Government of **Western Australia**
Department of **Environment Regulation**

Your ref L8363/2009/2
Our ref DER2014/001266
Enquiries Michael Christensen
Phone 6467 5540
Fax 9144 1118
Email Michael.christensen@der.wa.gov.au

Bert Huys
BHP Billiton Iron Ore Pty Ltd
PO Box 7122
PERTH WA 6850

Dear Mr Huys

***ENVIRONMENTAL PROTECTION ACT 1986*: LICENCE GRANTED**
Premises:
Turner Camp
Special Lease 3116/6068, Crowns Lease GE I-150309, within coordinates:
E694224.391 N7635941.502: E694240.253 N7635978.385: E694357.072 N7636116.019:
E694532.114 N7636174.039: E694597.885 N7636303.191:E694898.033 N7636487.056:
E695035.218 N7636994.171: E695466.907 N7637171.194:E696102.951 N7635620.506:
E694607.431 N7635007.249: MARBLE BAR WA 6760
Licence Number: L8363/2009/2

A licence under the *Environmental Protection Act 1986* (the Act) has been granted for the above premises. The Department of Environment Regulation will advertise the issuing of this licence in the public notices section of *The West Australian* newspaper.

The licence includes attached conditions. Under section 58(1) of the Act, it is an offence to contravene a condition of a licence. This offence carries a penalty of up to $125,000 and a daily penalty of up to $25,000. In accordance with section 102(1)(c) of the Act, you have 21 days to appeal the conditions of the licence. Under section 102(3)(a) of the Act, any other person may also appeal the conditions of the licence. To lodge an appeal contact the Office of the Appeals Convenor on 6467 5190 or by email at admin@appealsconvenor.wa.gov.au.

Where a licence is issued for more than one year it requires payment of an annual fee and will cease to have effect if the fee is unpaid. It is the occupier's responsibility to lodge a fee application and pay the annual fee in sufficient time to avoid incurring a late payment fee and for processing to be completed before the licence anniversary date.

If you have any queries regarding the above information, please contact Michael Christensen on 6467 5540.

Yours sincerely

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

25 September 2014

TL0602_v2.0

Government of Western Australia
Department of Environment Regulation

Licence

Environmental Protection Act 1986, Part V

Licensee: BHP Billiton Iron Ore Pty Ltd

Licence: L8363/2009/2

Registered office: Level 1, City Square Brookfield Place
125 -137 St Georges Terrace
PERTH WA 6000

ACN: 008 700 981

Premises address: Turner Camp
Special Lease 3116/6068, Crowns Lease GE I-150309, within coordinates:
E694224.391 N7635941.502: E694240.253 N7635978.385:
E694357.072 N7636116.019: E694532.114 N7636174.039:
E694597.885 N7636303.191: E694898.033 N7636487.056:
E695035.218 N7636994.171: E695466.907 N7637171.194:
E696102.951 N7635620.506: E694607.431 N7635007.249:
MARBLE BAR WA 6760
as depicted in Schedule 1.

Issue date: Thursday, 25 September 2014

Commencement date: Sunday, 5 October 2014

Expiry date: Friday, 4 October 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	111 cubic metres per day

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

.....
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.

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
BHP Billiton Iron Ore Pty Ltd (BHPBIO) operates the Turner Camp wastewater treatment plant (WWTP) which is located 128 km south of Port Hedland in the Pilbara region of Western Australia. The closest residential receptor is the Abydos Community Homestead located approximately 5 km south west of the camp.

The plant was constructed in 2009 to accommodation the construction workforce during BHPBIO's rail duplication project. The camp can accommodate up to 300 personnel and the WWTP has the capacity to treat up to 111 m^3/day. The camp is currently not in use and the WWTP is in care and maintenance in the event that BHPBIO requires the camp at a future date for personnel working in the area.

The WWTP system is based on moving bed bio-film reactor technology, which is a biological treatment process designed to reduce biochemical oxygen demand, total suspended solids, total nitrogen and total phosphorus and *E.coli* to acceptable levels. The plant consist of wet well, balance tank, inlet screen, moving bed bio-film reactor unit, clarifier, sludge storage tanks, effluent storage tank and alarm system. The treated effluent is pump to a high density polyethylene (HDPE) lined evaporation pond.

The main potential emissions from the site are discharge of treated wastewater via overtopping of the pond and fugitive emission in the form of odour.

The potential of a discharge of treated effluent is minimised with a freeboard maintain at the evaporation pond and weekly inspections ensure that the pond lining is not compromised. Quarterly monitoring is undertaken of effluent discharged to the pond reduce the potential of any odour emissions from the discharge.

This Licence is the successor to licence L8363/2009/1 and has been converted to the REFIRE format. Targets have also been included for the monitoring of treated effluent and monitoring conditions changed to reflect that the site is currently not operational. A notification condition has also been included to require the licensee to notify DER prior to the site beginning operations again.

The licences and works approvals issued for the Premises since 02/10/2008 are:

Instrument log		
Instrument	**Issued**	**Description**
W4456/2008/1	02/10/2008	Works approval
L8363/2009/1	01/10/2009	New application
L8363/2009/2	25/09/2014	Licence re-issue and convert to REFIRE 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 until 30 June in the following year;

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

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

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

'CEMS' means continuous emissions monitoring system;

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

'CEO' for the purpose of correspondence means:
Manager Licensing (North West)
Department of Environment Regulation
PO Box 835
KARRATHA WA 6714
Telephone: (08) 9182 2000
Facsimile: (08) 9144 1118
Email: northwest@der.wa.gov.au;

'code of practice for the storage and handling of dangerous goods' means 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*;

'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;

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

'Licence' means this Licence numbered L8363/2009/2 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;

'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;

'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 July to 30 September, 1 October to 31 December and in the following year, 1 January to 31 March, 1 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; and

'start-up' means the period when plant or equipment is brought from inactivity to normal operating conditions.

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 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 substances 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 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 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 – waste from the reticulated sewerage system	111 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 manage the evaporation pond 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; and
(d) vegetation and floating debris (emergent or otherwise) is prevented from encroaching onto pond surfaces or inner pond embankments.

1.3.4 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;

1.3.5 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 Emissions

There are no specified conditions relating to emissions 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;
(b) all wastewater sampling is conducted in accordance with AS/NZS 5667.10; and
(c) 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 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

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

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

There are no specified conditions relating to monitoring of emissions to land in this section.

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 and location	Process description	Parameter	Units	Averaging period	Frequency	Method
P1 Final treatment tank	Discharge from wastewater treatment plant to lined evaporation pond	Volumetric flow rate (cumulative)	m^3/day	Monthly	Continuous	None specified
		pH[1]	pH units	Spot sample	Quarterly	
		Biochemical Oxygen Demand	mg/L			
		Total Suspended Solids				
		Residual Free Chlorine[1]				
		Total Nitrogen				
		Total Phosphorus				
		E.coli	cfu/100mL			

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

3.8 Ambient environmental quality monitoring

There are no specified conditions relating to ambient environmental quality monitoring in this section.

3.9 Meteorological monitoring

There are no specified conditions relating to meteorological monitoring in this section.

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 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 by 1 October each year. 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]
-	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
-	Details of any period of operation during the annual reporting period.	Non specified
Table 1.3.2	Summary of any treatment capacity target exceedances and any action taken.	None specified
1.3.5	Summary of any freeboard target exceedances and any action taken.	None specified
Table 3.7.1	Process monitoring	None specified
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) any relevant process, production or operational data recorded under condition 3.1.3; and

(b) 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 5.2.2 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[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

5.3 Notification

5.3.1 The Licensee shall ensure that the parameters listed in Table 5.3.1 are notified to the CEO at the Contact Address and in accordance with the notification requirements of the table.

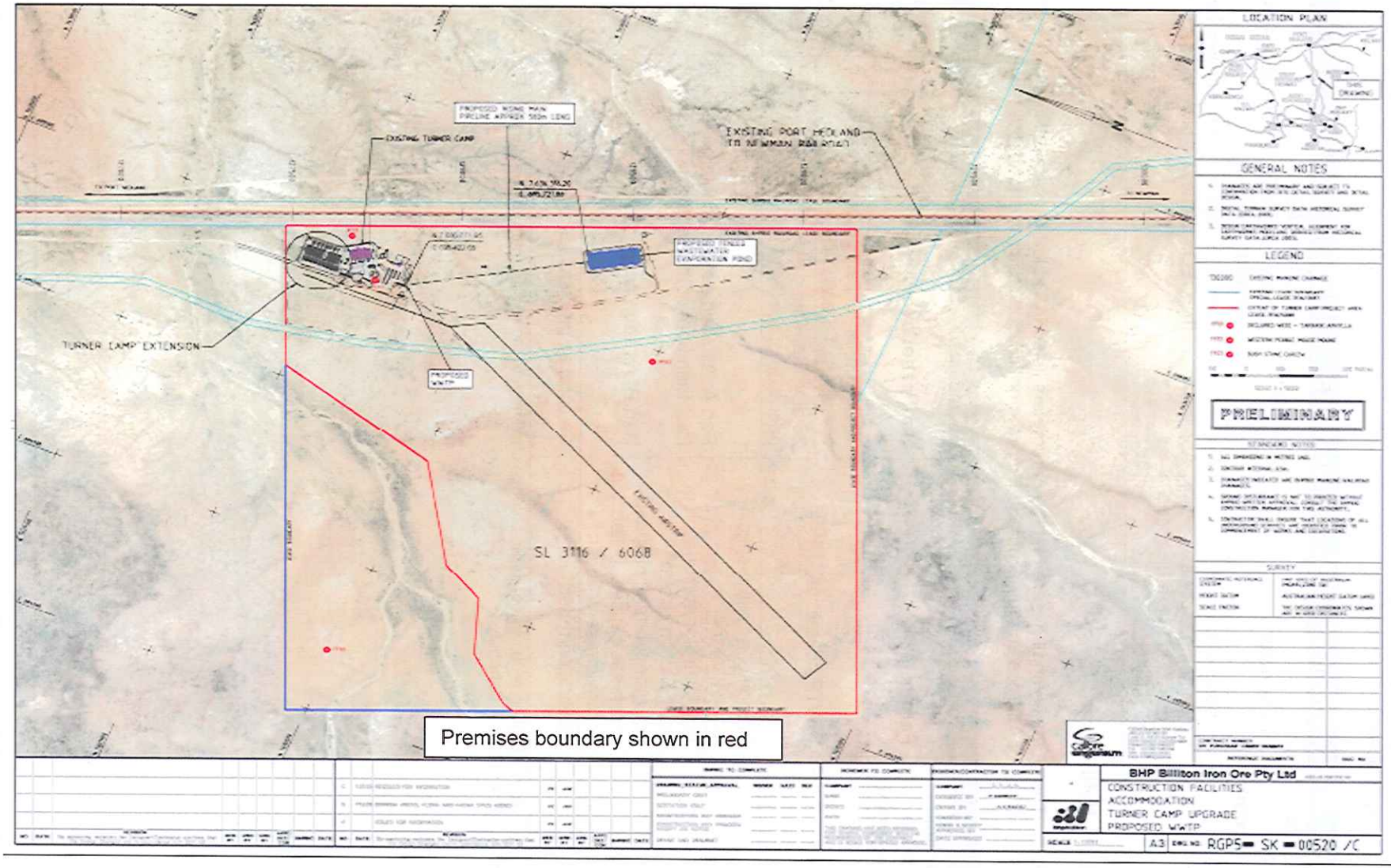
Table 5.3.1: Notification requirements

Condition or table (if relevant)	Parameter	Notification requirement[1]	Format or form[2]
-	WWTP operations	28 days prior to start-up of normal operation of the WWTP	None specified
-		28 day after shut-down of normal operation of the WWTP	
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		
3.1.5	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



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: L8363/2009/2 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: L8363/2009/2

Registered office:	Level 3 City Square Brookfield Placed 125-137 St Georges Terrace PERTH WA 6000
ACN:	008 700 981
Premises address:	Turner Camp Part Special Lease 3116/6068 within coordinates: E694224.391 N7635941.502: E694240.253 N7635978.385: E694357.072 N7636116.019: E694532.114 N7636174.039: E694597.885 N7636303.191: E694898.033 N7636487.056: E695035.218 N7636994.171: E695466.907 N7637171.194: E696102.951 N7635620.506: E694607.431 N7635007.249: MARBLE BAR WA 6760
Issue date:	Thursday, 25 September
Commencement date:	Sunday, 5 October 2014
Expiry date:	Friday, 4 October 2019

Decision

Based on the assessment detailed in this document the Department of Environment Regulation (DER), has decided to issue a licence. DER considers that in reaching this decision, it has taken into account all relevant considerations 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:	Teresa Wilkie and Michael Christensen 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 for a works approval or licence, and provides a record of DER's decision-making process and how relevant factors have been taken into account. Stakeholders should note that this document is limited to DER's assessment and decision making under Part V of the *Environmental Protection Act 1986.* Other approvals may be required for the proposal, and it is the proponent's responsibility to ensure they have all relevant approvals for their Premises.

Works approval and licence conditions
DER has three types of conditions that may be imposed on works approvals and licences. They are as follows;

Standard conditions (SC)

DER has standard conditions that are imposed on all works approvals and licences regardless of the activities undertaken on the Premises and the information provided in the application. These are included as the following conditions on works approvals and licences:

Works approval conditions: 1.1.1-1.1.4, 1.2.1, 1.2.2, 5.1.1 and 5.1.2.

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

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

Optional standard conditions (OSC)

In the interests of regulatory consistency DER has a set of optional standard conditions that can be imposed on works approvals and licences. DER will include optional standard conditions as necessary, and are likely to constitute the majority of conditions in any licence. The inclusion of any optional standard conditions is justified in Section 4 of this document.

Non standard conditions (NSC)

Where the proposed activities require conditions outside the standard conditions suite DER will impose one or more non-standard conditions. These include both premises and sector specific conditions, and are likely to occur within few licences. Where used, justification for the application of these conditions will be included in Section 4.

2 Administrative summary

Administrative details		
Application type	Works Approval ☐ New Licence ☒ Licence amendment ☐ Works Approval amendment ☐	
Activities that cause the premises to become prescribed premises	**Category number(s)** 54	**Assessed design capacity** 111m^3/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		
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

BHP Billiton Iron Ore Pty Ltd (BHPBIO) operates iron ore mines in the Pilbara in Western Australia and exports the product through their port operations in Port Hedland.

BHPBIO operate a wastewater treatment plant (WWTP) at Turner Camp, which is located 128 kilometres (km) south of Port Hedland. The nearest sensitive receptor is the Abydos Community Homestead located approximately 5 km south west of the camp. The camp accommodates up to 300 personnel and was initially built for the construction workforce during the rail duplication project. The camp is currently not in use and the WWTP is in care and maintenance in the event that BHPBIO requires the camp at a future date for personnel working in the area.

The WWTP has the capacity to treat a maximum of 111 m^3/day and has been constructed within a 50 m by 50 m bunded area. The treated effluent is discharged to a high density polyethylene (HDPE) lined evaporation pond which is 150 m by 50 m by 1.5 m deep which hold up to 7500 m^3 while allowing for a freeboard of 500 mm. Treated effluent is transported to the evaporation pond through poly pipes located in a bunded corridor from the WWTP.

The WWTP system is based on moving bed bio-film reactor technology, which is a biological treatment process and is designed to reduce biochemical oxygen demand (BOD), total suspended solids (TSS), total nitrogen (TN) and total phosphorus (TP) to acceptable levels (see Table 1).

The WWTP incorporates the following components and process functions (as shown in Figure 1):

- 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 a 50,000L balance tank. The tank retains 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 N reduction. N reduction is achieved through the conversion of ammonia (NH_3), nitrites and nitrates by bacteria to N gas. Wastewater initially enters an anoxic zone for conversion of nitrate to N gas and then passes through to an aerobic zone for the conversion 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 will be added to the clarifier for P removal;
- Sludge storage tanks – receives settled biomass or solids. Tanks will be 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 will be directed back to the wet well and cycled back through the system;
- Disinfection – filtered effluent is treated with liquid chlorine (Cl) to achieve a residual free Cl level of > 0.5 mg/L. Cl 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.

The evaporation pond is located approximately 580 m south east of the accommodation camp and is fenced to restrict access to the pond. The pond has been designed to accommodate the wastewater from the WWTP and maintains a freeboard of 500 mm to minimise the potential for overtopping of the ponds. Surface water diversion structures and embankment armouring have been constructed to prevent ingress of uncontaminated surface water to the pond and to prevent erosion of the pond embankment.

Anticipated effluent quality is detailed in Table 1.

Table 1: Treated Effluent Standards

Parameter	BHPBIO Value	Australian Guidelines*
Effluent volume	Maximum 111 kL/day	N/A
Temperature	Ambient	N/A
pH	6.5-8.5	Approx. 6 - 9
Total Suspended Solids	<30 mg/L	25-40 mg/L
Biochemical Oxygen Demand	<20 mg/L	20-30 mg/L
Total Nitrogen	40 mg/L	20-50 mg/L
Residual free chlorine	>0.5 mg/L	N/A
Total phosphorus	15mg/L	6 - 12 mg/L
E.coli	<1000cfu/100 mL	10^5 - 10^6 org/100 mL

*Australian Guidelines for Sewerage Systems – Effluent Management.

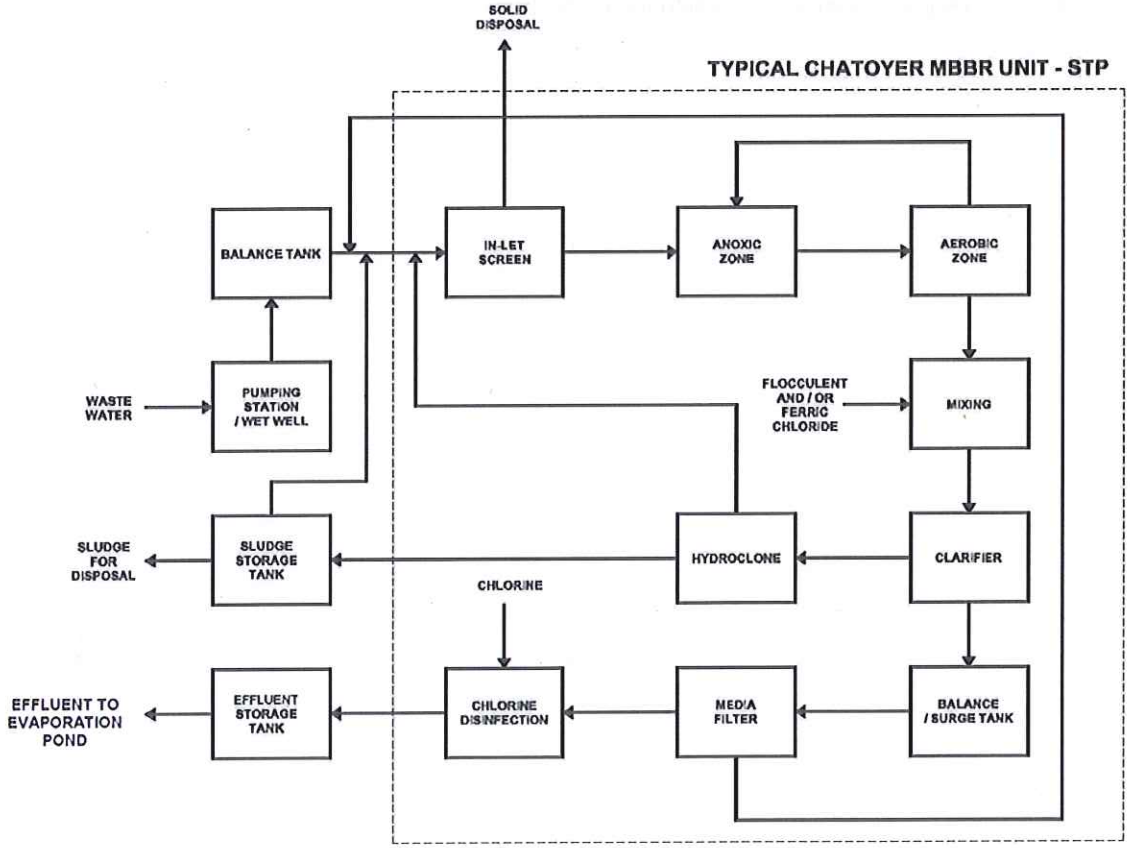


Figure 1: Turner Camp WWTP process flow chart

BHPBIO monitoring regimes includes the following:

- A flow meter which records monthly cumulative volumes of treated wastewater discharged to the evaporation pond.
- Monthly water quality testing of pH, electrical conductivity, total dissolved solids, total suspended solids, biochemical oxygen demand, total nitrogen and total phosphorus.
- Quarterly water quality testing *E.coli*, major ions, heavy metals, ammonium nitrogen, nitrate plus nitrite, nitrogen and synthetic hydrocarbons.
- Laboratory analysis which is undertaken at a NATA accredited laboratory.
- Weekly visual inspections of the WWTP, pipeline and evaporation pond, to inspect:
    - equipment, pumps and pipes for leaks;
    - system levels and capacity, including blockages;
    - water quality, including algal blooms and odours;
    - integrity of the WWTP, evaporation pond liner and embankment, pipeline bunding, fencing and fauna egress ramps; and
    - flora and fauna.
- An Operations and Maintenance Manual for the WWTP and evaporation pond, which incorporates the supplier's recommendations, health, safety and environmental procedures, emergency response plans and monitoring programs.

4 Decision table

All applications are assessed in line with the *Environmental Protection Act 1986*, the *Environmental Protection Regulations 1987*, DER's Corporate Policy Statement No. 7 – Operational Risk Management and the Matrix attached to this Decision Document. 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**
General conditions	L1.2.3 - L1.2.5 L1.3.1 – 1.3.5	OSC	**Operation** Emission Description *Emission:* Stormwater contaminated with hydrocarbons, chemicals or treated effluent. *Impact:* Contamination of surrounding land and surface water drainage systems, eutrophication of waterways, algal blooms. *Controls:* All hydrocarbons and chemicals are stored in accordance with Australian Standards. The WWTP has been constructed within a bunded area and stormwater is directed away from the plant. The lined evaporation pond for the treated effluent has a capacity of 7500 m^3 in addition to maintaining sufficient freeboard (500 mm) to prevent overflow during extreme weather events. The pond embankment includes armouring to prevent ingress of uncontaminated surface water to the pond and to prevent erosion of the embankment. Risk Assessment *Consequence*: Minor *Likelihood:* Possible *Risk Rating:* Moderate Regulatory Controls OSC 1.2.3 - 1.2.5 has been added to the licence to require the management of environmentally hazardous substances and stormwater run-off at the premises.	General provision of the *Environmental Protection Act 1986* Application supporting documentation *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**
			Premises operation conditions 1.3.1 -1.3.5 have been added to the licence requiring the proponent to record and investigate any exceedences in this section and to ensure the Licensee maintains the evaporation pond and the WWTP infrastructure, including sufficient freeboard on the evaporation pond to prevent overflows during extreme weather conditions. Residual Risk *Consequence:* Insignificant *Likelihood:* Unlikely *Risk Rating:* Low	
Emissions general	L2.1.1	N/A	**Operation** There are no emissions association with the operation of the WWTP as the effluent is discharged to a lined pond. As such no conditions have been added to the licence.	N/A
Point source emissions to air including monitoring	L2.2 and L3.2	N/A	**Operation** There are no point source emissions to air associated with the operation of the WWTP. No specified conditions relating to point source emissions to air or the monitoring of these emissions are required to be added to the licence.	General provision of the *Environmental Protection Act 1986* Application supporting documentation
Point source emissions to surface water including monitoring	L2.3 and L3.3	N/A	**Operation** There are no point source emissions to surface water associated with the operation of the WWTP. The plant is 450 m north east of a large drainage line and the evaporation pond is 200 m south east of a minor drainage line which flows into the Turner River, 2.5 km east of the camp. No specified conditions	General provision of the *Environmental Protection Act 1986* Application supporting

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**
			relating to point source emissions to surface water or the monitoring of these emissions are required to be added to the licence.	documentation
Point source emissions to groundwater including monitoring	L2.4 and L3.4		**Operation** There are no point source emissions to groundwater associated with the operation of the WWTP. The groundwater level at the site is 5 to 9 m below ground level. No specified conditions relating to point source emissions to groundwater or the monitoring of these emissions are required to be added to the licence.	General provision of the *Environmental Protection Act 1986* Application supporting documentation
Emissions to land including monitoring	L.2.5 and L3.5	N/A	**Operation** There are no point source emissions to land associated with the operation of the WWTP. The treated effluent is discharged to a HDPE lined evaporation pond, with a minimum thickness of 1.5 mm and permeability of less than 2×10^{-10} m per second. The pond has the capacity to hold 7500 m^3 of effluent plus retain a freeboard of 500 mm to allow for rain event. No specified conditions relating to point source emissions to groundwater or the monitoring of these emissions are required to be added to the licence.	General provision of the *Environmental Protection Act 1986* Application supporting documentation
Fugitive emissions	L2.6	N/A	**Operation** There are no fugitive dust emissions associated with the operation of the WWTP. As such no specified conditions relating to dust emission are required to be added to the licence.	General provision of the *Environmental Protection Act 1986* Application supporting documentation

DECISION TABLE				
Works Approval / Licence section	**Condition number W = Works Approval L= Licence**	**OSC or NSC**	**Justification (including risk description & decision methodology where relevant)**	**Reference documents**
Odour	L2.7	N/A	**Operation** Emission description *Emission:* There is potential for odour emissions to be generated during operation of the WWTP. *Impact:* Reduced air quality, potential headaches. *Controls:* The inlet screen and pump chamber of the WWTP are fully enclosed to reduce the potential of odour emissions. The water quality of the treated effluent discharged to the evaporation pond is below Australian Standards and therefore should not create any odour emission. The sludge from the WWTP will be removed by an approved contractor for disposal at a licenced facility. The nearest sensitive receptor is Abydos Community Homestead located approximately 5 km south west of the camp. The camp is 140 m from WWTP and the evaporation pond 700 m. Risk Assessment *Consequence*: Insignificant *Likelihood:* Unlikely *Risk Rating:* Low No specified conditions relating to odour emission have been added to the licence.	General provision of the *Environmental Protection Act 1986* Application supporting documentation
Noise	L2.8	N/A	**Operation** Emission description *Emission:* There is potential for noise emissions to be generated during operation of the WWTP. *Impact:* Potential nuisance and effects on health, may affect fauna. *Controls:* The WWTP pumps and equipment will be maintained in good working	General provision of the *Environmental Protection Act 1986* *Environmental Protection (Noise) Regulations 1997*

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**
			order. The nearest sensitive receptor is Abydos Community Homestead located approximately 5 km south west of the camp. The camp is 140 m from WWTP and the evaporation pond 700 m. Risk Assessment *Consequence*: Insignificant *Likelihood:* Unlikely *Risk Rating:* Low No specified conditions relating to noise emissions have been added to the licence. The *Environmental Protection (Noise) Regulations 1997* applies.	Application supporting documentation
Monitoring general	L3.1.1, L3.1.2, L3.1.3, L3.1.4 and L3.1.5	OSC	**Operation** OSCs 3.1 have been included in the Licence requiring that wastewater samples are collected in accordance with the applicable standard and submitted to a NATA accredited laboratory for analysis.	General provision of the *Environmental Protection Act 1986* Application supporting documentation AS/NZS 5667.1 AS/NZS 5667.10
Monitoring of inputs and outputs	L3.6	N/A	Monitoring of inputs or outputs is not required and as such no specified conditions are required to be added to the licence.	
Process monitoring	L3.7.1	OSC	**Operation** The treated effluent is discharged to the HDPE lined evaporation pond. OSC 3.7.1 have been added to the licence requiring the monitoring of pH, biochemical	General provision of the *Environmental Protection Act 1986*

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**
			oxygen demand, total suspended solids, residual chlorine, total nitrogen, total phosphorus, and *E.coli* prior to discharge to the lined evaporation pond. Monitoring for the volumetric flow rate of wastewater discharged into the ponds is also included.	Application supporting documentation
Ambient quality monitoring	L3.8	N/A	No specified conditions relating to ambient quality monitoring have been added to the licence.	
Meteorological monitoring	L3.9	N/A	No specified conditions relating to ambient quality monitoring have been added to the licence.	
Improvements	L4	N/A	No requirement for specified improvement conditions to be added to the licence.	
Information	L5.1 – L5.3	N/A	Standard conditions relating to records and reporting	
Licence	N/A	N/A	Licence period of five years proposed given low residual risk rating of premises.	

5 Advertisement and consultation table

Date	Event	Comments received/Notes	How comments were taken into consideration
4/08/2014	Application advertised in West Australian (or other relevant newspaper)	No comments received	N/A
11/09/2014	Proponent sent a copy of draft instrument	Yes, relating to draft proposed condition 3.1.3.	Removed draft condition 3.1.3.

6 Risk assessment

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

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