Government of Western Australia
Department of Environment Regulation

Licence

Environmental Protection Act 1986, Part V

Licensee: BHP Billiton Iron Ore Pty Ltd

Licence: L4513/1969/18

Registered office: 125-137 St Georges Tce
PERTH WA 6000

ACN: 008 700 981

Premises address: BHP Billiton Iron Ore Port Hedland Operations
Nelson Point and Finucane Island
Nelson Point Lease LGEI123403, Goldsworthy Rail Lease LGE J998591, Finucane Island Loop LGE I126342, Finucane Island Lease LGE J998595, PACE Wharf Lease K693809L, Utah Jild Lease K693814L, Harriet Point Lease K693808, Nelson Point Wharf Lease LGE I123400, Under Harbour Tunnel Lease K693815L, Finucane Island Substation Lease LGE G946533
PORT HEDLAND WA 6721
As depicted in Schedule 1

Issue date: Thursday, 7 November 2013

Commencement date: Sunday, 17 November 2013

Expiry date: Wednesday, 16 November 2016

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
5	Processing or beneficiation of metallic or non-metallic ore: premises on which – (a) Metallic or non-metallic ore is crushed, ground, milled or otherwise processed; (b) Tailings from metallic or non-metallic ore are reprocessed; or (c) Tailings or residue from metallic or non-metallic ore are discharged into a containment cell or dam.	50 000 tonnes or more per year.	155 million tonnes per annual period.
54	Sewage facility: premises – (a) on which sewage is treated (excluding septic tanks); or (b) from which treated sewage is discharged onto land or into water.	100 cubic metres or more per day.	260.9 cubic metres per day.
58	Bulk material loading or unloading: premises on which clinker, coal, ore, ore concentrate	100 tonnes or more per day.	270 million tonnes per annual period.

	or any other bulk granular material is loaded onto or unloaded from vessels by an open materials loading system.		
61	Liquid waste facility: premises on which liquid waste produced on other premises (other than sewerage waste) is stored, reprocessed, treated or irrigated.	100 tonnes or more per year.	8,000 tonnes per annual period.
73	Bulk storage of chemicals, etc: premises on which acids, alkalis or chemicals that – (a) contain at least one carbon to carbon bond; and (b) are liquid at STP (standard temperature and pressure), are stored.	1 000 cubic metres in aggregate.	63,336 cubic metres in aggregate.

Conditions
This Licence is subject to the conditions set out in the attached pages.

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

Contents

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 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 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 BHP Billiton Iron Ore Pty Ltd (BHPBIO) Port Hedland Operations has been assessed as a "prescribed premises" as it meets the requirements of categories 5, 54, 58, 61 and 73 under Schedule 1 of the *Environmental Protection Regulations 1987*.

Category 5 – The Port Hedland Operation, consisting of both the Nelson Point and Finucane Island port facilities, has capacity to receive via rail up to 270 million tonnes per annum (Mtpa) of metallic (iron) ore from the BHPBIO inland mines. Once at the port, the ore is unloaded through car dumpers and screened, sized, separated and/or blended prior to stockpiling. The two ports; Nelson Point and Finucane Island, are linked by an underwater tunnel which allows ore to be transferred from one site to the other via a conveyor system.

Category 54 – BHPBIO operates newly constructed sewage facilities at both the Nelson Point and Finucane Island. These facilities replaced historic infrastructure during the 2013 calendar year. The new facilities have the capacity to treat a combined total of approximately 260.9 cubic metres per day (m^3/day).

Category 58 - Ore is transferred from the stockpiles at both Nelson Point and Finucane Island to iron ore ships by a reclaimer, conveyor and ship loading system. Up to 270 Mtpa can be loaded using these open systems each year. Construction and commissioning of Berths G and H at Harriet Point, which took the port capacity to 205 Mtpa, is now complete. Expansions to include berths E & F at Nelson Point, which was constructed as part of the Rapid Growth Project 6 (RGP6), and the Port Hedland Inner Harbour Project (PHIHP) took the total port capacity to 240 Mtpa. Ultimately, BHPBIO intends to increase the port capacity of the Inner Habour to 290 Mtpa (via the Inner Harbour Debottlenecking Project) but this is being implemented in stages. The first stage, which involves efficiency improvements of existing equipment, takes the overall capacity to 270 Mtpa and is the subject of this licence amendment.

Category 61 - Approximately 8,000 tonnes of wastewater (typically hydrocarbon contaminated) is treated at the Port Hedland Operation for reuse on site, with the majority of this material generated from facilities located within the BHPBIO Port Hedland prescribed premises. Some minor volumes of liquid waste come from other premises.

Category 73 – In 2012 BHPBIO conducted an inventory of hydrocarbon material stored onsite. The inventory revealed that, in total, 63,336 m^3 of hydrocarbons is stored onsite and, subsequently, category 73 was included on the licence. Information provided for the licence reissue confirmed this value as 62,699 kL. Fuel storage facilities include the Main Fuel Farm at Nelson Point (62.6ML) and other smaller satellite facilities located across Finucane Island and Nelson Point.

Previously Finucane Island and Nelson Point operations were licensed separately via L5445 and L4513 respectively. In 2006 the Finucane Island operations were merged onto the Nelson Point licence.

This Licence is the results of an amendment sought by the licensee to allow the increase in the capacity of category 58 from 240 Mtpa to 270 Mtpa, and allow the operation of the temporary screening plant (approved under W5611/2014/1) and new oily water treatment system increasing the capacity of wastewater treatment (category 61) from 2,000 tonnes to 8,000 to tonnes.

The Licences and Works Approvals issued for the Premises since 22 November 2000 are:

Instrument log		
Instrument	**Issued**	**Description**
W757/1969/1	20/1/1992	Archived.
W761/1969/1	28/1/1992	Archived.
W819/1969/1	22/6/1992	Archived.
W924/1969/1	5/4/1993	Archived.
W1240/1969/1	7/6/1995	Archived.
W1402/1996/1	5/8/1996	Archived.
W1415/1969/1	29/8/1996	Archived.
L4513/1969/5 / L5445/1968/1	22/11/2000	Licence reissue.
L4513/1969/6 / L5445/1968/2	22/11/2001	Licence reissue.
L4513/1969/7 / L5445/1968/3	4/12/2002	Licence reissue.
L4513/1969/8 / L5445/1968/4	22/11/2003	Licence reissue.
L4513/1969/9 / L5445/1968/5	22/11/2004	Licence reissue.
L4513/1969/10 / L5445/1968/6	22/11/2005	Licence reissue.
L4513/1969/11	17/11/2006	Licence L4513 and L5445 were merged into one licence for the Port Operations.
L4513/1969/12	17/11/2007	Licence reissue.
L4513/1969/13	17/11/2008	Licence reissue.
W4516/2009/1	14/05/2009	Addition of berths G and H at Harriet Point.
W4565/2009/1	29/10/2009	Addition of berths E and F at Nelson Point.
L4513/1969/14	17/11/2009	Licence reissue.
W4681/2010/1	16/08/2010	Addition of Car Dumper 5 at Finucane Island.
W4735/2010/1	14/10/2010	Upgrade of the Nelson Point Locomotive Service Workshop oily water treatment system.
L4513/1969/15	17/11/2010	Licence reissue.
W4916/2011/1	23/06/2011	Relocation of an irrigation area for disposal of effluent from a wastewater treatment plant at Finucane Island.
L4513/1969/16	17/11/2011	Licence reissue.
W5105/2011/1	08/03/2012	New wastewater treatment plants and irrigation areas at both Finucane Island and Nelson Point.
W5098/2011/1	22/03/2012	Port Hedland Inner Harbour Project.
L4513/1969/17	17/11/2012	Licence reissue.
L4513/1969/18	7/11/2013	Licence reissue to REFIRE format.
W5611/2014/1	17/7/2014	New application – Temporary screening plant (category 5)
L4513/1969/18	23/4/2015	Amendment to increase capacity of category 58 from 240mtpa to 270tmpa and allow the operation of the temporary screening plant and new oily water treatment system

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 July until 30 June in the following year;

'AS 3580.1.1' means the Australian Standard AS 3580.1.1 *Methods for sampling and analysis of ambient air – Guide to siting air monitoring equipment;*

'AS 3580.9.11' means the Australian Standard AS 3580.9.11 *Methods for sampling and analysis of ambient air - Determination of suspended particulate matter - PM10 beta attenuation monitors;*

'AS 3580.14' means the Australian Standard AS *3580.14* Methods for sampling and analysis of ambient air - Meteorological monitoring for ambient air quality monitoring applications;

'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;*

'average monthly availability' means the combined average percentage availability of the following dust control equipment calculated for each calendar month by dividing the time that the dust control equipment is operating, by the time the dust control equipment is required to be operating:

- Water sprays on stackers, reclaimers and ship loaders;
- Wet scrubbers at transfer stations, car dumpers and lump rescreening plants;
- Belt wash stations; and
- Bulk ore conditioning sprays.

'averaging period' means the time over which a limit or target is measured or a monitoring result is obtained;

'BAM' means Beta Attenuation Monitor;

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

'controlled waste' has the definition in *Environmental Protection (Controlled Waste) Regulations 2004*;

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

'DEM' means Dust Extinction Moisture: the total moisture at which a dust number of 10 is attained on the dust/moisture curve;

'CEO' means Chief Executive Officer of the Department of Environment Regulation;

'CEO' for the purpose of correspondence means;
Manager Licensing (Resources North)
Department of Environment Regulation
Locked Bag 33
CLOISTERS SQUARE WA 6850
Telephone: (08) 9333 7510
Facsimile: (08) 9333 7550
Email: industry.regulation@der.wa.gov.au

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

'freeboard' means the distance between the maximum water surface elevations and the top of retaining banks or structures at their lowest point;

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

'HVAS' means High Volume Air Sampler;

'Licence' means this Licence numbered L4513/1969/18 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;

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

'PM_{10}' means particles with an equivalent aerodynamic diameter of 10 microns or less;

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

'quarterly' means the 4 inclusive periods from 1 July to 30 September, 1 October to 31 December and in the following year, 1 January to 31 March1 April to 30 June;

'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;

'spot sample' means a discrete sample representative at the time and place at which the sample is taken;

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

'TRH' means Total Recoverable Hydrocarbons;

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

'µm' means microns, 1 micron is one millionth of a metre (i.e. 10^{-6}m); and

'WWTP' means wastewater treatment plant.

1.1.3 Any reference to an Australian or other standard in the Licence means the relevant parts of the standard in force from time to time during the term of this Licence.

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

1.2 General conditions

1.2.1 Nothing in the Licence shall be taken to authorise any emission that is not mentioned in the Licence, where the emission amounts to:
(a) pollution;
(b) unreasonable emission;
(c) discharge of waste in circumstances likely to cause pollution; or
(d) being contrary to any written law.

1.2.2 The Licensee shall operate and maintain all pollution control and monitoring equipment to the manufacturer's specification or any relevant and effective internal management system.

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

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

1.2.5 The Licensee shall:
(a) implement all practical measures to prevent stormwater run-off becoming contaminated by the activities on the Premises; and
(b) treat contaminated or potentially contaminated stormwater (sediments excluded) as necessary prior to being discharged from the Premises.[1]

Note1: *The Environmental Protection (Unauthorised Discharges) Regulations 2004* make it an offence to discharge certain materials into the environment.

1.3 Premises operation

1.3.1 The Licensee shall take all reasonable and practicable measures to prevent the discharge of any material into the marine environment during loading, unloading, cleaning or any other operations occurring within the premises.

1.3.2 The Licensee shall ensure that sumps and bunds on the premises are maintained at all times and emptied prior to heavy rain or cyclonic weather.

1.3.3 The Licensee shall ensure that all vehicle refuelling activity occurs using appropriately designed refuelling equipment at the premises.

1.3.4 The Licensee shall ensure that all hydrocarbon treatment and removal system on the premises are operated and maintained in accordance to the manufacturer's specifications, where available.

1.3.5 The Licensee shall ensure that all dust control equipment is operated and maintained in accordance to the manufacturer's specifications or as per the Dust Management Manual referred to in Conditions 5.2.4 and 5.2.5.

2 Emissions

2.1 General

2.1.1 The Licensee shall record and investigate the exceedance of any descriptive or numerical limit or target specified in any part of section 2 of this Licence.

2.2 Point source emissions to air

There are no specified conditions relating to point source emissions to air in this section.

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 and location on Map of emission points	Description	Source including abatement
W1	Nelson Point flop gate	Site runoff
W2	Finucane Island gate	Site runoff
W3	LSS lake drain	Site runoff

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	TRH	15 mg/L	Spot sample
W2			
W3			

2.4 Point source emissions to groundwater

There are no specified conditions relating to point source emissions to groundwater in this section.

2.5 Emissions to land

2.5.1 The Licensee shall ensure that where waste is emitted to land from the emission points in Table 2.5.1 and identified on the map of emission points in Schedule 1 it is done so in accordance with the conditions of this licence.

Table 2.5.1: Emissions to land		
Emission point reference and location on Map of emission points	**Description**	**Source including abatement**
L1	Outlet to irrigation area at Nelson Point	Effluent from WWTP
L2	Outlet to irrigation area at Finucane Island	Effluent from WWTP
L3	Finucane Island Freshwater Recovery Plant	Water from Freshwater Recovery
L4	Nelson Point Freshwater Recovery Plant	Water from Freshwater Recovery
L5	Plant 2 Washdown Bay	Washdown Bay
L6	Drainage channel to lake	Site runoff
L7	Nelson Point lake outflow	Site runoff

2.5.2 The Licensee shall not cause or allow emissions to land greater than the limits listed in Table 2.5.2.

Table 2.5.2: Emission limits to land			
Emission point reference	**Parameter**	**Limit (including units)**	**Averaging period**
L3 L4 L5 L6 L7	TRH	15 mg/L	Spot sample

2.5.3 The Licensee shall target emissions to land at or below the levels specified in Table 2.5.3.

Table 2.5.3: Emission targets to land			
Emission point reference	**Parameter**	**Target (including units)**	**Averaging period**
L1 L2	Biochemical oxygen demand	30 mg/L	Spot sample
	Total suspended solids	40 mg/L	
	pH	6 - 9	
	Total Nitrogen	50 mg/L	
	Total Phosphorus	12 mg/L	
	Coliforms	10^6 cfu/100 mL	
	Total Nitrogen loading rate	480 kg/ha/yr	
	Total Phosphorus loading rate	120 kg/ha/yr	

2.6 Fugitive emissions

2.6.1 The Licensee shall use all reasonable and practical measures to prevent and where that is not practicable to minimise dust emissions from the Premises.

2.6.2 The Licensee shall maintain the surface of all trafficable areas within the premises to minimise dust.

2.6.3 The Licensee shall maintain all conveyor belt transfer points at the premises to minimise the generation of dust.

2.6.4 The Licensee shall operate and maintain belt scrapers on all conveyor belt transfer points where fitted at the premises.

2.6.5 The Licensee shall ensure that spillages of any ore are cleaned up as soon as practicable and returned to the respective stockpiles or designated waste management areas so as to prevent the generation of dust from the premises.

2.6.6 The Licensee shall ensure that there is no accumulation of ore outside the respective designated stockpile areas and waste management areas at the premises.

2.6.7 The Licensee shall take all reasonable and practicable measures to ensure that the moisture content of ore at the premises is maintained above the DEM to minimise dust generation during storage, loading, unloading and transportation activities.

2.7 Odour

There are no specified conditions relating to odour in this section.

2.8 Noise

There are no specified conditions relating to noise in this section.

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 unless indicated otherwise in the relevant table;
(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 the relevant table.

3.1.2 The Licensee shall ensure that quarterly monitoring is undertaken at least 45 days apart.

3.1.3 The Licensee shall ensure that all monitoring equipment used on the Premises to comply with the conditions of this Licence is calibrated in accordance with the manufacturer's specifications.

3.1.4 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

There are no specified conditions relating to monitoring of point source emissions to air in this section.

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
W1	TRH	mg/L	Monthly
W2			
W3			

3.4 Monitoring of point source emissions to groundwater

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

3.5 Monitoring of emissions to land

3.5.1 The Licensee shall undertake the monitoring in Table 3.5.1 according to the specifications in that table.

Table 3.5.1: Monitoring of emissions to land

Emission point reference	Parameter	Units	Frequency
L1 L2	Biochemical oxygen demand	mg/L	Quarterly
	Total suspended solids		
	pH[1]		
	Residual chlorine[1]		
	Total Nitrogen		

	Total Phosphorus		
	Coliforms		
	Total Nitrogen loading rate		
	Total Phosphorus loading rate		
L3 L4 L5 L6 L7	TRH	mg/L	Monthly

Note 1: In-field non-NATA accredited analysis permitted.

3.6 Monitoring of inputs and outputs

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

3.7 Process monitoring

3.7.1 The Licensee shall undertake the monitoring in Table 3.7.1 according to the specifications in that table.

Table 3.7.1: Process monitoring

Monitoring point reference	Process description	Parameter	Limit	Units	Frequency	Method
PM1	Feed from Nelson Point Oily Water Separator to Fresh Water Recovery Plant	TRH	15	mg/L	Quarterly	None specified

3.8 Ambient environmental quality monitoring

3.8.1 The Licensee shall undertake the monitoring in Table 3.8.1 according to the specifications in those tables and record and investigate results that do not meet any target specified.

Table 3.8.1: Monitoring of ambient air quality

Monitoring point reference and location	Parameter	Target	Units[1]	Averaging period	Frequency	Method
Taplin Street	Particulates as PM_{10}	70 <10 exceedances per year	$\mu g/m^3$	24 hours	Continuous	AS 3580.9.11
BOM	Particulates as PM_{10}	N/A	$\mu g/m^3$	24 hours	Continuous	AS 3580.9.11

3.8.2 The Licensee shall ensure that, as far as practicable, the siting of ambient air monitoring equipment is in accordance with AS 3580.1.1.

3.9 Meteorological monitoring

3.9.1 The Licensee shall undertake the meteorological monitoring in Table 3.9.1 according to the specifications in that table.

Table 3.9.1: Meteorological monitoring

Monitoring station & location	Parameter	Units	Height	Method
M1 as shown on map in Schedule 1	Wind speed	m/s	10 m	AS 3580.14
	Wind direction	Degrees	10 m	
	Air temperature	°C	10 m	
	Barometric pressure	hPa	Not specified	

4 Improvements

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:
- (a) implement a complaints management system that shall record the following information (if known or provided) about complaints received at the Premises concerning any environmental impact of the activities undertaken at the Premises:
  - (i) name and address of the complainants (if consented);
  - (ii) date and time of complaint;
  - (iii) date and time of alleged incident;
  - (iv) alleged source of the incident;
  - (v) general description of the alleged incident, including any environmental or health impacts reported by the complainant;
  - (vi) wind direction, wind speed and temperature at time of alleged incident;
  - (vii) likely source of the alleged incident; and
  - (viii) actions taken by the Licensee to address the complaint, including the outcome of any investigation(s) and action(s) to verify any impacts.
- (b) complete an annual analysis and review of complaints recorded under 5.1.4(a) to identify any common factors and root cause of complaints and proposals to address these.

5.2 Reporting

5.2.1 The Licensee shall submit to the CEO an Annual Environmental Report within 120 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]**
-	Details of all dust control initiatives.	None specified.
-	Details of all noise control initiatives and annual update of Noise Reduction Management Plan.	None specified.
	Details of all water reduction initiatives.	None specified.
-	Annualised PM_{10} data including trend analysis.	None specified.
-	A summary of target exceedances and values above target over the reporting period.	None specified.
-	Provide relevant data and information to the Port Hedland Industries Council to allow collation of the Port Hedland Industries Council annual report.	None specified.
-	Boundary Monitoring update.	None specified.
-	Periods the temporary screening plant was operational during the reporting period and the location at which it was operated	None specified
3.1.4	Calibration report.	None specified.
Table 3.3.1	TRH	WR1
Table 3.5.1	TRH, Biochemical oxygen demand, Total suspended solids, pH, Residual chlorine, Total Nitrogen, Total Phosphorus, Coliforms, Total Nitrogen loading rate, Total Phosphorus loading rate	LR1
Table 3.7.1	TRH	PR1
Table 3.8.1	PM_{10}	ET1
5.1.3	Compliance.	Annual Audit Compliance Report (AACR).
5.1.4	Complaints summary.	None specified.

Note 1: Forms are in Schedule 2

5.2.2 The Licensee shall ensure that the Annual Environmental Report also contains an assessment of the information contained within the report against previous monitoring results and Licence limits and/or targets.

5.2.3 The Licensee shall submit the information in Table 5.2.3 to the CEO according to the specifications in that table.

Table 5.2.3: Non-annual reporting requirements				
Condition or table (if relevant)	**Parameter**	**Reporting period**	**Reporting date (after end of the reporting period)**	**Format or form[1]**
-	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
-	Dust control availability report that includes: (a) The average monthly availability of all dust control equipment on the premises; (b) A comparison of data with previous results; and (c) Identification of the main cause(s) for reduced availability of	Quarterly	Within 14 days of the end of the reporting period	None specified

	dust control equipment where the target average monthly availability of 90% has not been achieved, including response measure(s) taken to rectify issues and timeframes for implementation.			

5.2.4 The Licensee shall, by **30 September each year**, prepare and provide to the CEO an updated report detailing the dust control strategies and plans for the prescribed premises, including key performance indicators as per the Dust Management Manual.

5.2.5 The Licensee shall ensure the above report details, but is not limited to:

(a) The number and location of all dust control equipment on the prescribed premises, including, but not limited to:
  (i) dust extraction units and bag houses;
  (ii) portable dust suppression units used onsite;
  (iii) water sprays on conveyors, transfer points, stackers, reclaimers and ship loaders;
  (iv) stockpile sprinklers; and
  (v) covers on conveyors and transfer points.

(b) Details of all dust control procedures on the prescribed premises, including, but not limited to:
  (i) bulk ore moisture control;
  (ii) removal of spilled material from underneath conveyors, transfer points, screening plants and the wharf area;
  (iii) operation of water trucks on site; and
  (iv) use of chemical suppressants.

(c) Maintenance strategies and records for dust control equipment;

(d) Key performance indicators for the dust control equipment and procedures; and

(e) Implementation of any new technologies and systems.

5.3 Notification

5.3.1 The Licensee shall ensure that the parameters listed in Table 5.3.1 are notified to the CEO 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]
2.1.1	Breach of any limit specified in the Licence	Part A: As soon as practicable but no later than 5pm of the next usual working day. Part B: As soon as practicable	N1
3.1.4	Calibration report	As soon as practicable.	None specified
3.8.1	Target exceedance	Within 21 calendar days	ET1

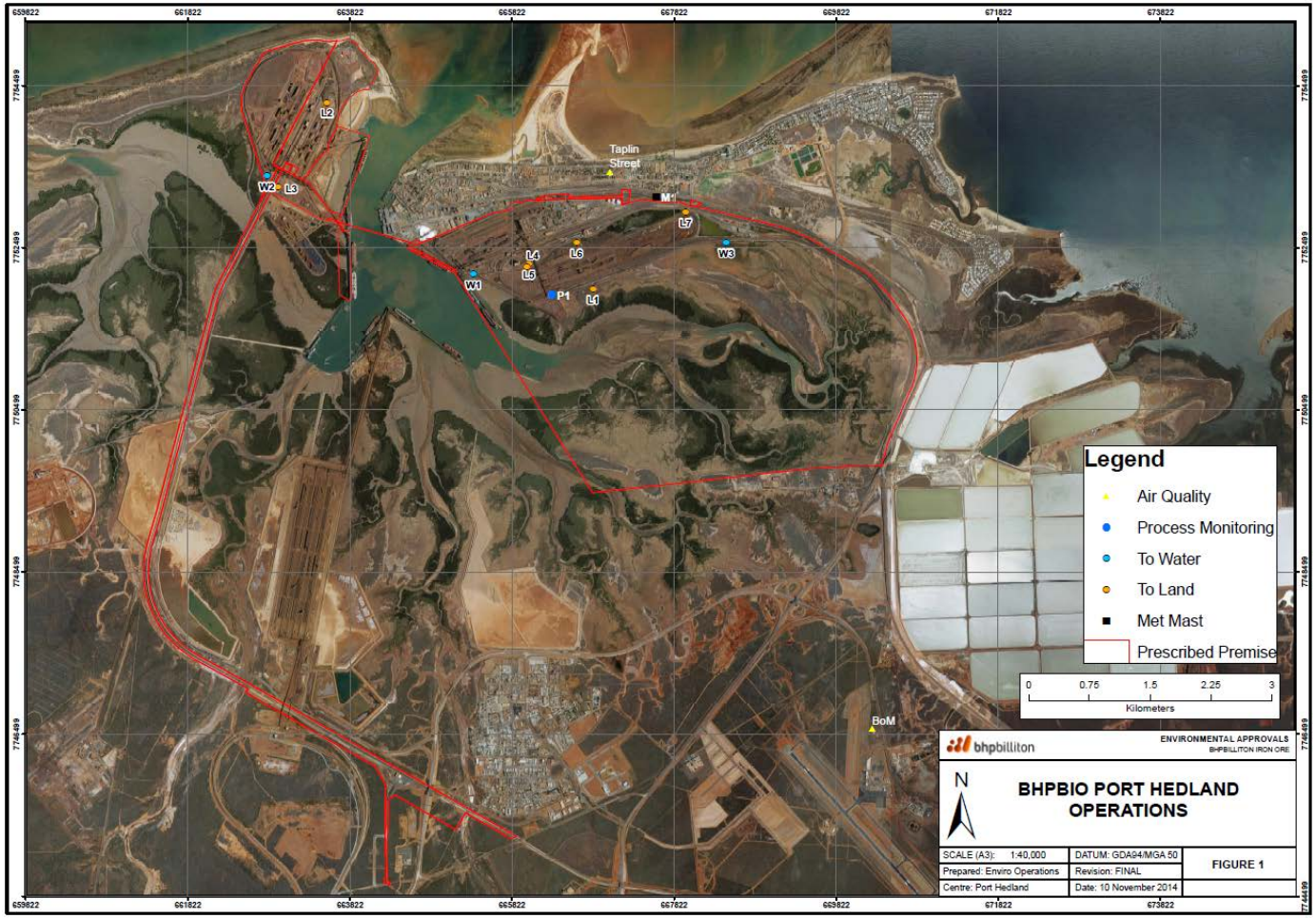
Note 1: Notification requirements in the licence shall not negate the requirement to comply with s72 of the Act

Note 2: Forms are in Schedule 2

Schedule 1: Maps

Premises map

The Premises is shown in the map below. The red line depicts the Premises boundary. The locations of the emission and monitoring points defined in Tables 2.3.1, 2.5.1, 3.3.1, 3.5.1, 3.7.1 and 3.8.1 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: Trading as:	ABN:
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 B

DETAILS OF NON-COMPLIANCE WITH LICENCE CONDITION.

Please use a separate page for each Licence condition that was not complied with.

a) Licence condition not complied with:	
b) Date(s) when the non compliance occurred, if applicable:	
c) Was this non compliance reported to DER?:	
☐ Yes ☐ 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 the 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:	

Each page must be initialled by the person(s) who signs Section C of this AACR

Initial:

SECTION C

SIGNATURE AND CERTIFICATION

This Annual Audit Compliance Report (AACR) must 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	□	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	□	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	□	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 Chief Executive Officer of the Department of Environment Regulation.
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 Chief Executive Officer of the Department of Environment Regulation.
a local government	□	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: _____

NAME:
(printed) _____

POSITION: _____

DATE: _____/_____/_____

SIGNATURE: _____

NAME:
(printed) _____

POSITION: _____

DATE: _____/_____/_____

SEAL (if signing under seal)

Licence: L4513/1969/18 Licensee: BHP Billiton Iron Ore Pty Ltd
Form: WR1 Period:
Name: Monitoring of point source emissions to surface water

Form WR1: Monitoring of point source emissions to surface water							
Emission point	**Parameter**	**Limit**	**Result**	**Unit**	**Averaging period**	**Method**	**Sample date & times**
W1	TRH	15		mg/L	Spot sample	AS/NZS 5667.1	
W2	TRH	15		mg/L	Spot sample	AS/NZS 5667.1	
W3	TRH	15		mg/L	Spot sample	AS/NZS 5667.1	

Signed on behalf of BHP Billiton Iron Ore Pty Ltd: …….. Date: ……..

Licence: L4513/1969/18
Form: LR1
Name: Monitoring of emissions to land

Licensee: BHP Billiton Iron Ore Pty Ltd
Period:

Form LR1: Monitoring of emissions to land

Emission point	Parameter	Target	Limit	Result	Unit	Averaging period	Method	Sample date & times
L1	Biochemical oxygen demand	30 mg/L	N/A		mg/L	Spot sample	AS/NZS 5667.1	
	Total suspended solids	40 mg/L	N/A		mg/L	Spot sample	AS/NZS 5667.1	
	pH	6 - 9	N/A		pH units	Spot sample	AS/NZS 5667.1	
	Total Nitrogen	50 mg/L	N/A		mg/L	Spot sample	AS/NZS 5667.1	
	Total Phosphorus	12 mg/L	N/A		mg/L	Spot sample	AS/NZS 5667.1	
	Coliforms	106 org/100 mL	N/A		mg/L	Spot sample	AS/NZS 5667.1	
	Total Nitrogen loading rate	480 kg/ha/yr	N/A		kg/ha/yr	Spot sample	AS/NZS 5667.1	
	Total Phosphorus loading rate	120 kg/ha/yr	N/A		kg/ha/yr	Spot sample	AS/NZS 5667.1	
L2	Biochemical oxygen demand	30 mg/L	N/A		mg/L	Spot sample	AS/NZS 5667.1	
	Total suspended solids	40 mg/L	N/A		mg/L	Spot sample	AS/NZS 5667.1	
	pH	6 - 9	N/A		pH units	Spot sample	AS/NZS 5667.1	
	Total Nitrogen	50 mg/L	N/A		mg/L	Spot sample	AS/NZS 5667.1	
	Total Phosphorus	12 mg/L	N/A		mg/L	Spot sample	AS/NZS 5667.1	

	Coliforms	106 org/100 mL	N/A		mg/L	Spot sample	AS/NZS 5667.1	
	Total Nitrogen loading rate	480 kg/ha/yr	N/A		kg/ha/yr	Spot sample	AS/NZS 5667.1	
	Total Phosphorus loading rate	120 kg/ha/yr	N/A		kg/ha/yr	Spot sample	AS/NZS 5667.1	
	Coliforms	106 org/100 mL	N/A		mg/L	Spot sample	AS/NZS 5667.1	
	Total Nitrogen loading rate	480 kg/ha/yr	N/A		kg/ha/yr	Spot sample	AS/NZS 5667.1	
	Total Phosphorus loading rate	120 kg/ha/yr	N/A		kg/ha/yr	Spot sample	AS/NZS 5667.1	
L3	TRH	N/A	15 mg/L		mg/L	Spot sample	AS/NZS 5667.1	
L4	TRH	N/A	15 mg/L		mg/L	Spot sample	AS/NZS 5667.1	
L5	TRH	N/A	15 mg/L		mg/L	Spot sample	AS/NZS 5667.1	
L6	TRH	N/A	15 mg/L		mg/L	Spot sample	AS/NZS 5667.1	
L7	TRH	N/A	15 mg/L		mg/L	Spot sample	AS/NZS 5667.1	

Signed on behalf of BHP Billiton Iron Ore Pty Ltd: …….. Date: ……..

Licence: L4513/1969/18
Form: PR1
Name: Process monitoring

Licensee: BHP Billiton Iron Ore Pty Ltd
Period:

Form WR1: Process monitoring							
Emission point	**Parameter**	**Limit**	**Result**	**Unit**	**Averaging period**	**Method**	**Sample date & times**
PM1	TRH	15		mg/L	Spot sample		

Signed on behalf of BHP Billiton Iron Ore Pty Ltd: …….. Date: ……..

Licence: L4513/1969/18
Form: ET1
Name: Target exceedances

Licensee: BHP Billiton Iron Ore Pty Ltd
Period:

Form ET1: Target exceedances
Please provide an analysis of the target exceedances for the month, including but not limited to: (a) the emission point (b) the root cause analysis for the exceedances; (c) any common or contributory factors; (d) a description of remedial measures taken or planned to be taken, including those taken to prevent recurrence of the exceedances; (e) complaints received that may have been caused by this exceedance; and (f) for those exceedances that may have caused complaints, meteorological details: temperature, wind speed and wind direction, humidity.

Signed on behalf of BHP Billiton Iron Ore Pty Ltd: …….. Date: ……..

Licence: L4513/1969/18 Licensee: BHP Billiton Iron Ore 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 BHP Billiton Iron Ore Pty Ltd	
Date	

Government of Western Australia
Department of Environment Regulation

Decision Document

Environmental Protection Act 1986, Part V

Proponent: BHP Billiton Iron Ore Pty Ltd

Licence: L4513/1969/18

Registered office: 125-137 St Georges Tce
PERTH WA 6000

ACN: 008 700 981

Premises address: BHP Billiton Iron Ore Port Hedland Operations
Nelson Point and Finucane Island
Nelson Point Lease LGEI123403, Goldsworthy Rail Lease LGE J998591, Finucane Island Loop LGE I126342, Finucane Island Lease LGE J998595, PACE Wharf Lease K693809L, Utah Jild Lease K693814L, Harriet Point Lease K693808, Nelson Point Wharf Lease LGE I123400, Under Harbour Tunnel Lease K693815L, Finucane Island Substation Lease LGE G946533
PORT HEDLAND WA 6721

Issue date: Thursday, 7 November 2013

Commencement date: Sunday, 17 November 2013

Expiry date: Wednesday, 16 November 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: Fiona Roser
Licensing Officer

Decision Document authorised by: Alana Kidd
Manager Licensing

Contents

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.

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, 5.1.2 and 5.3.1.

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 as a result of this application 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 ☐ New Licence ☐ Licence amendment ☒ Works Approval amendment ☐	
Activities that cause the premises to become prescribed premises	**Category number(s)**	**Assessed design capacity**
	58	270 million tonnes per annum
	61	8,000 tonnes per annum
Application verified Application fee paid	Date: N/A Date: N/A	
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	N/A	
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: 740 EPA Report No: 1247
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 and assessment

Increase in throughput – Category 58
BHP Billiton Iron Ore Pty Ltd (BHPBIO) is proposing to implement the Inner Harbour Debottlenecking Project which aims to increase the throughput of its category 58 bulk loading of ore from 240 Mtpa up to 290 Mpta.

The initial increase from 240mtpa to 270mtpa will be achieved via increasing equipment availability and utilisation of the inner harbour by:

- *Increasing availability of existing plant by reducing downtime*
  The downtime of existing infrastructure (car dumpers, ship loaders, conveyors, stackers and reclaimers) will be reduced by 3 – 5%. This will occur from improved organisation design, streamlined processes and updated maintenance strategies.
- *Increasing berth and ship loader utilisation by increasing available ship loading time, alongside the berth, through improved scheduling tools and methodologies*
  Approximately 5 – 7% more hours will be added to load the ships. This will occur by improving sequencing of vessels to match products with correct ship mix and size, improved processes to manage authority to load and improve ship movement times.
- *Reducing double handling via stacking and reclaiming of ore by increasing the use of direct to ship routes*
  Direct shipping will be increased by 4%, up to 44% (in 2013 40% of ore was direct shipped) as the proponent will better align train arrivals to the port with the berthing of ships. This means that the ore does not need to be stacked and reclaimed.
- *Reducing throughput variation by improving mine planning and sequencing of product type to the port through the rail network*
  A steadier flow and alignment of ore types through the car dumpers to the port will be achieved. Rail management and scheduling will be modified to align mine product to port requirements, including the use of the Mooka staging facility.

These modifications will result in an additional capacity of 30 Mtpa taking the total site capacity to 270 Mtpa and are the subject of this licence amendment.

Other upgrades to existing infrastructure, including expanding the Lump Rescreening Plant 2 (LRP) on Finucane Island and route upgrades, which involves increasing conveyor speeds, are also proposed as part of the Inner Harbour Debottlenecking Project which will take the total site capacity to 290 Mtpa. These upgrades do not form part of this licence amendment.

Nelson Point Oily Water Treatment System (OWTS)
BHPBIO is also converting an existing storage facility at Nelson Point to an OWTS. The system will treat wastewater to achieve a Total Recoverable Hydrocarbon content of 15mg/L prior to being directed to the Freshwater Recovery Plant for reuse onsite. This improvement will allow BHPBIO to increase their water reuse capability at the port.

Temporary screening plant
Installation of a temporary plant was approved under works approval W5611/2014/1 to screen fines material historically stockpiled adjacent to roads and fence lines at Nelson Point. The screening plant is expected to be operational intermittently until February 2016 to remove the existing stockpiled material. BHPBIO may also deploy the screening plant to Nelson Point or Finucane Island to manage and remove any additional latent ore stockpiles from historic or new maintenance activities. The current licence throughput of 155 Mtpa will not be exceeded as a result of the operation of the temporary screening plant.

Originally, screening material was to be trucked from the screening plant to the nearest live stockpiles, prior to reclamation and loading to vessels, however, BHPBIO has identified an improvement whereby the existing rail network can be utilised in some instances to transport ore to the existing material handling plant.

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 W = Works Approval L= Licence**	**OSC or NSC**	**Justification (including risk description & decision methodology where relevant)**	**Reference documents**
Premises operation	L1.3.1 – 1.3.2	NSC	**Construction and Operation** <u>Emission Description</u> *Emission:* Discharge of iron ore to the harbour. Spillage of ore to the marine environment is also an issue for many bulk material ports. *Impact:* Deterioration of marine water quality through increased turbidity. The marine environment in the harbour is a highly turbid environment as it is subject to large tides and ship movements. *Controls:* The site is designed such that turbid water is captured and either treated, or directed to the appropriate sump prior to discharge. Iron ore spilled is collected. The Port Hedland Operations pose minimal impact to the environment as the ore is relatively inert and does not cause significant contamination. BHPBIO has designed the wharf structures to minimise spillage and access to the marine environment. Regular cleanups also occur. <u>Risk Assessment</u> *Consequence*: Insignificant *Likelihood:* Possible *Risk Rating:* Low <u>Regulatory Controls</u> NSC1.3.1 – 1.3.2 already exist on the Licence to ensure that iron ore spillage is prevented and that sumps are maintained. <u>Residual Risk</u>	*Environmental Protection (Unauthorised Discharges) Regulations 2004*

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**
			Consequence: Insignificant *Likelihood:* Unlikely *Risk Rating:* Low	
Emissions general	L2.1.1	OSC	Quantitative limits are set through conditions 2.3.2, 2.5.2, 2.5.3 and descriptive limits are set through conditions 2.6.1 – 2.6.7 and, therefore, OSC regarding recording and investigation of exceedances of limits or targets has been included.	N/A
Fugitive emissions	L2.6.1 – 2.6.7	NSC	Dust emissions generated by the transport, processing, movement and storage of iron ore. DER's assessment and decision making are detailed in Appendix A.	Application supporting documentation
Noise	L2.8	N/A	Noise emissions from the transport, storage, processing and movement of iron ore. DER's assessment and decision making are detailed in Appendix B.	*Environmental Protection (Noise) Regulations 1997* Port Hedland Air Quality and Noise Management Plan
General monitoring	L3.1.1 – 3.1.4	OSC	OSCs are included on the Licence to ensure that monitoring is conducted in line with relevant standards.	N/A
Ambient environmental quality monitoring	L3.8.1 – 3.8.2	OSC	OSC3.8.1 is included on the Licence to require ambient monitoring of PM_{10} at the Taplin St monitor and the background Bureau of Meteorology (BOM) monitor. The results are to be compared to the Port Hedland Air Quality and Noise Management Plan interim target of 70µg/m^3, with no more than 10 exceedances per year. OSC3.8.2 is included on the Licence to ensure that the monitoring equipment is in line with relevant standards.	Application supporting documentation. Port Hedland Air Quality and Noise Management Plan Ministerial

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**
				Statement 740
Meteorological monitoring	L3.9.1	OSC	OSC3.9.1 is included on the Licence to require meteorological monitoring to be conducted.	N/A
Information	L5.1 – 5.3	OSC	OSCs are included on the Licence for record keeping, reporting and notifications. A requirement to report against the nominated dust control availability target of 90% has been included under condition 5.2.3. Refer to Appendix A for further details. OSC 5.3.1 has been included requiring notification to the CEO should calibration requirements of equipment not be met as per condition 3.1.4. Minor amendments have been made to the dust target exceedance reporting as requested by BHPBIO. Target exceedances will be reported within 21 days of the exceedance occurring. Previously, dust target exceedances were reported on a monthly basis, however, BHPBIO has requested that this be amended to avoid confusion on reporting timeframes.	N/A
Licence Duration	N/A	N/A	The licence is due to expire in November 2016. No changes to the licence duration have been made as part of this amendment.	N/A

5 Advertisement and consultation table

Date	Event	Comments received/Notes	How comments were taken into consideration
16/4/2015	Proponent sent a copy of draft instrument	Only minor comments received.	Documents updated accordingly.

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

Fugitive emissions

BHPBIO has implemented what is considered best practice technologies and practices over the past decade and has achieved a measurable decrease in dust levels from its operations. The techniques used to manage dust are applied across other ports in the region with similar issues. BHPBIO are also committed to continuous improvement in dust management, which is necessary due to proposed future expansions in operations and export tonnages. BHPBIO has committed to include best practicable dust control during the design phase of any proposed expansion and have committed to performance targets as per Ministerial Statement 740 and the Port Hedland Air Quality and Noise Management Plan. BHPBIO is a member of the Port Hedland Industries Council.

Emission Risk Assessment – Operations (Increase to 270mtpa)

Emission Description

Emission: Dust emissions are produced by the transport, processing, movement and storage of iron ore associated with the increase in throughput from 240mtpa to 270mtpa.

Impact: Deterioration of local air shed, including potential health impacts to residents. Dust emissions can be harmful to human health and the environment. Elevated total suspended particulates (TSP) can impact ambient environmental quality resulting in amenity impacts and can smother vegetation. Particulate matter that is less than 10 (PM_{10}) or 2.5 ($PM_{2.5}$) micrometres in diameter can be drawn deep into the lungs causing human health impacts. The chemical and physical properties of the particles, the size of the particles and the duration of exposure are all factors which may affect human health impacts.

Controls: The following controls will continue to be conducted:

- Stockyard water cannons to minimise stockpile wind erosion;
- Bulk ore conditioning (BOC) sprays;
- Dust collectors fitted to Lump Rescreening Plants;
- Sealed roads with extensive cleaning regimes including street sweepers;
- Water sprays on stackers, reclaimers and ship loader booms;
- Belt wash stations on conveyor systems;
- Fogging systems on selected transfer stations;
- Enclosure and dust extraction on car dumpers;
- Addition of gravel to unsealed open areas to reduce wind erosion;
- Vegetated screens and ongoing revegetation, and;
- Vehicle speed restrictions within port areas.

Further reductions include:

- Reducing double handling (stacking and reclaiming);
- Increasing the volume of ore via direct to ship routes requiring less handling of product;
- Reducing the time material is held in stockpiles and thereby reduce exposure to moisture loss;
- Improving availability and utilisation of plant and equipment including existing dust controls to 90%;
- Removing throughput variation, resulting in more consistent product types and ore moisture; and
- Reduced stacker drop heights.

A key commitment to offset the increased throughput is improving the availability of existing dust controls to 90% (previously operating at approximately 75%, which is the input used in previous modelling). The target is based on combined average percentage availability of the following dust control equipment calculated for each calendar month by dividing the time that the dust control equipment is operating, by the time the dust control equipment is required to be operating:

- Water sprays on stackers, reclaimers and ship loaders;
- Wet scrubbers at transfer stations, car dumpers and lump rescreening plants;
- Belt wash stations; and
- Bulk ore conditioning sprays.

It should be noted that fixed equipment, such as belt scrapers, dust chutes, covers, etc., and other equipment that are not part of the operational plant (e.g. water carts, water cannons and street sweepers), do not contribute to the this target.

BHPBIO has determined that dust control equipment is only required to be operating when ore is running through a particular part of the plant that the dust control equipment is related to, except:

1. Where moisture is already at a sufficient level and addition of water may cause handling issues (e.g. chute blockages); and
2. Where operate of the dust control equipment may create an operational safety risk (e.g. dust sprays may impair anti-collision instrumentation on stackers/reclaimers). In these instances the operation of dust controls will only be suspended if visual inspections and real-time dust monitoring data indicates that suspension will not create adverse dust levels.

Moisture levels to confirm if dust control equipment is required, as per the first point above, are determined via a number of information sources, including:

- Inspections of ore and visible dust;
- Current and historical moisture levels and other material characterisation data for the ore types determined using rake analyses and near infra-red moisture analysers; and
- Notifications from the mine indicating that problematic product (e.g. wet ore that may cause handling issues) is on route to port.

Risk Assessment
Consequence: Moderate
Likelihood: Likely
Risk Rating: High

Regulatory Controls
OSC2.6.1 – 2.6.7 are included on the Licence and require the Licensee to:

- Use all reasonable and practical measures to prevent and where that is not practicable to minimise dust emissions from the premises;
- Maintain the surface of all trafficable areas within the premises to minimise dust;
- Maintain all conveyor belt transfer points at the premises to minimise the generation of dust;
- Operate and maintain belt scrapers on all conveyor belt transfer points where fitted at the premises;
- Ensure that spillages of any ore are cleaned up as soon as practicable and returned to the respective stockpiles or designated waste management areas so as to prevent the generation of dust from the premises;
- Ensure that there is no accumulation of ore outside the respective designated stockpile areas and waste management areas at the premises; and
- Take all reasonable and practicable measures to ensure that the moisture content of ore at the premises is maintained above the DEM to minimise dust generation during storage, loading, unloading and transportation activities.

An additional notification requirement has been included under condition 5.2.3 requiring BHPBIO to report against commitments to improve availability of dust controls to 90% to verify that increased ore throughputs are being offset by additional dust reduction measures. Reporting will occur on a quarterly basis and will include:

- The average monthly availability of specified dust control equipment (e.g. water sprays on stackers, reclaimers and shiploaders, etc.) on the premises;
- A comparison of availability data with previous results; and
- Identification of the main cause(s) for reduced availability of dust control equipment where the target monthly availability of 90% has not been achieved, including response measure(s) taken to rectify issues and timeframes for implementation.

Dust emissions are a historical issue in Port Hedland created by the construction of port facilities adjacent to residential and commercial areas. Many government departments are involved in developing solutions to this problem. The licence is not the only mechanism for delivering outcomes in this situation. The Port Hedland Air Quality and Noise Management Plan contains recommendations regarding dust emissions. Boundary monitoring is a part of this plan and BHPBIO is working towards this. The Health Risk Assessment is being finalised and outcomes from this may results in further improvements and licence conditions. The licence will continue to be amended to reflect updates.

Residual Risk
Consequence: Moderate
Likelihood: Possible
Risk Rating: Moderate

Emission Risk Assessment – Operations (Temporary Screening Plant)
Emission Description
Emissions:
Dust emissions are expected from the screening of the stockpiled material, movement of front end loaders and dump trucks and stockpiles.
Impact: Deposition of dust on vegetation and impacts on public.
Controls: The plant has the following design features and controls:

- Skirts and seals;
- Fitted with water sprays;
- Use of water trucks to stockpiles, open areas and haul roads;
- Application of chemical surfactant on stockpiles and open areas as required;
- Restriction of operation of the screening plant to daytime hours only to reduce the impact of prevailing wind conditions on sensitive receptors; and
- Boundary monitors.

The main roads used in the vicinity of the screening plant are sealed, including the stacker and reclaimer roads and railway roads. Some minor roads are not sealed due to their limited use, however, speed limits are in place and traffic is restricted where possible.

BHPBIO will use the current boundary monitoring network to manage dust emissions from the plant. BHPBIO is confident that the existing configuration of the boundary monitoring network is sufficient to ensure that any elevated dust emissions are identified and early and targeted dust management strategies implemented during operation of the plant.

Risk Assessment:
Consequence: Moderate
Likelihood: Possible
Risk rating: Moderate

Regulatory Controls
The operation of the temporary screening plant can be adequately managed through existing conditions on the licence relating to dust management and ambient air quality monitoring. The screening plant will operate on an intermittent basis for short periods of time to remove latent stockpiles which can themselves contribute to dust emissions from the site.

A reporting requirement has been included under condition 5.2.1 requiring BHPBIO to report in the Annual Environmental Report the periods of time that the temporary screening plant was operational, and the location(s) at which it was operational.

Residual Risk:
Consequence: Moderate
Likelihood: Unlikely
Risk rating: Moderate

Appendix B

Noise emissions

Like dust, noise emissions from the Port Hedland Operations are a long standing issue primarily caused by the location of the port adjacent to the town. As a result, under some conditions, the Port Hedland operations cannot comply with the *Environmental Protection (Noise) Regulations 1997*. BHPBIO has liaised with DER Noise Regulation Management Branch with the objective of reducing noise emissions as low as reasonably practicable and has included the development of a Noise Reduction Management Plan (NRMP). The objectives of the NRMP are to:

- Reduce noise to as low as reasonably practicable, acknowledging growth, and where reasonably possible, comply with the requirements of the *Environmental Protection (Noise) Regulations 1997* (including seeking an exemption if necessary);
- Where it is impracticable to comply with the *Environmental Protection (Noise) Regulations 1997*, ensure continuous improvement (refer to Figure 5);
- Ensure that the new plant and infrastructure being planned for the port facilities, particularly prescribed infrastructure, complies with the *Environmental Protection (Noise) Regulations 1997* (where practicable); and
- Comply with the Western Australian Planning Commission's State Planning Policy 5.4 Road and Rail Transport Noise and Freight Considerations in Land Use Planning where land use planning constraints allow.

BHPBIO has investigated and implemented a number of noise mitigation measures including low noise idlers, cladding, shields/covers and barriers, covering of conveyors (where practical and environmental berms.

Emission Risk Assessment – Operations

Emission Description

Emission: Noise is produced by ore processing activities, start up and shut down alarms, and most significantly by train operations. Trains and other transport related noise is beyond the scope of this licence.

Impact: Nuisance to nearby residences.

Controls:

During recent expansion works, BHP Billiton Iron Ore has also introduced a number of noise controls to both existing and new pieces of plant at its Port Operations. These controls include:

- Low noise conveyor drives;
- Transfer station shielding;
- Conveyor shielding;
- Conveyor and drive enclosures
- Low noise idlers on conveyors;
- Noise walls; and
- Design changes on cooling fans and blades to reduce noise.

The proposed increase in the utilisation of BHP Billiton Iron Ore's current plant and equipment through this production uplift is not expected to result in an increase in the predicted cumulative noise emissions. No changes to infrastructure will occur as part of this throughput increase (e.g. drive replacement). This, and the expansion of the Lump Rescreening Plant 2 (LRP) on Finucane Island and route upgrades, which involves increasing conveyor speeds, is proposed as part of the Inner Harbour Debottlenecking Project which will take the total site capacity to 290mtpa. These upgrades do not form part of this licence amendment.

Noise modelling is undertaken using worst case parameters i.e. assumes that all plant and equipment on-site is operating at the same time, on a continuous basis (24 hours a day, 7 days a week) and under worst case meteorological conditions. In reality, not all plant and equipment is operated at the same time, with many noise sources not running at any given time.

This conservative modelling approach ensures that the highest potential cumulative received noise levels are considered in the noise assessment. By increasing the current utilisation of the

existing plant and equipment, these changes are therefore already incorporated into previous noise assessments.

Therefore no additional noise emissions are predicted as a result of increasing the throughput to 270Mtpa as proposed under this licence amendment and existing noise controls already installed on-site are considered sufficient to manage noise emissions from this proposal.

Noise modelling was conducted for the temporary screening plant and indicated that the screening plant will not contribute significantly to noise emissions. The screening plant will not be operated on Sundays or public holidays.

Risk Assessment
Consequence: Moderate
Likelihood: Possible
Risk Rating: Moderate

Regulatory Controls
OSC5.2.1 requires details of all noise control initiatives and an annual update of the NRMP.

Based on long term noise monitoring and modelling results, as well as information submitted with previous works approval applications, the Port Hedland Operation is regularly in exceedance of the assigned noise levels outlined in the *Environmental Protection (Noise) Regulations 1997*. It should be noted that existing land use conflicts make compliance with the noise regulations difficult.

BHPBIO is committed to reducing noise levels to as low as practicable, and has implemented a NRMP that has been approved by DER Noise Regulation Management Branch.

Residual Risk
Consequence: Moderate
Likelihood: Possible
Risk Rating: Moderate