbons (TRH) prior to discharging to premises drainage systems. All general surface runoff will be managed in accordance with Department of Water, <i>Water Quality Protection Note 52: Stormwater Management at Industrial Sites</i>. Process water from the operation of the turbines and reject water from the demineralised water plant are also treated via the OWS. Discharge of treated water from the OWS is then disposed of too the two evaporation ponds which are synthetic lined to achieve a permeability of at least 10<sup>-9</sup> m/s.</p>	<p>Application supporting documentation.</p> <p>Code of practice for the storage and handling of dangerous goods, Department of Mines and Petroleum, Government of Western Australia.</p> <p>WQPN 52, "Stormwater Management at Industrial Sites" (DoW, 2010).</p> <p>General provisions of the <i>Environmental Protection Act 1986</i>.</p>



<b>DECISION TABLE</b>				
<b>Works Approval / Licence section</b>	<b>Condition number W = Works Approval L= Licence</b>	<b>OSC or NSC</b>	<b>Justification (including risk description &amp; decision methodology where relevant)</b>	<b>Reference documents</b>
			<p><u>Risk Assessment</u>  <i>Consequence:</i> Minor  <i>Likelihood:</i> Possible  <i>Risk Rating:</i> Moderate</p> <p><u>Regulatory Controls</u>            OSC L1.2.5 will be added to the operating licence to require appropriate management of contaminated stormwater on-site. SC 1.2.3 and SC 1.2.4 have been imposed on the Licence to ensure that environmentally hazardous materials, including but not limited to lubricating oils, are appropriately stored and that spills outside of the designated storage areas are immediately attended to.            OSC 1.3.2 has been imposed on the Licence to ensure that process water and treated wastewater is only directed to the lined evaporation ponds for disposal and that an appropriate 300mm freeboard is maintained on the ponds during operation. The ponds have been designed to capture a 1 in 100 year annual recurrence interval rainfall event.</p> <p><u>Residual Risk</u>  <i>Consequence:</i> Minor  <i>Likelihood:</i> Unlikely  <i>Risk Rating:</i> Moderate</p>	
<b>Emissions general</b>	L2.1.1	OSC	<b>Operation</b>	Application supporting documentation.



<b>DECISION TABLE</b>				
<b>Works Approval / Licence section</b>	<b>Condition number W = Works Approval L= Licence</b>	<b>OSC or NSC</b>	<b>Justification (including risk description &amp; decision methodology where relevant)</b>	<b>Reference documents</b>
			Descriptive limits will be set through condition 2.2.2 of the Licence and therefore, OSC 2.1.1 regarding recording and investigation of the exceedance of limits or targets has been included.	General provisions of the <i>Environmental Protection Act 1986</i> .
<b>Point source emissions to air including monitoring</b>	L2.2 and L3.2	OSC	<b>Operation</b>  Details of DER's assessment and decision making are included in Appendix A. Detailed assessment of particulate and sulphur dioxide (SO <sub>2</sub> ) emissions from emergency firing using diesel has not been carried out as the Works Approval assessment confirmed these emissions to be low with negligible impact. These emissions have therefore been determined as low risk and no regulatory controls are needed.	General provisions of the <i>Environmental Protection Act 1986</i> .  National Environmental Protection Measure (Ambient Air Quality) 1997.  National Environmental Protection Measure (Air Toxics) 1996.
<b>Point source emissions to surface water including monitoring</b>	L2.3 and L3.3	N/A	<b>Operation</b>  There are no point source emissions to water during operation of the temporary power station. No specified conditions relating to point source emissions to water or the monitoring of such emissions are required to be added to the Licence. The nearest watercourse to the site is South West Creek, an ephemeral creek, located approximately 1 km to the north and east.	Application supporting documentation.  <i>Environmental Protection (Unauthorised Discharges) Regulations 2004</i> .  General provisions of the <i>Environmental Protection Act 1986</i> .





DECISION TABLE				
Works Approval / Licence section	Condition number W = Works Approval L= Licence	OSC or NSC	Justification (including risk description & decision methodology where relevant)	Reference documents
Point source emissions to groundwater including monitoring	L2.4 and L3.4	N/A	<p><b>Operation</b></p> <p>There are no point source emissions to groundwater during operation of the temporary power station. No specified conditions relating to point source emissions to groundwater or the monitoring of such emissions are required to be added to the Licence. Groundwater in the area is between 4 m and 7 m below ground level and is generally brackish, exhibiting total dissolved solids concentration of approximately 1,000 mg/L to 3,000 mg/L.</p>	<p><i>Environmental Protection (Unauthorised Discharges) Regulations 2004.</i></p> <p>General provisions of the <i>Environmental Protection Act 1986.</i></p>
Emissions to land including monitoring	L2.5.1- 2.5.2 L3.5	OSC	<p><b>Operation</b></p> <p><u>Emission Description</u>  <i>Emission:</i> Stormwater from paved, service yard areas and building roofs that may contain oily water            Impact: Contamination of surrounding land and surface water drainage systems. Potential impacts on ecology of surface water from the addition of sediment and hydrocarbons.            Controls: Stormwater that may contain oily water will be collected at various locations and will be directed to numerous OWS units on site. Oily water from these areas will be treated to less than 10mg/L TRH prior to discharging to premises drainage systems that will then discharge to land.</p> <p><u>Risk Assessment</u>  <i>Consequence:</i> Minor.  <i>Likelihood:</i> Possible.  <i>Risk Rating:</i> Moderate.</p> <p><u>Regulatory Controls</u></p>	<p>General provisions of the <i>Environmental Protection Act 1986.</i></p> <p>Environmental Protection (Unauthorised Discharges) Regulations 2004.</p> <p>Code of practice for the storage and handling of dangerous goods, Department of Mines and Petroleum, Government of Western Australia.</p>





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
			<p>OSC 2.5.1 has been added to the licence to facilitate discharge points. OSC 2.5.2 has been added to the licence to limit TRH discharges to land to less than 15mg/L. OSC 3.5.1 has been added to the licence which will require quarterly monitoring of TRH.</p> <p><u>Residual Risk</u>  <i>Consequence:</i> Minor  <i>Likelihood:</i> Unlikely  <i>Risk rating:</i> Moderate</p>	
<b>Fugitive emissions</b>	L2.6.1	OSC	<p><b>Operation</b></p> <p><u>Emission Description</u>  <i>Emission:</i> Potential dust emissions (PM<sub>10</sub>) from site areas, vehicle movement etc.  <i>Impact:</i> Reduced local air quality due to dust emissions.  <i>Controls:</i> The vast majority of the premises are paved so there is limited potential for dust emissions. Vehicle speeds will be restricted on site. Visual monitoring of dust will occur during operation of the Power Station.</p> <p><u>Risk Assessment</u>  <i>Consequence:</i> Minor.  <i>Likelihood:</i> Unlikely.  <i>Risk Rating:</i> Moderate.</p> <p><u>Regulatory Controls</u>            OSC 2.6.1 has been added to the licence to manage dust emissions from of the Power Station.</p>	<p>General provisions of the <i>Environmental Protection Act 1986</i>.</p> <p>Application supporting documentation.</p>



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
			<p><u>Residual Risk</u> <i>Consequence:</i> Minor <i>Likelihood:</i> Unlikely <i>Risk rating:</i> Moderate</p> <p><u>Emission Description</u> <i>Emission:</i> Potential emissions to groundwater and soil from the lined Evaporation Ponds if the liner leaks or breaks. <i>Impact:</i> Reduced local groundwater, soil and surface water ecology. <i>Controls:</i> The Evaporation Ponds are lined with a 10<sup>-9</sup>m/s liner and ambient monitoring described in the ambient monitoring section below.</p> <p><u>Risk Assessment</u> <i>Consequence:</i> Minor <i>Likelihood:</i> Unlikely <i>Risk Rating:</i> Moderate</p> <p><u>Regulatory Controls</u> OSC 3.8.1 has been added to the licence to detect possible groundwater emissions from the Power Station in the event that the Evaporation Pond liners leak or break.</p> <p><u>Residual Risk</u> <i>Consequence:</i> Minor <i>Likelihood:</i> Unlikely <i>Risk rating:</i> Moderate</p>	



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
Odour	L2.7	N/A	<p><b>Operation</b></p> <p>There are no odour emissions associated with the operation of the temporary power station. No specified conditions relating to odour emissions are required to be added to the Licence.</p>	N/A
Noise	L2.8	N/A	<p><b>Operation</b></p> <p><u>Emission Description</u>  <i>Emission:</i> Noise emissions from operation of generators.  <i>Impact:</i> Unacceptable noise emissions affecting health and wellbeing of people at nearest sensitive receptors.  <i>Controls:</i> HP has a statutory responsibility to comply with the <i>Environmental Protection (Noise) Regulations 1997</i>. Noise emissions were verified as part of works approval W5048/2011/1 commissioning conditions and the verification report required under the works approval provides data that indicates there are no exceedances of the assigned noise levels for operations at the premises.</p> <p><u>Risk Assessment</u>  <i>Consequence:</i> Minor  <i>Likelihood:</i> Rare  <i>Risk Rating:</i> Low</p> <p><u>Regulatory Controls</u>            No specific conditions to regulate noise emissions from the Premises are considered necessary.</p> <p><u>Residual Risk</u>  <i>Consequence:</i> Minor  <i>Likelihood:</i> Rare  <i>Risk rating:</i> Low</p>	<p><i>Environmental Protection (Noise) Regulations 1997.</i></p> <p>General provisions of the <i>Environmental Protection Act 1986.</i></p>



<b>DECISION TABLE</b>				
<b>Works Approval / Licence section</b>	<b>Condition number W = Works Approval L= Licence</b>	<b>OSC or NSC</b>	<b>Justification (including risk description &amp; decision methodology where relevant)</b>	<b>Reference documents</b>
<b>Monitoring general</b>	L3.1.1 to L3.1.5	OSC	<b>Operation</b>  HP is required to carry out air emission stack monitoring and discharges to land and groundwater monitoring under conditions of this Licence. OSCs 3.1.1 to 3.1.5 have been imposed on the Licence to specify the general monitoring requirements which need to be implemented when monitoring is conducted.	General provisions of the <i>Environmental Protection Act 1986</i> .  Application supporting documentation.
<b>Monitoring of inputs and outputs</b>	L3.6	N/A	<b>Operation</b>  There is no requirement to monitor inputs or outputs during operation of the temporary power station. No specified conditions relating to the monitoring or inputs and outputs are required to be added to the Licence.	N/A
<b>Process monitoring</b>	L3.7.1	N/A	<b>Operation</b>  There is no requirement to carry out processing monitoring during operation of the temporary power station. No specified conditions relating to process monitoring are required to be added to the Licence.	N/A.



<b>DECISION TABLE</b>				
<b>Works Approval / Licence section</b>	<b>Condition number W = Works Approval L= Licence</b>	<b>OSC or NSC</b>	<b>Justification (including risk description &amp; decision methodology where relevant)</b>	<b>Reference documents</b>
<b>Ambient quality monitoring</b>	L3.8.1	OSC	<b>Operation</b>  HP have committed to groundwater monitoring around the Evaporation ponds to determine if pond leakage is impacting on groundwater quality. OSC 3.8.1 has been added to the licence to facilitate groundwater monitoring.  Monitoring is conducted on a six monthly basis and samples are analysed for pH, electrical conductivity, total petroleum hydrocarbons, benzene, toluene, ethylbenzene, xylene, mercury, lead, arsenic, copper, nickel, cadmium and chromium.  The results of the monitoring conducted are reported annually in the Annual Environmental Report, required under Licence SC 5.2.1.	General provisions of the <i>Environmental Protection Act 1986</i> .  Application supporting documentation
<b>Meteorological monitoring</b>	L3.9	N/A	<b>Operation</b>  There is no requirement to monitor meteorological conditions during operation of the power station. No specified conditions relating to meteorological monitoring are required to be added to the Licence.	N/A.
<b>Improvements</b>	L4	N/A	<b>Operation</b>  No specified conditions relating to improvements are required to be added to the Licence. The power station is a new facility and is subject to compliance inspections.	N/A.



<b>DECISION TABLE</b>				
<b>Works Approval / Licence section</b>	<b>Condition number W = Works Approval L= Licence</b>	<b>OSC or NSC</b>	<b>Justification (including risk description &amp; decision methodology where relevant)</b>	<b>Reference documents</b>
<b>Information</b>	L5.1.1 to L5.1.4 L5.2.1 – 5.2.2 L5.3.1	OSC	<b>Operation</b>  Standard conditions have been imposed on the Licence to require the appropriate management of records. This includes the implementation of a complaints management system and the requirement to report a summary of complaints in the Annual Environmental Report. HP is required to submit an Annual Audit Compliance Report. Conditions relating to the submission of an Annual Environmental Report with specific information have been added to the licence. HP is also required to submit notification information if any limits are exceeded.	N/A.
<b>Licence duration</b>	N/A	N/A	The power station has been constructed on a temporary basis pending construction and operation of a permanent facility. Therefore this Licence has been issued for a period of five years.	W5048/2011/1



## 5 Advertisement and consultation table

Date	Event	Comments received/Notes	How comments were taken into consideration
07/07/2014	Application advertised in The West Australian	No comments received	N/A
03/02/2015	Proponent sent a copy of draft instrument	Changes made to the name of the project.	Name changed within instrument and decision document.





## 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



## Appendix A

### Point source emissions to air including monitoring

The HPPP comprises four GE TM2500 gas turbines which are primarily fired on natural gas for an estimated 1,800- 4,000 hours per year depending on demand and on diesel fuel for up to 200 hours per year. Diesel, as a power source, only occurs in the event of disruptions to the gas supply or emergencies.

The HPPP is a source of a number of emissions to the atmosphere as a result of combustion of natural gas and diesel fuel. Emissions include greenhouse gases and other pollutants, such as carbon monoxide (CO), oxides of nitrogen (NO<sub>x</sub>), SO<sub>2</sub> and particulate matter (PM). However NO<sub>x</sub> is the principle emission of concern for the HPPP. The HPPP was constructed under works approval W5048 and HP have submitted a VR after commissioning of the HPPP as required under works approval W5048/2011/1. The VR provides an assessment of turbine operation and associated air emissions. Results of the sampling conducted have demonstrated that the HPPP stack emissions meet the predicted emissions under W5048/2011/1. Table 1 provides the results of emissions testing.

**Table 1 Results of emission testing**

Aspect	Test Parameter	units	Unit 1	Unit 2	Unit 3	Unit 4	Performance Targets
Liquid Fuel	Test Date		25/10/2014	25/10/2014	24/10/2014	25/10/2014	
	Test Period		18:00	10:50	18:10	13:10	Record Only
	NO <sub>x</sub> (asNO <sub>2</sub> )	ppmvd	41.6	41.5	38.7	40.2	96ppmvd
	Carbon monoxide	mg/dscm	28.2	17.5	21.5	20.4	6mg/scm
	Molecular Weight (dry and wet)	g/g mole	29.17	29.19	29.13	29.05	Record Only
	SO <sub>x</sub> as SO <sub>2</sub>	Kg/hr	nd <sup>1</sup>	nd	nd	nd	9.27kg/hr
Natural Gas	Test Date		25/10/2014	26/10/2014	24/10/2014	25/10/2014	
	Test Period		16:00-17:00	08:55-09:55	14:15-15:15	11:00-12:00	Record Only
	NO <sub>x</sub> (asNO <sub>2</sub> )	ppmvd	20.8	22.8	16.6	20.9	34ppmvd
	Carbon monoxide	ppmvd	47.6	38.9	74.4	35.7	20ppmvd
	Molecular Weight (dry and wet)	g/g mole	29.07	29.08	29.04	28.96	Record Only

1 = not detected.

#### Emission Description

*Emission:* NO<sub>x</sub> from HPPP operations including emergency diesel use.

*Impact:* Reduction in local air quality, potentially above the NEPM standard. Nearest sensitive receptor is 5km away.

*Controls:* Works approval W5048/2011/1 required that Stage 1 of the HPPP was constructed to meet the GPS for each of the units and achieve a NO<sub>x</sub> emission that does not exceed the limit of 34 ppmvd while running on natural gas, and 96 ppmvd while running on diesel fuel. The results of the testing of the units during commissioning indicate the stack emissions for NO<sub>x</sub> are below the GPS limits. The average diesel value of 40.5ppmvd is 42% of the GPS limit and the average natural gas value of 20.3ppmvd is 60% of the GPS limit. When diesel is used as fuel, the mobile generation units do not comply with the *NSW Protection of the Environment (Clean Air) Regulation 2010* (NSW Clean Air Regulations) stack emission standard of 70mg/m<sup>3</sup>. Potential



NO<sub>x</sub> emissions from the mobile units using diesel are expected to be 198mg/m<sup>3</sup>, which is 182% higher than the standard specified in NSW Clean Air Regulations. To ensure that potential emissions from the temporary generation units do not adversely impact sensitive receptors, diesel is only used in the case of emergencies and disruption to the natural gas supply and for not more than 200 hours per year. Monitoring will be undertaken to assess emissions discharged to the environment.

#### Risk Assessment

*Consequence:* Moderate

*Likelihood:* Possible

*Risk Rating:* Moderate

#### Regulatory Controls

OSC L1.3.1 has been added to the licence to limit the use of diesel as a fuel source to 200 hours per annual period. OSC 2.2.1 has been added to the licence to ensure that air emissions points only occur from the four unit stacks. OSC L2.2.2 has been added to the licence to limit oxides of nitrogen from the four stacks for natural gas fuel at 34 ppmvd and 96 ppmvd for diesel fuel. NO<sub>x</sub> emissions will be required to be monitored so OSCs 3.1.1-3.1.5 and 3.2.1-3.2.3 have been added to the licence. HP will be required to submit an Annual Environment Report under SC 5.2.1, which will include all monitoring data. HP will also be required to submit an Annual Audit Compliance Report under SC5.1.3 outlining how HP has complied with the licence during the annual period. HP will also be required to notify the CEO under OSC5.3.1 if the NO<sub>x</sub> limit is exceeded.

#### Residual Risk

*Consequence:* Moderate

*Likelihood:* Unlikely

*Risk Rating:* Moderate

#### Emission Description

*Emission:* CO from the HPPP operations including emergency diesel use.

*Impact:* Reduction in local air quality, potentially above the NEPM standard. Nearest sensitive receptor is 5km away.

*Controls:* W5048/2011/1 required HP submit a Commissioning Plan (CP) and HP monitor CO emissions during commissioning of the HPPP. HP have conducted monitoring of CO and provided the results in the VR. The emissions verification data indicates that CO emissions were higher than predicted in the CP. Original modelling of the Stage 2 project under W5048/2011/1 (not to be completed now) indicated that CO emissions under worst case scenario were no more than 0.029% of the NEPM guideline standard of 10,000mg/m<sup>3</sup>. CO emissions modelled under TECH works approval W5729/2014/1, which will augment the original Stage 2 of W5048/2011/1, were also negligible and as such, no licence conditions were considered for the proposed licence.

#### Risk Assessment

*Consequence:* Insignificant

*Likelihood:* Unlikely

*Risk Rating:* Low

#### Regulatory Controls

The data from commissioning of the HPPP units indicate the slight elevation in CO emissions is still negligible. No licence conditions are required to be added to the licence.

#### Residual Risk

*Consequence:* Insignificant

*Likelihood:* Unlikely

*Risk Rating:* Low