Government of Western Australia
Department of Environment Regulation

Licence

Environmental Protection Act 1986, Part V

Licensee: BHP Billiton Iron Ore Pty Ltd

Licence: L8362/2009/2

Registered office: Level 1, City Square Brookfield Place
125 St Georges Terrace
PERTH WA 6000

ACN: 008 700 981

Premises address: Redmont Camp
Special Lease 3116/6038, Crown Lease I-123402
MARBLE BAR WA 6760
Being Lot 135 on Plan 48926 as depicted in Schedule 1.

Issue date: Thursday, 30 October 2014

Commencement date: Sunday, 2 November 2014

Expiry date: Friday, 1 November 2019

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 cubic metres or more per day	296 cubic metres per day

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

Date signed: 18 February 2016
.....
Steve Checker
Manager Licensing (Waste Industries)
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 regulates to prevent, control and abate pollution and environmental harm to conserve and protect the environment. DER also monitors and audits compliance with works approvals and licence conditions, takes enforcement action as appropriate and develops and implements licensing and industry regulation policy.

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

Where other statutory instruments impose obligations on the Premises/Licensee the intention is not to replicate them in the Licence conditions. You should therefore ensure that you are aware of all your statutory obligations under the Act and any other statutory instrument. Legislation can be accessed through the State Law Publisher website using the following link: http://www.slp.wa.gov.au/legislation/statutes.nsf/default.html

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

- *Environmental Protection (Unauthorised Discharges) Regulations 2004* – these Regulations make it an offence to discharge certain materials such as contaminated stormwater into the environment other than in the circumstances set out in the Regulations.

- *Environmental Protection (Controlled Waste) Regulations 2004* - these Regulations place obligations on you if you produce, accept, transport or dispose of controlled waste.

- *Environmental Protection (Noise) Regulations 1997* – these Regulations require noise emissions from the Premises to comply with the assigned noise levels set out in the Regulations.

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

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

Other Guidelines which you should be aware of include:

- *Western Australian Guidelines for Biosolids Management*, Department of Environment and Conservation, December 2012 (as amended from time to time).

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 Redmont Accommodation Camp is situated in the Pilbara region of Western Australia, approximately 205 kilometres (km) south of the town of Port Hedland. The camp provides accommodation for approximately 800 mining personnel associated with the mining and rail operations administered by BHP Billiton Iron Ore Pty Ltd (BHPBIO). A packaged wastewater treatment plant has been constructed at the Redmont camp to treat wastewater generated at the camp to a secondary standard.

The Redmont camp WWTP has a maximum design capacity of 296m^3/day and comprises the following:

- A WWTP constructed within a 16m x 24m earthen bunded area. The bund provides approximately 140% storage of the largest vessel capacity;
- A fenced evaporation pond lined with a high density polyethylene (HDPE) liner, of approximate dimensions 300m x 100m x 1.5m deep (3 hectare area); and
- Approximately 500m of poly pipe to transport treated wastewater to the evaporation pond.

Redmont camp is approximately 500m east of Coonarrie Creek, an ephemeral creek that drains to the northwest.

<u>WWTP process</u>
The WWTP system is based on Moving Bed Bio-film Reactor technology, which is a biological treatment process and is designed to reduce Biological Oxygen Demand (BOD), Total Suspended Solids (TSS), Total Nitrogen (TN) and Total Phosphorus (TP) to acceptable levels. The WWTP incorporates the following components and process functions:

- **Wet well** – receives grey and black water, which is gravity fed from the camp facilities;
- **Balance tank** – wastewater is pumped from the wet well to two 60,000L balance tanks. The balance tanks retain wastewater, for a minimum of 2 hours, to balance out the peak flow loads and provide a constant flow in to the WWTP;
- **Inlet screen** – removes coarse suspended solids in the influent;
- **Moving Bed Bio-film Reactor unit** – wastewater is fed from the balance tanks to the different stages of the bioreactors for organic matter removal and nitrogen reduction. Nitrogen reduction is achieved through the conversion of ammonia (NH_3), nitrites and nitrates by bacteria to nitrogen gas. Wastewater initially enters an anoxic zone for conversion of nitrate to nitrogen gas and then passes through to an aerobic zone for the conversation of NH_3 to nitrite and nitrate. A percentage of water leaving the aerobic zone is then recycled back into the anoxic zone for further conversion of nitrate to nitrogen gas;
- **Clarifier** – treated wastewater from the bioreactor flows into a clarifier (settling tank) for biomass removal. In addition, aluminium or ferric chloride is added to the clarifier for phosphorus removal;
- **Sludge storage tanks** – receives settled biomass or solids. Tanks are emptied by a licensed contractor and trucked to an appropriate disposal facility, as required. Supernatant from the clarifier and any overflow from the sludge storage tanks is directed back to the wet well and cycled back through the system;
- **Disinfection** – filtered effluent is treated with liquid chlorine to achieve a residual free chlorine level of > 0.5mg/L. Chlorine is injected by an electronic chemical dosing pump with a metering arrangement prior to discharge to the evaporation pond;

- **Effluent storage tank** – effluent is pumped to two storage tanks for pumping to the evaporation pond; and
- **Alarm system** – the WWTP is equipped with alarms and automatic shut downs in the event of chemical failure. The balance tank and effluent storage tanks provide storage capacity for wastewater during repair of the system.

This Licence is the result of an amendment sought by the Licensee to remove Licence condition 3.7.1 which requires quarterly monitoring of wastewater discharged to the lined evaporation pond. The monitoring of wastewater however will continue to be conducted in the event of overflow and will be reported to DER under Licence condition 5.1.3. The evaporation pond is lined with a 1.5 mm high density polyethylene (HDPE) liner with a permeability of $<2 \times 10^{-10}$ m/s to hold all wastewater and prevent any seepage into the ground below.

As a result of this amendment, the Licence has been converted into DER's new licence template. Administrative changes have also been incorporated in accordance with DER protocol.

The Redmont camp WWTP has been assessed as presenting a low risk to the environment during operations.

The licences and works approvals issued for the Premises since 11 August 2008 are:

Instrument log		
Instrument	**Issued**	**Description**
W4445/2008/1	11 August 2008	New works approval application
L8362/2009/1	2 November 2009	New Licence application
L8362/2009/2	2 November 2014	Licence renewal and amendment to REFIRE format
L8362/2009/2	TBA	Licence amendment- remove condition 3.7.1

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/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;*

'averaging period' means the time over which a limit or target 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 Environment Protection Act 1986
Locked Bag 33
CLOISTERS SQUARE WA 6850
Email: info@der.wa.gov.au;

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

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

'leachate' means liquid released by or water that has percolated through waste and which contains some of its constituents;

'Licence' means this Licence numbered L8362/2009/2 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;

'**process equipment**' means any wastewater or sludge containment infrastructure or wastewater treatment vessel;

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

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

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

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

'wastewater treatment vessels' means any vessel or tank containment infrastructure associated with the treatment of wastewater.

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 current version of the guideline or code of practice in force from time to time, and shall include any amendments or replacements to that guidelines 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, sewage sludge or wastewater outside of an engineered containment system.

1.2.2 The Licensee shall employ and maintain earthen bunds at the premises to ensure that uncontaminated stormwater runoff does not come into contact with wastewater on the premises

1.3 Premises operation

1.3.1 The Licensee shall record and investigate the exceedance of any descriptive or numerical limit, and/or target in this section.

1.3.2 The Licensee shall only allow waste to be accepted on to the Premises if:
(a) it is of a type listed in Table 1.3.1;
(b) the quantity accepted is below any limit listed in Table 1.3.1; and
(c) it meets any specification listed in Table 1.3.1.

Table 1.3.1: Waste acceptance

Waste	Quantity Limit	Specification[1]
Sewage	296 m^3/day	Accepted through sewer inflow(s) only

Note 1: Additional requirements for the acceptance of controlled waste are set out in the *Environmental Protection (Controlled Waste) Regulations 2004.*

1.3.3 The Licensee shall ensure that the wastes accepted onto the Premises are only subjected to the process(es) set out in Table 1.3.2 and in accordance with any process requirements described in that table.

Table 1.3.2: Waste processing		
Waste type	**Process**	**Process requirements**
Sewage	Physical, biological and chemical treatment	Treatment of sewage waste shall be at or below the treatment capacity of 296 m^3/day

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 1.3.3.

Table 1.3.3: Containment infrastructure		
Vessel or compound	**Material**	**Requirements**
Evaporation pond	Treated wastewater	Lined with a High Density Polyethylene liner

1.3.5 The Licensee shall manage all wastewater treatment evaporation ponds such that:
(a) overtopping of the ponds does not occur;
(b) a freeboard equal to, or greater than, 500mm is maintained;
(c) the integrity of the containment infrastructure is maintained;
(d) trapped overflows are maintained on the outlet of ponds to prevent carry-over of surface floating matter; and
(e) 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 wastewater treatment vessels such that:
(a) overtopping of the vessels does not occur;
(b) stormwater runoff is prevented from entering the vessels;
(c) there is no discernible seepage loss from the vessels; and
(d) vegetation and floating debris (emergent or otherwise) is prevented from growing or accumulating in the vessels.

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; and
(b) undertake regular inspections of all security measures and repair damage as soon as practicable.

2 Monitoring

2.1 General monitoring

2.1.1 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 microbiological samples are collected and preserved in accordance with AS/NZS 2031; and
(d) 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.

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

2.1.3 The Licensee shall ensure that the outflow measuring unit is calibrated in accordance with the manufacturer's specifications.

2.1.4 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.

2.2 Monitoring of inputs and outputs

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

Table 2.2.1: Monitoring of outputs

Input/Output	Monitoring point reference	Parameter	Units	Averaging period	Frequency
Treated wastewater discharged into the evaporation pond	Outflow Measuring Unit	Volumetric flow rate (cumulative)	m^3/day	Monthly	Continuous

3 Information

3.1 Records

3.1.1 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 3.1.1(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.

3.1.2 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.

3.1.3 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.

3.2 Reporting

3.2.1 The Licensee shall submit to the CEO an Annual Environmental Report within 28 calendar days after the end of the annual period. The report shall contain the information listed in Table 3.2.1 in the format or form specified in that table.

Table 3.2.1: Annual Environmental Report

Condition or table (if relevant)	Parameter	Format or form[1]
-	Summary of any failure or malfunction of any pollution control equipment and any environmental incidents that have occurred during the annual period and any action taken	None specified
3.1.2	Compliance	Annual Audit Compliance Report (AACR)

3.1.3	Complaints summary	None specified

Note 1: Forms are in Schedule 2

3.2.2 The Licensee shall ensure that the Annual Environmental Report also contains an assessment of the information contained within the report against previous monitoring results.

3.2.3 The Licensee shall submit the information in Table 3.2.2 to the CEO according to the specifications in that table.

Table 3.2.2: Non-annual reporting requirements

Condition or table (if relevant)	Parameter	Reporting period	Reporting date (after end of the reporting period)	Format or form[1]
-	Copies of original monitoring reports submitted to the Licensee by third parties	Not Applicable	Within 14 days of the CEOs request	As received by the Licensee from third parties

Note 1: Forms are in Schedule 2

3.3 Notification

3.3.1 The Licensee shall ensure that the parameters listed in Table 3.3.1 are notified to the CEO at the contact address and in accordance with the notification requirements of the table.

Table 3.3.1: Notification requirements

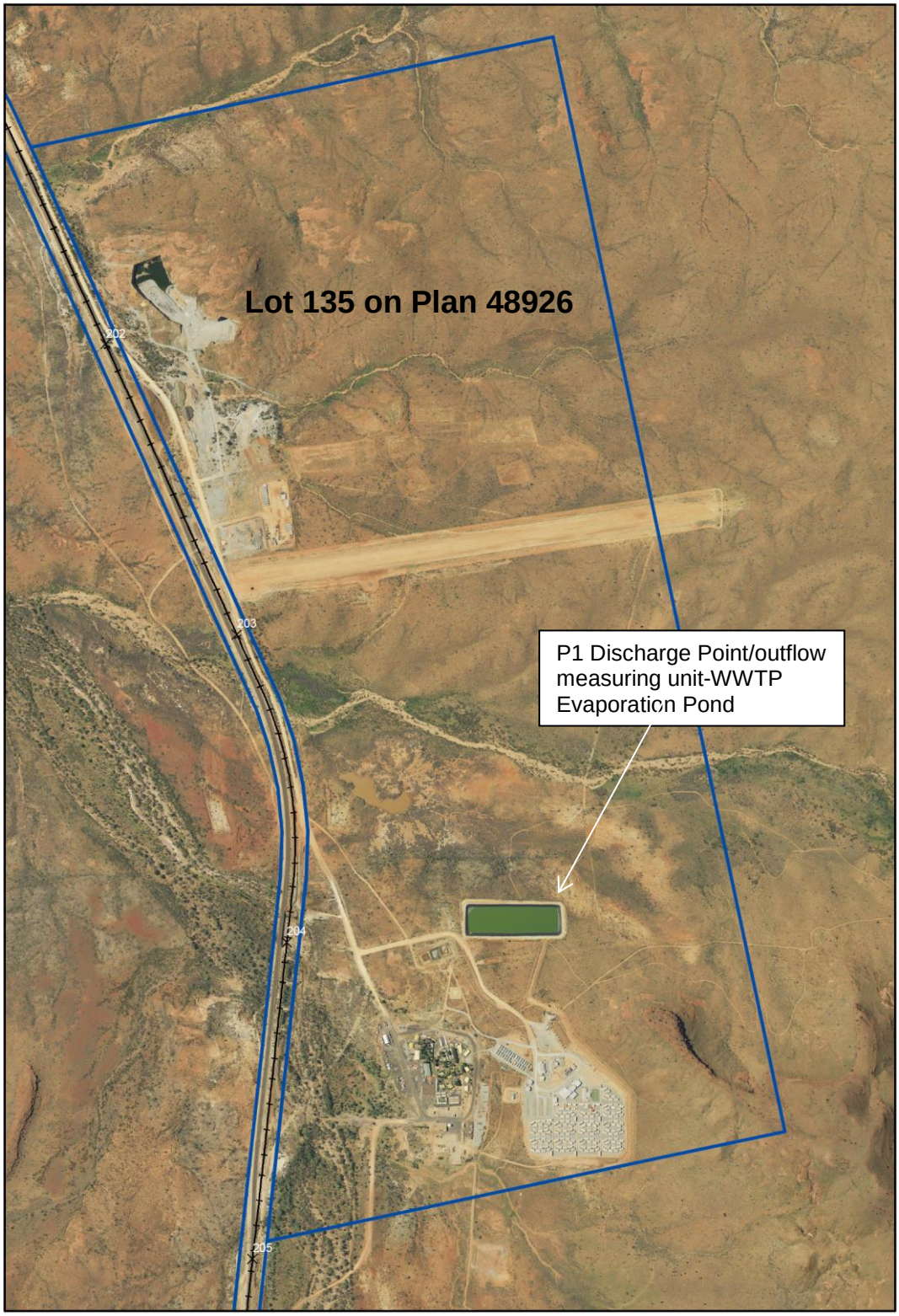
Condition or table (if relevant)	Parameter	Notification requirement[1]	Format or form[2]
1.3.1	Breach of any limit specified in the Licence	Part A: As soon as practicable but no later than 5pm of the next working day Part B: As soon as practicable	N1
-	Any failure or malfunction of any pollution control equipment or any incident, which has caused, is causing or may cause pollution		
2.1.4	Calibration report	As soon as practicable.	None specified

Note 1: No notification requirement in the Licence shall negate the requirement to comply with s72 of the Act.
Note 2: Forms are in Schedule 2

Schedule 1: Maps

Premises map

The Premises is shown in the map below. The blue line depicts the Premises boundary. The locations of the emission point defined in Table 3.7.1 is 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: L8362/2009/2	Licence File Number: DER2014/001415
Company Name: BHP Billiton Iron Ore Pty Ltd Trading as:	ACN: 008 700 981
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) 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	□	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: L8362/2009/2 Licensee: BHP Billiton Iron Ore Pty Ltd
Form: N1 Date of breach:

Notification of detection of the breach of a limit.

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

Part A

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

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

Part B

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

Name	
Post	
Signature on behalf of 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: L8362/2009/2

Registered office: Level 1, City Square Brookfield Place
125 St Georges Terrace
PERTH WA 6000

Premises address: Redmont Camp
Special Lease 3116/6038, Crown Lease I-123402
MARBLE BAR WA 6760

Issue date: Thursday, 30 October 2014

Commencement date: Sunday, 2 November 2014

Expiry date: Friday, 1 November 2019

Decision

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

Decision Document prepared by: Abnesh Chetty
Licensing Officer

Decision Document authorised by: Steve Checker
Delegated Officer

Contents

1 Purpose of the Decision Document

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

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)**	**Design Capacity**
	54	296 cubic metres per day
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	Not applicable	
Is the proposal a Major Resource Project?	Yes ☐ No ☒	
Was the proposal referred to the Environmental Protection Authority (EPA) under Part IV of the *Environmental Protection Act 1986*?	Yes ☐ No ☒	Referral Decision No: Managed under Part V ☐ Assessed under Part IV ☐
Is the proposal subject to Ministerial Conditions?	Yes ☐ No ☒	Ministerial Statement No: EPA Report No:
Does the proposal involve a discharge of waste into a designated area (as defined in section 57 of the *Environmental Protection Act 1986*)?	Yes ☐ No ☒ Department of Water consulted Yes ☐ No ☒	
Is the Premises within an Environmental Protection Policy (EPP) Area Yes ☐ No ☒ If Yes include details of which EPP(s) here.		
Is the Premises subject to any EPP requirements? Yes ☐ No ☒ If Yes, include details here, eg Site is subject to SO_2 requirements of Kwinana EPP.		

3 Executive summary of proposal

The Redmont Accommodation Camp is situated in the Pilbara region of Western Australia, approximately 205 kilometres (km) south of the town of Port Hedland. The camp provides accommodation for approximately 800 mining personnel associated with the mining and rail operations administered by BHP Billiton Iron Ore Pty Ltd (BHPBIO). A packaged wastewater treatment plant has been constructed at the Redmont camp to treat wastewater generated at the camp to a secondary standard.

The Redmont camp WWTP has a maximum design capacity of 296m^3/day and comprises the following:

- A WWTP constructed within a 16m x 24m earthen bunded area. The bund provides approximately 140% storage of the largest vessel capacity;
- A fenced evaporation pond lined with a high density polyethylene (HDPE) liner, of approximate dimensions 300m x 100m x 1.5m deep (3 hectare area); and
- Approximately 500m of poly pipe to transport treated wastewater to the evaporation pond.

Redmont camp is approximately 500m east of Coonarrie Creek, an ephemeral creek that drains to the northwest.

WWTP process

The WWTP system is based on Moving Bed Bio-film Reactor technology, which is a biological treatment process and is designed to reduce Biological Oxygen Demand (BOD), Total Suspended Solids (TSS), Total Nitrogen (TN) and Total Phosphorus (TP) to acceptable levels. The WWTP incorporates the following components and process functions:

- **Wet well** – receives grey and black water, which is gravity fed from the camp facilities;
- **Balance tank** – wastewater is pumped from the wet well to two 60,000L balance tanks. The balance tanks retain wastewater, for a minimum of 2 hours, to balance out the peak flow loads and provide a constant flow in to the WWTP;
- **Inlet screen** – removes coarse suspended solids in the influent;
- **Moving Bed Bio-film Reactor unit** – wastewater is fed from the balance tanks to the different stages of the bioreactors for organic matter removal and nitrogen reduction. Nitrogen reduction is achieved through the conversion of ammonia (NH_3), nitrites and nitrates by bacteria to nitrogen gas. Wastewater initially enters an anoxic zone for conversion of nitrate to nitrogen gas and then passes through to an aerobic zone for the conversation of NH_3 to nitrite and nitrate. A percentage of water leaving the aerobic zone is then recycled back into the anoxic zone for further conversion of nitrate to nitrogen gas;
- **Clarifier** – treated wastewater from the bioreactor flows into a clarifier (settling tank) for biomass removal. In addition, aluminium or ferric chloride is added to the clarifier for phosphorus removal;
- **Sludge storage tanks** – receives settled biomass or solids. Tanks are emptied by a licensed contractor and trucked to an appropriate disposal facility, as required. Supernatant from the clarifier and any overflow from the sludge storage tanks is directed back to the wet well and cycled back through the system;
- **Disinfection** – filtered effluent is treated with liquid chlorine to achieve a residual free chlorine level of > 0.5mg/L. Chlorine is injected by an electronic chemical dosing pump with a metering arrangement prior to discharge to the evaporation pond;
- **Effluent storage tank** – effluent is pumped to two storage tanks for pumping to the evaporation pond; and
- **Alarm system** – the WWTP is equipped with alarms and automatic shut downs in the event of chemical failure. The balance tank and effluent storage tanks provide storage capacity for wastewater during repair of the system.

This Licence is the result of an amendment sought by the Licensee to remove Licence condition 3.7.1 which requires quarterly monitoring of wastewater discharged to the lined evaporation pond. The monitoring of wastewater however will continue to be conducted in the event of overflow and will be reported to DER under Licence condition 5.1.3. The evaporation pond is lined with a 1.5 mm high density polyethylene (HDPE) liner with a permeability of $<2 \times 10^{-10}$ m/s to hold all wastewater and prevent any seepage into the ground below.

As a result of this amendment, the Licence has been converted into DER's new licence template. Administrative changes have also been incorporated in accordance with DER protocol.

The Redmont camp WWTP has been assessed as presenting a low risk to the environment during operations. The Decision Table below outlines potential emissions and discharges identified from the operation of this facility.

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.

This decision table relates to licensing conditions that were added, removed or amended in the licence that relate to the proposed amendment or the DER's current licensing practises. Risks associated with existing licence conditions or operations on the premises that do not relate to these were not re-assessed.

DECISION TABLE			
Licence Section	**Condition Number L= Licence**	**Justification (including risk description & decision methodology where relevant)**	**Reference Documents**
Introduction	N/A	Table of contents updated. Administrative changes have been included within the Licence amendment process in accordance with DER protocol. Premises description and Licence summary section updated. Instrument log table updated.	
Interpretation	L1.1.1	Administrative changes have been included within the Licence amendment process to reflect the definitions in version 2.9 of DER's Licence template.	DER Licence template v2.9
General conditions	L1.2.1 L1.2.2 L1.2.3 L1.2.4 L1.2.5	Previous Condition 1.2.1, relating to authorisation of emissions, has been identified as redundant and has been removed as it relates to general advice rather than an enforceable condition. Previous Condition 1.2.2, relating to maintaining all pollution control and monitoring equipment, has been removed as it was not clear as to the specific equipment referenced. Previous Condition 1.2.3, relating to storage of environmentally hazardous material has been removed as it related to a code of practice which is not administered by DER. The storage of dangerous goods is regulated by the Department of Mines and Petroleum.	DER Licence template v2.9

DECISION TABLE			
Licence Section	**Condition Number L= Licence**	**Justification (including risk description & decision methodology where relevant)**	**Reference Documents**
		Previous Condition 1.2.4, (now 1.2.2) relating to stormwater runoff has been updated to reference specific onsite containment infrastructure.	
Emissions general	L2.1 – 2.6 & 2.8	Sections with no specified conditions have been removed in accordance with DER protocol.	
Odour	L2.7	Emission Description *Emission*: Odour from the WWTP facility. *Impact*: No nuisance odour impacts are expected since the site is 35 km away from the nearest receptors. DER is not aware of any odour complaints from the operation of the current WWTP facility. *Controls*: The inlet screen and the pump chamber of the WWTP are fully sealed reducing the potential of odour emissions. The evaporation pond contains treated wastewater with lower potential for odour emissions. The daily maintenance schedule includes a check for any odours outside the facility and if found the source of any odour is identified and any necessary repairs carried out. Sludge from the sludge storage tanks is collected by a licence contractor and transported to a facility licensed to accept the waste. Risk Assessment *Consequence:* Insignificant *Likelihood:* Unlikely *Risk rating:* Low Regulatory Controls The previous Licence contained Condition (2.7) for odour management. However the risk of emissions is considered low. Odour emissions therefore can be sufficiently regulated under section 49 of the *Environmental Protection Act 1986.* In accordance with DER's licensing process, no specified conditions for fugitive emissions have been included on this licence. Residual Risk *Consequence:* Insignificant *Likelihood:* Unlikely *Risk rating:* Low	DER Licence template v2.9

DECISION TABLE			
Licence Section	**Condition Number L= Licence**	**Justification (including risk description & decision methodology where relevant)**	**Reference Documents**
Noise	L2.8	Consistent with DER's licensing protocol, this section was deleted because it did not contain any conditions.	DER Licence template v2.9
Monitoring	L3.1 3.2 – 3.5 L3.6 L3.7	General monitoring condition 3.1 now becomes 2.1 Consistent with DER's licensing protocol, these sections were deleted because it did not contain any conditions. Previous Licence Condition 3.6 did not contain any monitoring of inputs or outputs has now been added to the Licence and now become 2.2 Previous Licence condition 3.7 which required the monitoring of treated wastewater that was discharged into the lined evaporation pond has been removed. The evaporation pond is lined with a 1.5 mm high density polyethylene (HDPE) liner with a permeability of $<2 \times 10^{-10}$ m/s to hold all wastewater and prevent any seepage into the ground below.	DER Licence template v2.9
Improvements	L4	Consistent with DER's licensing protocol, this section was deleted because it did not contain any conditions.	
Information	L5.1 L5.1.1 L5.1.2 L5.1.3 L5.1.4 L5.2 Table 5.2.1 L5.3 L5.3.1 Table 5.3.1	Consistent with DER's licensing protocol, conditions 5.1.2 was removed. Licence condition 5.1 now becomes 3.1 Licence condition 5.1.1 now becomes 3.1.1 Licence condition 5.1.3 now becomes 3.1.2 Licence condition 5.1.4 now becomes 3.1.3 Licence condition 5.2 now becomes 3.2 All reference to table 5.2.1 now becomes 3.2.1. Table 3.2.1 updated to reflect the changes made to the documents. Licence condition 5.3 now becomes 3.3 Licence condition 5.3.1 now becomes 3.3.1 All reference to table 5.3.1 now becomes 3.3.1. Table 3.3.1 updated to reflect the changes made to the documents.	DER Licence template v2.9
Licence Duration	N/A	The Licence duration has not been reassessed through this amendment process. The Licence expires on 1 November 2019.	N/A

5 Advertisement and consultation table

Date	Event	Comments received/Notes	How comments were taken into consideration
4/02/2016	Proponent sent a copy of draft instrument	Confirmation and acceptance of the draft amended instrument was provided on 12 February 2016.	Finalisation of instrument

6 Emissions and discharges risk assessment matrix

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