



Licence

Environmental Protection Act 1986, Part V

Licensee: BHP Billiton Iron Ore Pty. Ltd.

Licence: L8665/2012/1

Registered office: Level 31 Brookfield Place
 125 – 137 St George’s Terrace
 PERTH WA 6000

ACN: 008 700 981

Premises address: Warrawandu Village Wastewater Treatment Plant
 Portion of mining lease ML244SA within co-ordinates:
 E801494.01 N7416986.95
 E801494.01 N7416017.14
 E801490.31 N7415776.35
 E797741.59 N7415951.61
 E797735.44 N7416631.90
 E798884.98 N7416625.75
 E799354.02 N7417769.78
 Zone 50
 NEWMAN WA 6753 as depicted in Schedule 1

Issue date: Thursday, 27 September 2012

Commencement date: Monday, 1 October 2012

Expiry date: Saturday, 30 September 2017

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
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 waters.	100 m ³ or more per day	700 m ³ per day

Conditions

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

Date signed: 10 December 2015

.....
 Steve Checker
 Manager Licensing (Waste Industries)
 Officer delegated under section 20
 of the *Environmental Protection Act 1986*



Contents

Licence	1
Contents	2
Introduction	2
Licence conditions	4
1 General	4
2 Emissions	6
3 Monitoring	7
5 Information	8
Schedule 1: Maps	10
Schedule 2: Reporting & notification forms	16

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. The DER's purpose is to advise on and implement strategies for a healthy environment for the benefit of all current and future Western Australians.

The DER has responsibilities under Part V of the *Environmental Protection Act 1986* (the Act) for the licensing of prescribed premises. Through this process the DER regulates to prevent, control and abate pollution and environmental harm to conserve and protect the environment. The 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

BHP Billiton Iron Ore Pty Ltd (BHPBIO) initially constructed a WWTP consisting of a waste stabilisation pond system, with the capacity to treat up to 700 m³ per day of wastewater to service the 2,000 person Warrawandu Village. Due to the suspension or cancellation of a number of major growth projects since construction of the premises, the average daily throughput has typically reached only 3% of the maximum capacity. The low throughput over an extended period of time has impacted upon the process and produced sub-optimal treatment. To manage this issue, BHPBIO has limited treatment to by-pass the facultative treatment ponds and utilise only maturation pond 1, to ensure optimal holding times in the pond and achieve required parameters in the treated wastewater.

The facility has been constructed in stages. Stage 1 included the completion of two lined facultative and three lined maturation ponds. Stage 2 included the completion of one evaporation pond, a 5ha sprayfield, installation of a pump system and services and the installation of signage and permanent fencing/gates for the spray field. The WWTP system is a biological treatment process, designed to reduce the biological oxygen demand (BOD), total suspended solids (TSS), total nitrogen (TN) and total phosphorous (TP) of the effluent. The system utilises two aerobic/anoxic facultative ponds and three maturation (retention) ponds.

The WWTP is located approximately 4.5 km from Ophthalmia Dam. Other nearby land uses include pastoral activities and mineral exploration and production. The boundary of the Newman Public Drinking Water Supply Area (NPDWSA) was revised and reduced in 2014 so the WWTP is no longer located within it.

This Licence is the result of an amendment sought by the Licensee to amend the pH and nutrient loading rate targets and add two ambient groundwater sampling bores. As emissions from the premises have been assessed as low risk, targets have therefore been removed from the licence in accordance with current DER licensing protocol.

The licences and works approvals issued for the Premises since 17/09/2009 are:

Instrument log		
Instrument	Issued	Description
W4542/2009/1	17/09/2009	Works approval issued
L8665/2012/1	27/09/2012	New licence issued
L8665/2012/1	10/12/2015	Proponent application for amendments to pH and nutrient loading target and groundwater monitoring. Licence amendment to remove targets, add monitoring bores and update to new format.

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 to 30 June in the following year;

'AS/NZS 2031' means the Australian Standard AS/NZS 2031 *Selection of containers and preservation of water samples for microbiological analysis*;

'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*;

'AS/NZS 5667.11' means the Australian Standard AS/NZS 5667.11 *Water Quality – Sampling – Guidance on sampling of groundwaters*;

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

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

'CEO' for the purpose of correspondence means;
Chief Executive Officer
Department Administering the Environmental Protection Act 1986
Locked Bag 33
CLOISTERS SQUARE WA 6850
Email: info@der.wa.gov.au

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

'Licence' means this Licence numbered L8665/2012/1 and issued under the Act;

'Licensee' means the person or organisation named as Licensee on page 1 of the Licence;

'NATA' means the National Association of Testing Authorities, Australia;

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

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

'Schedule 1' means Schedule 1 of this Licence unless otherwise stated; and

'Schedule 2' means Schedule 2 of this Licence unless otherwise stated.



- 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 The Licensee shall immediately recover, or remove and dispose of spills of sewage, partially treated sewage and sewage sludge outside an engineered containment system.

1.3 Premises operation

- 1.3.1 The Licensee shall record and investigate the exceedance of any descriptive or numerical limit in this section.
- 1.3.2 The Licensee shall only allow waste to be accepted onto the Premises if:
- (a) it is of a type listed in Table 1.3.2;
 - (b) the quantity accepted is below any limit listed in Table 1.3.2; and
 - (c) it meets any specification listed in Table 1.3.2.

Table 1.3.2: Waste acceptance			
Waste	Waste Code	Quantity Limit	Specification
Sewage	N/A	700 m ³ per day	Accepted through Inlet Distribution Chamber 1

- 1.3.3 The Licensee shall ensure that the wastes accepted onto the Premises are only subjected to the processes set out in Table 1.3.3 and in accordance with any process limits described in that table.

Table 1.3.3: Waste processing		
Waste type	Process	Process Requirement
Sewage	Biological, physical and chemical treatment	Treatment of sewage waste shall not exceed the treatment capacity of 700 m ³ per day.
Sewage sludge	Storage	In accordance with the document titled "Western Australian guidelines for biosolids management" (Department of Environment and Conservation 2012) as amended from time to time.
Treated Wastewater	Disposal	Disposal of up to 98.6 m ³ per day (annual average) to Sprayfield to irrigate native vegetation.
		Disposal to an unlined Evaporation/Infiltration Pond to evaporate or infiltrate.

- 1.3.4 The Licensee shall ensure that waste material is only stored and/or treated within vessels or compounds provided with the infrastructure detailed in Table 1.3.4.

Table 1.3.4: Containment infrastructure		
Vessel or compound	Material	Requirements
Facultative Treatment Ponds	Wastewater	Lined with 1.5mm HDPE.
Maturation Treatment Ponds	Wastewater	Lined with 1.5mm HDPE.
Evaporation/Infiltration Pond	Treated Wastewater	Unlined pond to enable evaporation and infiltration.
Sludge Drying Area	Sewage Sludge	One bunded area that is lined to achieve hydraulic permeability of 1 x 10 ⁻⁹ m/sec or less, and returns sludge leachate to the start of the treatment process.



- 1.3.5 The Licensee shall manage all wastewater treatment ponds such that:
- (a) overtopping of the ponds does not occur;
 - (b) a freeboard equal to, or greater than, 1000mm is maintained in the Facultative Treatment Ponds;
 - (c) a freeboard equal to, or greater than, 500mm is maintained in the Maturation Treatment Ponds and in the Evaporation/Infiltration Pond;
 - (d) the integrity of the containment infrastructure is maintained;
 - (e) trapped overflows are maintained on the outlet of ponds to prevent carry-over of surface floating matter; and
 - (f) vegetation and floating debris (emergent or otherwise) is prevented from encroaching onto pond surfaces or inner pond embankments.
- 1.3.6 The Licensee shall manage the irrigation of treated wastewater such that:
- (a) no irrigation generated run-off, spray drift or discharge occurs beyond the boundary of the defined irrigation area;
 - (b) treated wastewater is evenly distributed over the irrigation area;
 - (c) no soil erosion occurs;
 - (d) irrigation does not occur on land that is waterlogged; and
 - (e) vegetation cover is maintained over the irrigation area.
- 1.3.7 The Licensee shall:
- (a) implement security measures at the site to prevent as far as is practical unauthorised access to the site;
 - (b) undertake regular inspections of all security measures and repair damage as soon as practicable; and
 - (c) ensure the entrance gates are closed and locked when the site is closed or unmanned.
- 1.3.8 The Licensee shall dispose of grit, screenings, sludge and biosolids to a licensed landfill facility.

2 Emissions

2.1 General

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

2.2 Emissions to land

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

Table 2.2.1: Emissions to land		
Emission point reference	Description	Source including abatement
Evaporation/Infiltration Pond	Infiltration from Evaporation/Infiltration Pond	Treated wastewater infiltrating from the Evaporation/Infiltration Pond
Sprayfield Pump Station	Discharge to Sprayfield	Treated wastewater pipeline from wastewater treatment plant



3 Monitoring

3.1 General monitoring

3.1.1 The licensee shall ensure that:

- (a) all water samples are collected and preserved in accordance with AS/NZS 5667.1;
- (b) all wastewater sampling is conducted in accordance with AS/NZS 5667.10;
- (c) all groundwater sampling is conducted in accordance with AS/NZS 5667.11;
- (d) all microbiological samples are collected and preserved in accordance with AS/NZS 2031; and
- (e) all laboratory samples are submitted to and tested by a laboratory with current NATA accreditation for the parameters being measured, unless indicated otherwise in the relevant table.

3.1.2 The Licensee shall ensure that:

- a) quarterly monitoring is undertaken at least 45 days apart; and
- b) six monthly monitoring is undertaken at least 5 months apart.

3.1.3 The Licensee shall ensure that the flow meters used on the Premises to comply with the conditions of this Licence are maintained and calibrated in accordance with the manufacturer’s specifications.

3.1.4 The Licensee shall maintain the monitoring bores referred to in Tables 3.4.1 of this licence to allow representative water samples to be collected.

3.1.5 Where the requirements for sampling, calibration or maintenance cannot be practicably met, or a discrepancy exists in the interpretation of the requirements, the Licensee shall 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 emissions to land

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

Table 3.2.1: Monitoring of emissions to land			
Emission point reference	Parameter	Units	Frequency
Distribution Chamber 6	Total Suspended Solids;	mg/L	Quarterly
	Total Dissolved Solids;	mg/L	
	Biochemical Oxygen Demand;	mg/L	
	Total Nitrogen as N;	mg/L	
	Total Phosphorus; and	mg/L	
	<i>E. coli</i> .	cfu/100mL	
	pH ¹	-	

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

3.3 Monitoring of inputs and outputs

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 inputs and outputs					
Input/Output	Monitoring Point Reference	Parameter	Units	Averaging period	Frequency
Sewage – Inlet Flow	Sewage Pump Station	Volumetric flow rate (cumulative)	m ³ per day	Monthly	Continuous
Treated wastewater discharged to the Sprayfield	Sprayfield Pump Station	Volumetric flow rate (cumulative)	m ³ per day	Monthly	Continuous
Treated wastewater discharged to the Evaporation/Infiltration Pond	Distribution Chamber 6	Volumetric flow rate (cumulative)	m ³ per day	Monthly	Continuous



3.4 Ambient environmental quality monitoring

3.4.1 The licensee shall undertake the monitoring in Table 3.4.1 according to the specifications in that table.

Table 3.4.1: Monitoring of ambient groundwater quality			
Monitoring point reference and location	Parameter	Units	Frequency
MB3; and MB6 (background).	Total Suspended Solids;	mg/L	Annually
	Total Dissolved Solids calculated from Electrical Conductivity;	mg/L	
	Biochemical Oxygen Demand;	mg/L	
	Total Nitrogen as N;	mg/L	
	Total Phosphorus; and	mg/L	
	<i>E. coli.</i>	cfu/100mL	

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 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.

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

5.2 Reporting

5.2.1 The Licensee shall submit to the CEO an Annual Environmental Report within 93 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, which was collected during the annual period.

Table 5.2.1: Annual Environmental Report		
Condition or table (if relevant)	Parameter	Format or form¹
-	Summary of any failure or malfunction of any pollution control equipment and any environmental incidents that have occurred during the annual period and any action taken	None specified
Table 1.3.2	Waste acceptance	Tabular
Table 1.3.3	Waste processing	Tabular
Table 3.2.1	Monitoring of emissions to land	Tabular
Table 3.3.1	Monitoring of inputs and outputs	Tabular
Table 3.4.1	Monitoring of ambient groundwater quality	Tabular
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:
- (a) an assessment of the information contained within the report against monitoring results from the previous three annual periods;
 - (b) calculation of the annual Total Nitrogen and Total Phosphorous loading rates applied to the Sprayfield during the annual period, and an assessment of these loading rates against the loading rates from the previous three annual periods;
 - (c) any changes to containment infrastructure, site boundaries, location of groundwater monitoring bores, surface drainage channels and on-site or off-site impacts of pollution that occurred during the annual period; and
 - (d) quantities of sludge removed during each desludging event that occurred during the annual period.

5.2.3 The Licensee shall submit the information in Table 5.2.2 to the CEO according to the specifications in that table.

Table 5.2.2: Non-annual reporting requirements				
Condition or table (if relevant)	Parameter	Reporting period	Reporting date (after end of the reporting period)	Format or form
-	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

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 requirement¹	Format or form²
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.	N1
-	Any failure or malfunction of any pollution control equipment or any incident, which has caused, is causing or may cause pollution	Part B: As soon as practicable	
3.1.5	Calibration report	As soon as practicable.	None specified

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

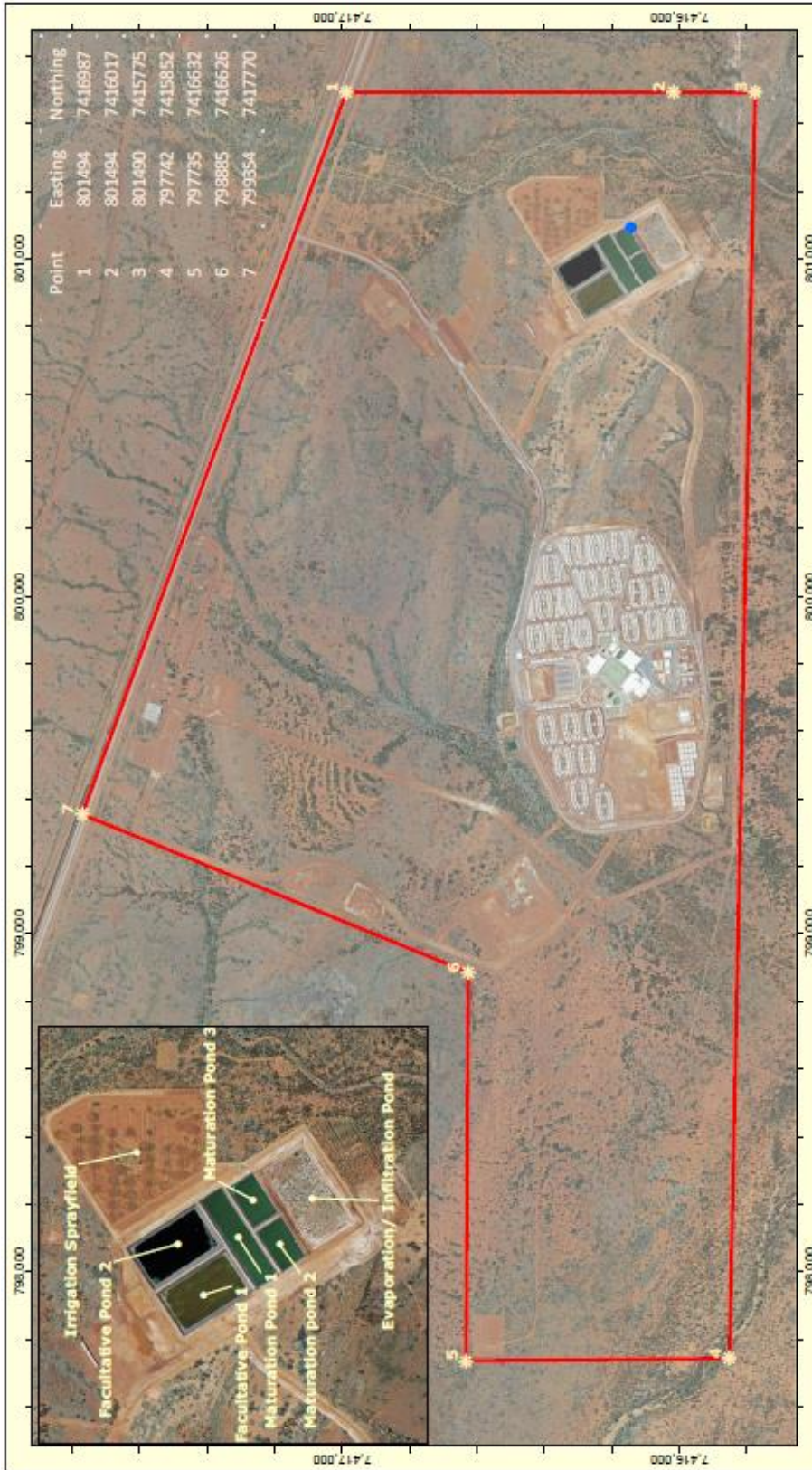
Note 2: Forms are in Schedule 2



Schedule 1: Maps

Premises map

The Premises is shown in the map below. The red line depicts the Premises boundary.





Maps of monitoring locations

The locations of the monitoring points defined in Table 3.4.1 are shown below.





Schedule 2: Reporting & notification forms

These forms are provided for the proponent to report monitoring and other data required by the Licence. They can be requested in an electronic format.

ANNUAL AUDIT COMPLIANCE REPORT PROFORMA

SECTION A LICENCE DETAILS

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

STATEMENT OF COMPLIANCE WITH LICENCE CONDITIONS

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

Yes Please proceed to Section C

No Please proceed to Section B

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

Initial:



SECTION C

SIGNATURE AND CERTIFICATION

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

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

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

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

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

SIGNATURE: _____

SIGNATURE: _____

NAME:
(printed) _____

NAME:
(printed) _____

POSITION: _____

POSITION: _____

DATE: ____/____/____

DATE: ____/____/____

SEAL (if signing under seal)



Licence: L8665/2012/1
 Form: N1

Licensee: BHP Billiton Iron Ore Pty. Ltd.
 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	



Decision Document

Environmental Protection Act 1986, Part V

Proponent: BHP Billiton Iron Ore Pty. Ltd.

Licence: L8665/2012/1

Registered office: Level 31 Brookfield Place
125 – 137 St George's Terrace
PERTH WA 6000

ACN: 008 700 981

Premises address: Warrawandu Village Wastewater Treatment Plant
Portion of mining lease ML244SA within co-ordinates:
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E798884.98 N7416625.75
E799354.02 N7417769.78
Zone 50
NEWMAN WA 6753

Issue date: Thursday, 27 September 2012

Commencement date: Monday, 1 October 2012

Expiry date: Saturday, 30 September 2017

Decision

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

Decision Document prepared by: Sarah Greenwood
Licensing Officer

Decision Document authorised by: Stephen Checker
Delegated Officer



Contents

Decision Document	1
Contents	2
1 Purpose of this Document	2
2 Administrative summary	3
3 Executive summary of proposal and assessment	4
4 Decision table	5
5 Advertisement and consultation table	8
6 Risk Assessment	9

1 Purpose of this Document

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



2 Administrative summary

Administrative details		
Application type	Works Approval <input type="checkbox"/>	
	New Licence <input type="checkbox"/>	
	Licence amendment <input checked="" type="checkbox"/>	
	Works Approval amendment <input type="checkbox"/>	
Activities that cause the premises to become prescribed premises	Category number(s)	Assessed design capacity
	54	700 m ³ per day
Application verified	Date: N/A	
Application fee paid	Date: N/A	
Works Approval has been complied with	Yes <input type="checkbox"/>	No <input type="checkbox"/> N/A <input checked="" type="checkbox"/>
Compliance Certificate received	Yes <input type="checkbox"/>	No <input type="checkbox"/> N/A <input checked="" type="checkbox"/>
Commercial-in-confidence claim	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>
Commercial-in-confidence claim outcome		
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"/>
Is the proposal subject to Ministerial Conditions?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>
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"/>
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, eg Site is subject to SO ₂ requirements of Kwinana EPP.		



3 Executive summary of proposal and assessment

BHP Billiton Iron Ore Pty Ltd (BHPBIO) has constructed a WWTP consisting of a waste stabilisation pond system, with the capacity to treat up to 700 m³/day of wastewater. The WWTP services the Warrawandu Village which accommodates up to 2,000 construction and operation personnel. Due to the suspension or cancellation of a number of major growth projects since construction of the premises, the average daily throughput has typically reached only 3% of the maximum capacity. The low throughput over an extended period of time has impacted upon the process and produced sub-optimal treatment. To manage this issue, BHPBIO has limited treatment to by-pass the facultative treatment ponds and utilise only maturation pond 1, to ensure optimal holding times in the pond and achieve required parameters in the treated wastewater.

The facility has been constructed in stages. Stage 1 included the completion of two lined facultative and three lined maturation ponds. Stage 2 included the completion of one evaporation pond, a 5ha sprayfield, installation of a pump system and services and the installation of signage and permanent fencing/gates for the spray field. The WWTP system is a biological treatment process, designed to reduce the biological oxygen demand (BOD), total suspended solids (TSS), total nitrogen (TN) and total phosphorous (TP) of the effluent. The system utilises two aerobic/anoxic facultative ponds and three maturation (retention) ponds.

The WWTP is located approximately 4.5 km from Ophthalmia Dam. Other nearby land uses include pastoral activities and mineral exploration and production. The boundary of the Newman Public Drinking Water Supply Area (NPDWSA) was revised and reduced in 2014 so the WWTP is no longer located within it.

This Licence is the result of an amendment sought by the Licensee to amend the pH and nutrient loading rate targets and add two ambient groundwater sampling bores. As emissions from the premises have been assessed as low risk, targets have therefore been removed from the licence in accordance with current DER licensing protocol.



4 Decision table

All applications are assessed in line with the *Environmental Protection Act 1986*, the *Environmental Protection Regulations 1987* and the 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	Justification (including risk description & decision methodology where relevant)	Reference documents
Premises operation	L1.3.1 – 1.3.8	Licence conditions 1.3.1 – 1.3.8 have been added to the licence to limit the type of waste accepted at the premises, how the waste is processed, the types of infrastructure to contain the waste, how the wastewater treatment ponds are managed, how the treated wastewater is managed for disposal to the sprayfield, security measures at the premises, and regulate the disposal of waste products.	
Emissions general	L2.1.1	Descriptive limits will be set through condition 2.2.1 of the licence and therefore a condition regarding recording and investigation of exceedances of limits has been included.	N/A
Emissions to land including monitoring	L2.2.1 L3.2.1	<p>Operation</p> <p><u>Emission Description</u></p> <p><i>Emission:</i> Treated wastewater effluent being discharged to the Sprayfield and infiltrating the ground from the Evaporation/Infiltration Pond.</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 nutrients and Total Dissolved Solids. The previous licence approved a throughput of 700 m³ per day with the highest concentrations of Nitrogen at 50 mg/L and Phosphorus at 12 mg/L over the 5 ha sprayfield combined with the loam/clay soil (PRI >10) draining to water with moderate to high eutrophication risk, greatly exceeds the ability of the soil to manage the nutrient loading capacity.</p> <p><i>Controls:</i> When the WWTP was originally constructed it was located within the Newman Water Reserve Public Drinking Water Source Protection area, proclaimed in 1983 under the <i>Country Areas Water Supply Act 1947</i>. This area was re-assessed in 2014 and the size reduced, thereby ensuring the WWTP was now outside the</p>	



DECISION TABLE			
Works Approval / Licence section	Condition number W = Works Approval L= Licence	Justification (including risk description & decision methodology where relevant)	Reference documents
		<p>boundary. Ophthalmia Dam borefield is the source of drinking water extraction, and is located approx. 4.5 km west. Shovelanna Creek is located approx. 2.5km south. The town of Newman is approx. 25km west. Groundwater depth in the surrounding area is 20 to 30 m. The distances to surface water and groundwater bodies reduce the risk of impacts from potential discharges to land. The Facultative and Maturation treatment ponds are lined with 1.5mm HDPE to prevent discharges to land of untreated wastewater. The Sprayfield and the Evaporation/Infiltration Pond discharge only treated wastewater, the Sprayfield is a small area being 5ha in size, further minimising the risk of impacts. To ensure the soil can manage the addition of Nitrogen and Phosphorus, the Licensee has requested to limit a maximum of 98.6 m³ per day (annual average) of treated wastewater to be disposed of to the Sprayfield, with all excess to be disposed of to the Evaporation/Infiltration Pond.</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> Previous licence conditions 2 and 3 have been converted to condition 3.1.1. Previous licence condition 5 has been converted to condition 3.2.1. Previous licence condition 6 listed target discharge values for various parameters. In accordance with the DER's new licensing process, the deletion of targets from the licence can occur if the environmental risk is low. As the assessed environmental risk is low, previous licence condition 6 has been deleted.</p> <p><u>Residual Risk</u> <i>Consequence:</i> Minor <i>Likelihood:</i> Rare <i>Risk Rating:</i> Low</p>	



DECISION TABLE			
Works Approval / Licence section	Condition number W = Works Approval L= Licence	Justification (including risk description & decision methodology where relevant)	Reference documents
Odour	N/A	Previous licence condition 1 regulated the emission of odour from the premises. Fugitive odour emissions are sufficiently regulated under section 49 of the <i>Environmental Protection Act 1986</i> . The Licensee has a statutory responsibility to comply with the Act during operation of the premises. Therefore previous licence condition 1 has been deleted and no specific conditions for fugitive odour emissions have been included on the licence.	
Monitoring general	L3.1.1 – 3.1.5	As there is a requirement for monitoring of emissions to land and ambient groundwater monitoring, conditions 3.1.1 – 3.1.5 have been included under general monitoring. Previous licence conditions 2 and 3 have been converted to condition 3.1.1. Previous licence condition 4 has been converted to condition 3.1.3.	
Monitoring of inputs and outputs	3.3.1	Due to the addition of licence conditions 1.3.2 and 1.3.3 under Premises Operation, licence condition 3.3.1 has been added to the licence to monitor the input of sewage to the treatment plant and the output of treated wastewater discharged to the Sprayfield and to the Evaporation/Infiltration Pond.	
Ambient quality monitoring	L3.4.1	To determine if the discharge of treated wastewater to land is impacting upon groundwater, parameters measured from an up-hydraulic gradient bore (background) need to be compared to parameters measured from a down-hydraulic gradient bore. Six groundwater monitoring bores exist on-site. Bore MB3 is located down-hydraulic gradient of the WWTP Sprayfield and Evaporation/Infiltration Pond. Bore MB6 is located to the north of the WWTP and is considered to have no impact from the WWTP Sprayfield and Evaporation/Infiltration Pond, therefore measured parameters satisfy as background data. Condition 3.4.1 has been added to the licence to require the monitoring of this ambient groundwater quality.	



DECISION TABLE			
Works Approval / Licence section	Condition number W = Works Approval L= Licence	Justification (including risk description & decision methodology where relevant)	Reference documents
Information	L5.1 – 5.3	Previous licence condition 6 has been modified and the reporting requirement converted to condition 5.2.2. Previous licence condition 7 has been converted to condition 5.2.1. Previous licence condition 8 has been converted to condition 5.1.3.	
Licence Duration	N/A	This amendment does not alter the duration of the licence.	

5 Advertisement and consultation table

Date	Event	Comments received/Notes	How comments were taken into consideration
22/10/2015	Proponent sent a copy of draft instrument	Comments provided by the licensee on 27/11/2015.	Comments considered, draft licence reviewed and alterations proposed.



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