



Amendment Report

Licence Number	L5415/1988/9
Licensee	BHP Billiton Iron Ore Pty Ltd
ACN	008 700 981
File Number:	DER2013/000900
Premises	Wheellarra Hill (Jimblebar) Iron Ore Mine Mining Tenements L52/108, L52/109, L52/163, I126948 M266SA and ML244SA Newman WA 6753
Date of Report	30 April 2020
Decision	Amended licence

1. Definitions and interpretation

Definitions

In this Amendment Report, the terms in Table 1 have the meanings defined.

Table 1: Definitions

Term	Definition
AACR	Annual Audit Compliance Report
ACN	Australian Company Number
AER	Annual Environment Report
Amendment Report	refers to this document
Amendment Notice	means an amendment granted under s.59 of the EP Act in accordance with the procedure set out in s.59B of the EP Act
Category/ Categories/ Cat.	categories of Prescribed Premises as set out in Schedule 1 of the EP Regulations
CEO	means Chief Executive Officer. CEO for the purposes of notification means: Director General Department Administering the <i>Environmental Protection Act 1986</i> Locked Bag 10 JOONDALUP DC WA info@dwer.wa.gov.au
C&S	Crushing and Screening
Delegated Officer	an officer under section 20 of the EP Act
Department	means the department established under section 35 of the <i>Public Sector Management Act 1994</i> and designated as responsible for the administration of Part V, Division 3 of the EP Act.
DWER	Department of Water and Environmental Regulation
EPA	Environmental Protection Authority
EP Act	<i>Environmental Protection Act 1986 (WA)</i>
EP Regulations	<i>Environmental Protection Regulations 1987 (WA)</i>
Existing Licence	The Licence issued under Part V, Division 3 of the EP Act and in force prior to the commencement of and during this Review
GL/a	Gigalitres per annum
Licensee	BHPBIO Billiton Iron Ore Pty Ltd

Term	Definition
MAR	Managed Aquifer Recharge
m ³	cubic metres
Minister	the Minister responsible for the EP Act and associated regulations
ML/d	Mega Litres per day
MS	Ministerial Statement
mtpa	million tonnes per annum
Noise Regulations	<i>Environmental Protection (Noise) Regulations 1997 (WA)</i>
Occupier	has the same meaning given to that term under the EP Act.
Prescribed Premises	has the same meaning given to that term under the EP Act.
Premises	refers to the premises to which this Amendment Report applies, as specified at the front of this Amendment Report.
Revised Licence	the amended Licence issued under Part V, Division 3 of the EP Act, with changes that correspond to the assessment outlined in this Amendment Report.
Risk Event	as described in <i>Guidance Statement: Risk Assessment</i>
TSF	means Tailings Storage Facility
UDR	<i>Environmental Protection (Unauthorised Discharges) Regulations 2004 (WA)</i>

2. Amendment Description

The following guidance statements have informed the assessment and decision outlined in this Amendment Report.

- *Guidance Statement: Regulatory Principles (July 2015)*
- *Guidance Statement: Setting Conditions (October 2015)*
- *Guidance Statement: Decision Making (April 2019)*
- *Guidance Statement: Risk Assessment (February 2017)*
- *Guidance Statement: Environmental Siting (November 2016)*
- *Guideline: Decision Making. Department of Water and Environment Regulation, Perth, June 2019*

2.1. Purpose and scope of assessment

On 10 January 2020, the Licensee submitted an application to amend the Wheelarra Hill (Jimlebar) Iron Ore Licence L5415/1988/9. The Licensee has requested the following changes to the licence:

- Correct an administrative error associated with the Orebody 18 managed aquifer recharge (MAR) bores. Amendment Notice 3 incorrectly identified the requirement to monitor flow rate and cumulative volumes in monitoring bores HEOP0842P, HEOP0828M and HEOP0838M, instead of the requirement to monitor the flow rate and cumulative volumes in MAR injection bores HEOP0847P, HEOP0843P and HEOP0845P.
- Replace groundwater monitoring bore JBGW0009P with the nearby HSJ0083M. Monitoring JBGW0009P will be decommissioned as part of an expansion to the Primary Crusher 3 run of mine (ROM) pad; and
- Expand the boundary of the Premises to the south so the description of the Premises boundary in the Existing Licence, corresponds with the boundary approved via a Section 45C to MS 857 on 9 November 2018.

2.2. Consolidation of Licence

As part of this amendment package, DWER has also consolidated the licence by incorporating changes made under the following Amendment Notices:

- **Amendment Notice 1** granted 27 August 2018:
 - Increase the Jimblebar (Wheellarra Hill) category 5 Premises design capacity by 7 Mtpa to 65 Mtpa. This increases the Licence total capacity for category 5 to 82 Mtpa.
 - Increase the throughput for category 6 to 37.735 GL/a.
 - Increase the throughput capacity for category 64 to 15,000 tpa.
 - Increase category 73 to 5,000 m³.
 - Removal of monitoring requirements for MAR monitoring bore HSJ0169 and replacement with monitoring bore SJ0571RM.
 - Removal of rising stage sampler locations JBSW006, JBSW007 and JBSW008 and replacement with the three new rising stage sampler locations JBSW009, JBSW010 and JBSW011.
 - Administrative changes to the Licence, comprising:
 - Increasing the volume of nutrient rich water in Table 1.2.4 from 400,000 L to 4,000,000 to correct an administrative error;
 - Update Table 1.2.6 to remove completed construction requirements; and
 - Replace the reference to L2 to L1 in Table 4.2.1 of the Licence.
- **Amendment Notice 2** granted 19 February 2019:
 - The upgrade of Primary Crusher 3 at the Wheellarra Hill mine site and subsequent operation to increase throughput by 10 Mtpa.
 - Construction and operation of three new reinjection bores for the expanded Orebody 18 MAR project. Increasing the design capacity from 8.76 GL/a to 13.14 (an increase of 4.38 GL/a). The operational limit of 8.76 GL/a remained the same.
 - Expansion of the Premises boundary to accommodate the location of the Orebody 18 MAR bores.
 - Construction and operation of a new inert landfill. The Category 64 disposal limit remained the same.
 - Add category 12 to the Licence, with an approved throughput of 200,000 tpa.

- **Amendment Notice 3** granted 16 July 2019:
 - Construct a new 5 Mtpa relocatable crusher.
 - Increase category 6 from 37.735 GL/a to 47.255 GL/a.
 - Construct a second pipeline from Orebody 31 to Ophthalmia Dam.
 - Dispose of 16.425 GL/a (average of 45 ML/d of surplus water from the Wheelarra Hill (Jimblebar) mining operations to Ophthalmia Dam.
 - Substitute three of the MAR bores with a depth to groundwater monitoring requirement with three new monitoring bores adjacent to the MAR bores.

The obligations of the Licensee have not changed in consolidating the licence. DWER has not undertaken any additional risk assessment of the Premises related to the previous Amendment Notices.

The previously issued Amendment Notice's will remain on the DWER website for future reference and will act as a record of DWER's decision making.

3. Other approvals

The Licensee has provided the following information relating to other approvals as outlined in Table 2.

Table 2: Relevant approvals

Legislation	Number	Approval
<i>Iron Ore (McCamey's Monster) Authorization Agreement Act 1972</i>	Mining Lease M266SA	Authorise the execution of an agreement relating to the exploration for and the development and treatment of iron ore and for incidental and other purposes
<i>Rights in Water and Irrigation Act 1914 (RIWI Act)</i>	Groundwater Well Licence (GWL)158795(8) (Expires 13 July 2026)	Part IV of the EP Act (WA) Taking of water for dust suppressions for earthworks and construction purposes, general campsite purposes, mineral ore processing and other mining purposes, potable water supply purposes and reinjection of groundwater
Part IV of the EP Act (WA)	Statement Number 385 (issued 23 May 1995)	Jimblebar Iron Ore Mine Rationalization and Expansion
	Statement Number 439	Development of Orebody 18
	Statement Number 683 (issued August 2005, supersedes conditions of MS 385)	Wheelarra Hill Iron Ore Mine extension life of mine proposal
	Statement Number 809 (issued October 2009)	Wheelarra Hill mine modification increase mining rate from 12 mtpa to 45 mtpa, additional clearing, increase water supply, construction of a new rail spur and loop and train load out facilities.
	Statement Number 857 (issued 18 February 2011)	Jimblebar Iron Ore Project - extend existing Wheelarra Hill open pits, develop

		the South Jimblebar and Hashimoto deposits, increase ore processing to 75 million tonnes per annum, discharge of up to 45 ML/d of excess mine dewater from Jimblebar deposit to Ophthalmia Dam
	Statement Number 1021 (issued 12 November 2015)	Development of Orebody 31, including the discharge of surplus mine dewater to Ophthalmia Dam and Jimblebar Creek. (Note: no ore processing throughput [amount] was approved in this MS.)

4. Location and receptors

Table 3 below lists the relevant sensitive land uses in the vicinity of the Prescribed Premises which may be receptors relevant to the proposed amendment.

Table 3: Receptors and distance from activity boundary

Residential and sensitive premises	Distance from Prescribed Premises
No nearby sensitive premises relevant to this proposed amendment.	Not applicable.

Table 4 below lists the relevant environmental receptors in the vicinity of the Prescribed Premises which may be receptors relevant to the proposed amendment.

Table 4: Environmental receptors and distance from activity boundary

Environmental receptors	Distance from Prescribed Premises
Newman Water Reserve Public Drinking Water Source Area (PDWSA) (Priority 1)	Partially within the Prescribed Premise boundary. Depth to groundwater is approximately 50 m.
Surface water Non-perennial watercourses	<p>Two non-perennial watercourses (Shovelanna Creek and Jimblebar Creek) and numerous unnamed non-perennial watercourses flow across the Premises.</p> <p>The majority of the Premises is drained by Jimblebar Creek, which has its headwaters approximately 20km to the south and drains in a northerly direction towards Fortescue River and Fortescue Marsh. The main channel of the Jimblebar Creek passes to the east of the south Jimblebar deposit. Copper Creek is a tributary of Jimblebar Creek which drains the broad valley between the southern flanks of Wheelarra Hill and the northern side of the South Jimblebar deposit (EPA Report 2010).</p> <p>Streamflow in the project area directly correlates to rainfall, with the majority of streamflow occurring during and immediately after each wet season. The known surface water bodies in the vicinity of the Project are; Ophthalmia Dam, on the Fortescue River (27km to the west of the project area) and Innawally Pool within Jimblebar Creek (Note – this pool does not receive run-off flow from any of the mining or Prescribed activities within the Premises boundary).</p>
Groundwater	Regional groundwater level is approximately 50 m below ground level. Water quality is generally of fresh quality (TDS 900 mg/L to 1,500 mg/L). The main use of water is for mining and mine dewatering from iron ore mines.

5. Risk assessment

Amendment Notice 3 granted on 16 July 2019 incorrectly identified the requirement to monitor flow rate and cumulative volumes in monitoring bores HEOP0842P, HEOP0828M and HEOP0838M, instead of the requirement to monitor the flow rate and cumulative volumes in MAR injection bores HEOP0847P, HEOP0843P and HEOP0845P. The Delegated Officer has determined that the correction of this administrative error does not alter the risk profile of the Premises therefore condition 1.2.10 of the Existing Licence has been updated.

The Licensee plans to expand the Primary Crusher 3 ROM pad which will require the decommissioning of Jimblebar MAR monitoring bore JBGW0009P. The Licensee reviewed existing groundwater monitoring bores and identified HSJ0083M is a suitable replacement for JBGW0009P as it targets the same aquifer, it is closer to the injection bore being monitored, and it is capable of detecting an aquifer response to the north of the MAR scheme (Chris Hopkins, 2020). This proposed change does not alter the risk profile of the Premises and therefore condition 3.5.1 of the Existing Licence has been updated to reflect this change.

Table 5 below describes the Risk Events associated with the disposal of used tyres and conveyor belts into overburden storage areas (OSAs) which are located within the extend Premises boundary. The table identifies whether the emissions present a material risk to public health or the environment, requiring regulatory controls.

Table 5: Risk assessment for proposed amendments during construction and operation

Risk Event					Consequence rating ¹	Likelihood rating ¹	Risk ¹	Reasoning
Source/Activities*	Potential emissions	Potential receptors	Potential pathway	Potential adverse impacts				
Disposal of used tyres and conveyor belts into overburden storage areas (OSAs) which are now located within the extend Premises boundary.	Noise from vehicle movement and equipment use	None	Transport through air	None. No receptors.	N/A	N/A	N/A	The distance to residential receptors is considered too great for impacts from noise to occur. The Delegated Officer considers that a pathway for noise emission does not exist. The provisions of the Noise Regulations are applicable.
	Dust	Vegetation	Transport through air	Reduction in vegetation health due to smothering	Slight	Unlikely	Low	Dust management at the Premises is conducted in accordance with the Jimblebar Hub EMP Rev 5 (MS 857). Areas are wetted down on a regular basis to control dust. OSA areas at the premises are highly disturbed with minimal to no vegetation present. Naturally high dust background levels are experienced at the Premises.
	Contaminated run-off from fire	Vegetation Surrounding soils	Sheet flow	Contamination of surrounding soils and impacts on surrounding vegetation	Minor	Rare	Low	OSA areas at the premises are highly disturbed with minimal to no vegetation present. No nearby threatened ecological communities. Any impacts are expected to only occur locally with off-site impacts not expected to occur. Any runoff from an accidental tyre and/or conveyor belt fire is expected to remain within the

Risk Event					Consequence rating ¹	Likelihood rating ¹	Risk ¹	Reasoning
Source/Activities*	Potential emissions	Potential receptors	Potential pathway	Potential adverse impacts				
								<p>footprint of the OSA</p> <p>Surface water drainage channel located approximately over 500 m away and this distance is considered too great for any run-off to have an impact and is therefore not considered a receptor.</p> <p>The Premises is remote with only employees permitted onsite therefore a fire is unlikely.</p>

Note 1: Consequence ratings, likelihood ratings and risk descriptions are detailed in the Department's Guidance Statement: Risk Assessments (February 2017)

6. Consultation

Table 6: Summary of consultation

Method	Comments received	DWER response
Applicant referred draft documents on 16 April 2020	Email received from Chris Hopkins (BHP) on 28 April 2020 agreeing to the amendment and waiving the remaining 21 day comment period.	Finalise amended Licence for signing.

7. Conclusion

Based on the assessment in this Amendment Report, the Delegated Officer has determined that the licence amendment will be granted, subject to conditions commensurate with the determined controls and necessary for administration and reporting requirements.

7.1. Summary of amendments

Table 7 provides a summary of the proposed amendments and will act as record of implemented changes. All proposed changes have been incorporated into the revised Licence as part of the amendment process.

Table 7: Licence amendments

Condition No.	Proposed amendments
Not applicable	Description for category 6 in the 'Prescribed premises category description' has been updated by including 'tributary of' Jimblebar Creek.
1.2.10	Condition updated by removing Jimblebar Creek and including 'tributary of Jimblebar Creek.
1.2.11 (Table 1.2.6)	Table updated by removing incorrect reference to reinjection bores HEOP0842P, HEOP0828M and HEOP0838M as these are monitoring bores, and replacing with HEOP0847P, HEOP0843P and HEOP0845P.
3.3.1 (Table 3.3.1)	This table has been updated to correct an administrative error by: <ul style="list-style-type: none"> - removing the requirement to monitor for cumulative volumes and flow rates in groundwater monitoring bores; and - including the requirement to monitor for cumulative volumes and flow rates in the reinjection bores.
3.5.1 (Table 3.5.1)	Table has been updated by removing monitoring point JBGW0009P and replacing with monitoring point HSJ0083M. Groundwater monitoring bores SJ0571RM, HMG0058M, HMG0103M and HMG0111M1 have also been added as additional monitoring points as identified by the Licensee.
Schedule 1 Maps	Premises map of prescribed premises boundary and infrastructure has been updated to correspond with the boundary approved via a Section 45C to MS 857 on 9 November 2018.
Schedule 1 Maps	Map of emission points and monitoring locations has been updated by removing groundwater monitoring point JBGW0009P, and replacing with monitoring point HSJ0083M.

Alana Kidd

Manager, Resource Industries

An officer delegated by the CEO under section 20 of the EP Act

Appendix 1: Key documents

	Document title	In text ref	Availability
1	Licence amendment application dated 10 January 2020	Application	accessed at www.dwer.wa.gov.au
2	BHP supporting documentation, <i>Application to Amend the Jimblebar Hub Environmental Licence L5415/1988/09</i> , January 2020		
3	Email: Response to <i>L5415 Licence Amendment Enquiry</i> , dated 4 March 2020	Chris Hopkins, 2020	DWER record A1877823
4	DWER, July 2015. <i>Guidance Statement: Regulatory principles</i> . Department of Environment Regulation, Perth.	-	accessed at www.dwer.wa.gov.au
5	DWER, October 2015. <i>Guidance Statement: Setting conditions</i> . Department of Environment Regulation, Perth.	-	
6	DWER, August 2016. <i>Guidance Statement: Licence duration</i> . Department of Environment Regulation, Perth.	-	
7	DWER, November 2016. <i>Guidance Statement: Risk Assessments</i> . Department of Environment Regulation, Perth.	-	
8	DWER, November 2016. <i>Guidance Statement: Decision Making</i> . Department of Environment Regulation, Perth.	-	
9	DWER, June 2019. <i>Guideline: Decision Making</i> . Department of Water and Environment Regulation, Perth	-	

Appendix 2: Summary of Licensee comments

The Licensee was provided with the draft Amendment Report and amended Licence on 16 April 2020 for review and comment. The Licensee responded on 28 April 2020 waiving the remaining comment period until 12 May 2020. No comments were submitted on the draft Amendment Report or amended Licence.