



Application for Licence Amendment

Part V Division 3 of the *Environmental Protection Act 1986*

Licence Number	L5415/1988/9
Licensee	BHP Iron Ore Pty Ltd
ACN	008 700 981
File Number	DER2013/000900-1
Premises	Wheellarra Hill (Jimblebar) Iron Ore Mine Tenements L52/108, L52/109, L52/163, I126948, M266SA and ML244SA NEWMAN WA 6753 As defined by the Premises map attached to the Revised Licence
Date of Report	17/03/2022
Decision	Revised licence granted

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an officer delegated under section 20 of the *Environmental Protection Act 1986* (WA)

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1. Decision summary

Licence L5415/1988/9 is held by BHP Iron Ore Pty Ltd (Licensee) for the Wheelarra Hill (Jimblebar) Iron Ore Mine (the Premises).

This Amendment Report documents the assessment of potential risks to the environment and public health from proposed changes to the emissions and discharges during the operation of the Premises. As a result of this assessment, Revised Licence L5415/1988/9 has been granted.

2. Scope of assessment

2.1 Regulatory framework

In completing the assessment documented in this Amendment Report, the department has considered and given due regard to its Regulatory Framework and relevant policy documents which are available at <https://dwer.wa.gov.au/regulatory-documents>.

2.2 Amendment summary

On 7 December 2021, the Licensee submitted an application (BHP 2021) to the department to amend Licence L5415/1988/9 under section 59 and 59B of the *Environmental Protection Act 1986* (EP Act). The following amendments are being sought:

- allow for the disposal of inert concrete waste in licensed landfills, pits or overburden storage areas within the premises boundary;
- update emission and monitoring point names;
- replace bore JBGW0080M, which is blocked with adjacent bore HSJ0081M;
- include Orebody 18 Turkeys Nest OB18GWLTN1 as a sample point for emissions to groundwater; and
- expand the premises boundary.

2.2.1 Disposal of inert concrete waste

To allow for greater flexibility in waste management and to extend the life of the Premises inert landfills the Licensee is seeking to allow for inert concrete waste (crushed concrete, concrete rail sleepers etc.) to be disposed of in pits and overburden storage areas in addition to premises landfills within the prescribed premises boundary.

Refer to Tables 1 and 3 for Licensee proposed controls and the department's risk assessment for this activity.

2.2.2 Emission and monitoring point name changes/additions

The Licensee is seeking to rename a number of bores and emission reference points to align with the Licensee's new naming conventions.

The following changes are requested for emission and monitoring points (conditions 2.2.1, 2.4.1, 2.4.2, 3.2.1, 3.4.1 and 3.6.1):

- JBDMDW001 becomes FJB0004;
- JBDMDW002 becomes FJB0008;
- Ophthalmia Dam discharge point has FNPI0002 added;
- L2 has JMSWRW001 added;

- The Jimblebar main pipeline sample point (JBDMDEW001) is to be renamed SJB0001; and
- L1 has JBDMOWW007 added.

The following changes are requested for the Managed Aquifer Recharge (MAR) injection bores (conditions 2.3.1 and 3.3.1):

- OB18MAR07 becomes HEOP0843P;
- OB18MAR08 becomes HEOP0845P;
- JBGW0003P becomes HSJ0003P;
- JBGW0069P becomes HSJ0069P; and
- JBGW0076P becomes HSJ0076P.

The following changes are requested for the ambient groundwater monitoring points (condition 3.5.1):

- JBGW0073M becomes HSJ0073M;
- JBGW0080M becomes HSJ0081M (refer to section 2.2.3);
- JBGW0117M becomes HSJ0117M; and
- JBGW0115M becomes HSJ0115M (BHP 2022b).

The department has updated the licence with the administrative changes requested.

2.2.3 Replace bore JBGW0080M

The Jimblebar MAR monitoring bore JBGW0080M is blocked and can no longer be sampled. The Licensee is requesting that existing monitoring bore HSJ0081M be the replacement bore based on the following:

- HSJ0081M is located 11 m south of the JBGW0080M and 61 m from HSJ0003;
- HSJ0081M targets the same aquifer as JBGW0080M; and
- is capable of detecting an aquifer response to the north of the MAR scheme.

Based on the above, the department has updated the licence with the change requested.

2.2.4 Inclusion of Orebody 18 Turkeys Nest OB18GWLTN1

The Licensee is requesting to add Orebody 18 Turkeys Nest OB18GWLTN1 as an alternative monitoring point for the OB18 MAR water quality sampling.

BHP 2022a states “OB18GWLTN1 and SJB0001 are the last sample points for the two MAR schemes; Ninga MAR and South Jimblebar MAR respectively.

OB18GWLTN1 is the last point where water can be added to prior to disposal via the OB18 MAR scheme and therefore is representative of water extracted from OB18, OB31 and South Jimblebar production bores and reinjected into the OB18 MAR scheme and Ophthalmia Dam.

SJB0001 is the last point the water from the Jimblebar surplus scheme and provides a representation of the water quality discharged to Ophthalmia Dam or discharged to Jimblebar Creek / South Jimblebar MAR.”

The department has added Orebody 18 Turkeys Nest OB18GWLTN1 as a sample point for emissions to groundwater (condition 3.3.1).

2.2.5 Expansion of the premises boundary

The Licensee is seeking to align the southern boundary of the premises boundary to include the area approved by Ministerial Statement 1126 (granted 17 March 2020 which expanded the mining activities to the south of Jimblebar).

The Licensee currently has approval under the existing licence (condition 1.2.3) to dispose of by landfilling, tyres and conveyor belts within the overburden storage areas located within the prescribed premises boundary.

With the expansion of the prescribed premises boundary, this will allow tyres, conveyor belts and inert concrete waste to be disposed of within any additional overburden storage areas within the new prescribed premises boundary.

The department has previously assessed the disposal of used tyres and conveyor belts into overburden storage areas for the emissions of noise, dust and contaminated run-off from fire. The risk rating was considered low. No additional conditions will be imposed under this licence amendment.

The assessment of the disposal of inert concrete waste into landfill areas, pits and overburden storage areas within the prescribed premises boundary is shown in Table 3.

2.2.6 Other amendments

During this amendment the following changes have also been made to the licence:

- administrative updates;
- definitions updated;
- removal of construction requirements for 3 new reinjection bores for the Orebody 18 MAR project, approved under Amendment Notice 2. Compliance and commissioning reports were received by the department on 10 April 2020 and 21 September 2020 respectively.

3. Risk assessment

The department assesses the risks of emissions from prescribed premises and identifies the potential source, pathway and impact to receptors in accordance with the *Guideline: Risk assessments* (DWER 2020).

To establish a Risk Event there must be an emission, a receptor which may be exposed to that emission through an identified actual or likely pathway, and a potential adverse effect to the receptor from exposure to that emission.

3.1 Source-pathways and receptors

3.1.1 Emissions and controls

The key emissions and associated actual or likely pathway during premises operation which have been considered in this Amendment Report are detailed in Table 1 below. Table 1 also details the proposed control measures the Licensee has proposed to assist in controlling these emissions, where necessary.

Table 1: Licensee controls

Emission	Sources	Potential pathways	Proposed controls
Dust	Vehicle movement and deposition of inert concrete waste	Air/windborne pathway causing impacts to vegetation	<ul style="list-style-type: none"> dust control on unsealed road managed by the use of water carts as required. disposal at licensed landfills will be in accordance with existing licence conditions. disposal at overburden storage areas or in-pit areas will be managed in accordance with the general movement and tipping of waste rock at the Premises.
Leachates	Disposal of inert concrete waste in-pit or within overburden storage areas	Contamination of soils, groundwater and surface water	<ul style="list-style-type: none"> concrete waste will only be disposed of in-pit or within the overburden storage areas if it is classified as inert as defined in accordance with the <i>Landfill Waste Classification and Waste Definitions</i> (DWER 2019). any concrete to be disposed of will be tested for asbestos (if it is pre-1987) and for hydrocarbons if it has been used in areas where hydrocarbons have been stored/dispensed. testing is done by removing a representative sample(s) and sending to a certified laboratory for analysis. if materials are not considered to be inert they will be disposed of in accordance with the relevant legislation (offsite disposal using a licensed contractor etc.) or in a suitable licensed asbestos disposal area. any concrete waste disposed of, will not be mixed with any other types of waste (excluding waste rubber). no concrete containing asbestos or Perfluoroalkyl and Polyfluoroalkyl Substances (PFAS) will be disposed of within the overburden storage areas.

3.1.2 Receptors

In accordance with the *Guideline: Risk assessments* (DWER 2020), the Delegated Officer has excluded employees, visitors and contractors of the Licensee's from its assessment. Protection of these parties often involves different exposure risks and prevention strategies, and is provided for under other state legislation.

The Warrawandu Village is located approximately 1 km from the closest point of the premises boundary and more than 9 km from the closest mining operations. As the village is operated by the Licensee it is not considered a sensitive receptor for the purpose of this amendment.

Table 2 below provides a summary of potential environmental receptors that may be impacted as a result of activities upon or emission and discharges from the prescribed premises

(Guideline: Environmental siting (DWER 2020)).

Table 2: Environmental receptors and distance from prescribed activity

Environmental receptors	Distance from prescribed activity
Priority Flora	<p>There are eight Priority Flora species located within the Premises.</p> <p>The Licensee has stated that “<i>All disturbances associated with the Prescribed Premises will be conducted in accordance with Ministerial Statements (MS) 439, 1012, 1021 and 1126; and Native Vegetation Clearing Permits 2160/2, 2296/4, 3012/3, 3547/3, 3609/4, 3843/2, 4875/3, 5990/1 and 6834/1.</i>”</p>
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>Discharge activities occur at the licensed Ophthalmia Dam Discharge Point, Orebody 31 discharge point, Jimblebar Creek discharge points and via injection bores at Jimblebar and Orebody 18.</p>
Proclaimed Pilbara Groundwater and Surface Water Area	The Premises is located within these Areas.
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.

3.2 Risk ratings

Risk ratings have been assessed in accordance with the *Guideline: Risk Assessments* (DWER 2020) for those emission sources which are proposed to change and takes into account potential source-pathway and receptor linkages as identified in Section 3.1. Where linkages are incomplete they have not been considered further in the risk assessment.

Where the Licensee has proposed mitigation measures/controls (as detailed in Section 3.1), these have been considered when determining the final risk rating. Where the Delegated Officer considers the Licensee's proposed controls to be critical to maintaining an acceptable level of risk, these will be incorporated into the licence as regulatory controls.

Additional regulatory controls may be imposed where the Licensee's controls are not deemed sufficient. Where this is the case the need for additional controls will be documented and justified in Table 3.

The Revised Licence L5415/1988/9 that accompanies this Amendment Report authorises emissions associated with the operation of the Premises.

The conditions in the Revised Licence have been determined in accordance with *Guidance Statement: Setting Conditions* (DER 2015).

Table 3. Risk assessment of potential emissions and discharges from the Premises during operation

Risk Event					Risk rating ¹ C = consequence L = likelihood	Licensee's controls sufficient?	Conditions ² of licence	Justification for additional regulatory controls
Source/Activities	Potential emission	Potential pathways and impact	Receptors	Licensee's controls				
Operation								
Disposal of concrete waste (inert waste type 1) into licensed landfills, pits and overburden storage areas within the prescribed premises boundary	Dust associated with vehicle movement and deposition of inert concrete waste	Air/windborne pathway causing reduction in vegetation health due to smothering	Priority Flora within the Premises	Refer to Section 3.1	C = Slight L = Unlikely Low Risk	Y	No dust conditions are proposed for the licence. Dust management at the Premises is managed in accordance with the <i>Jimblebar Hub EMP Rev 5</i> . The inert concrete waste disposal areas within the prescribed premises boundary will be within highly or previously disturbed areas with minimal to no vegetation present.	N/A
	Leachates	Seepage causing contamination of soils, groundwater and surface water	Proclaimed Groundwater and Surface Water Areas Surface watercourses within Premises Groundwater depth ranges from 30 – 120 m	Refer to Section 3.1	C = Minor L = Rare Low Risk	Y	Condition 1.2.3 Under the <i>Landfill Waste Classification and Waste Definitions</i> (DWER 2019), Table 2a includes examples of Inert Waste Type 1, which stipulates that concrete waste “is not mixed with any other type of waste (specifically green and food waste), and does not contain any asbestos or PFAS.”	N/A

Note 1: Consequence ratings, likelihood ratings and risk descriptions are detailed in the *Guideline: Risk assessments* (DWER 2020).

Note 2: Proposed Licensee's controls are depicted by standard text. **Underline text** depicts additional regulatory controls imposed by department.

4. Consultation

Table 4 provides a summary of the consultation undertaken by the department.

Table 4: Consultation

Consultation method	Comments received	Department response
Department of Jobs, Tourism, Science and Innovation (JTSI) advised of proposal 1 February 2022	No comments were received.	N/A.
Licensee was provided with draft amendment on 9 March 2022	<p>Comments received on 14 March 2022 (BHP 2022b).</p> <p>Draft Licence – Table 3.5.1</p> <ul style="list-style-type: none"> Restore reference to bore HMG0115M; Remove bore JBGW0115M; and Remove bore HSJ0115M from standing water level monitoring. <p>Amendment Report – Section 2.2</p> <ul style="list-style-type: none"> Change JBGW0080M becomes HSJ0080M to JBGW0080M becomes HSJ0081M; and Change HMG0115M becomes HSJ0115M to JBGW0115M becomes HSJ0115M. 	The requested changes have been made.

5. Conclusion

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

5.1 Summary of amendments

Table 5 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 5: Summary of licence amendments

Condition no.	Proposed amendments
Definition	Administrative changes
1.2.1	<p>Removal of Clean Fill</p> <p>Clean Fill is used as cover material only and should not contribute to the annual licence waste acceptance limit</p>
1.2.3	Allow Inert Waste Type 1 (concrete waste) to be landfilled in landfill areas, pits or

Condition no.	Proposed amendments
	overburden storage areas within the premises boundary
1.2.11	Removal of the 3 new reinjection bores for the Orebody 18 MAR project (Amendment Notice #2) as construction and commissioning reports have been received
2.2.1, 2.3.1, 2.4.1, and 2.4.2	Tables updated for correct reference to emission points
3.2.1, 3.3.1, 3.4.1, 3.5.1 and 3.6.1	Tables updated for correct reference to emission and monitoring points
3.3.1	Inclusion of Orebody 18 Turkeys Nest OB18GWLTN1 as a sample point for emissions to groundwater
Schedule 1: Maps	Premises map and Map of emission points and monitoring locations have been updated

References

1. BHP 2021, *Application to Amend the Jimplebar Hub Environmental Licence L5415/1988/09*, Licence Amendment Supporting Documentation (Including Information relating to Attachments 1 to 10), dated December 2021.
2. BHP 2022a, *RE: NOTIFICATION: APPLICATION FOR AN AMENDMENT TO LICENCE L5415/988/9 – REQUEST FOR FURTHER INFORMATION*, dated 28 February 2022.
3. BHP 2022b, *RE: NOTIFICATION: NOTICE OF PROPOSED AMENDMENT TO LICENCE L5415/1988/9*, dated 14 March 2022.
4. Department of Environment Regulation (DER) 2015, *Guidance Statement: Setting Conditions*, Perth, Western Australia.
5. Department of Water and Environmental Regulation (DWER) 2020, *Guideline: Environmental Siting*, Perth, Western Australia.
6. DWER 2020, *Guideline: Risk Assessments*, Perth, Western Australia.
7. DWER 2019, *Landfill Waste Classification and Waste Definitions 1996 (as amended 2019)*, Joondalup, Western Australia.

Appendix 1: Application validation summary

SECTION 1: APPLICATION SUMMARY				
Application type				
Amendment to licence	<input checked="" type="checkbox"/>	Current licence number:	L5415/1988/9	
		Relevant works approval number:	N/A	<input checked="" type="checkbox"/>
Date application received	7/12/2021			
Applicant and Premises details				
Applicant name/s (full legal name/s)	BHP Iron Ore Pty Ltd (ACN 008 700 981)			
Premises name	Wheelarra Hill (Jimblebar) Iron Ore Mine			
Premises location	L52/108, L52/109, L52/163, I126948, M266SA and ML244SA			
Local Government Authority	Shire of East Pilbara			
Application documents				
HPCM file reference number:	DER2013/000900-1			
Key application documents (additional to application form):	Application to Amend the Jimblebar Hub Environmental Licence L5414/1988/09 – Licence Amendment Supporting Documentation (Including Information relating to Attachments 1 to 10)			
Scope of application/assessment				
Summary of proposed activities or changes to existing operations.	Licence amendment to: <ul style="list-style-type: none"> • allow for the disposal of inert concrete waste in licensed landfills, pits or overburden storage areas within the premises boundary; • update monitoring and emission point names; • replace bore JBGW0080M with HSJ0081M; • include Orebody 18 Turkeys Nest OB18GWLTN1 as a sample point for emissions to groundwater; and • expansion of the premises boundary. 			

Category number/s (activities that cause the premises to become prescribed premises)

Table 1: Prescribed premises categories

Prescribed premises category and description	Assessed production or design capacity	Proposed changes to the production or design capacity (amendments only)
Category 5: <i>Processing or beneficiation of metallic or non-metallic ore</i>	92,000,000 tonnes per annum	No change
Category 6: Mine dewatering	47.225 gegalitres per annual period (12.41 gegalitres reinjected, 2.19 gegalitres discharged to Copper Creek and tributary of Jimblebar Creek, and 32.625 gegalitres discharged to Ophthalmia Dam)	No change
Category 12: Screening, etc. of material	200,000 tonnes per year	No change
Category 54: Sewage facility	Approved production or design capacity of 120m ³ per day	No change
Category 64: Class II putrescible landfill site	15,000 tonnes per annual period	No change
Category 73: Bulk storage of chemicals	5,000 cubic metres in aggregate	No change

Legislative context and other approvals

Has the applicant referred, or do they intend to refer, their proposal to the EPA under Part IV of the EP Act as a significant proposal?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Referral decision No: Managed under Part V <input type="checkbox"/> Assessed under Part IV <input type="checkbox"/>
Does the applicant hold any existing Part IV Ministerial Statements relevant to the application?	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Ministerial statement (MS)No: <ul style="list-style-type: none"> MS 439 and MS 1012 (Orebody 18); MS 1021 (Orebody 31 including the discharge of surplus mine dewater to Ophthalmia Dam and Jimblebar Creek); and MS 1126 (Jimblebar Revised Proposal including surplus water management - transfer to Ophthalmia Dam, controlled creek discharge and managed aquifer recharge). EPA Report No: 1550, 1559 and 1663
Has the proposal been referred and/or assessed under the EPBC Act?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Reference No: N/A

<p>Has the applicant demonstrated occupancy (proof of occupier status)?</p>	<p>Yes <input checked="" type="checkbox"/> No <input type="checkbox"/></p>	<p>Certificate of title <input type="checkbox"/> General lease <input type="checkbox"/> Expiry: Mining lease / tenement <input checked="" type="checkbox"/> Expiry: Other evidence <input type="checkbox"/> Expiry:</p>
<p>Has the applicant obtained all relevant planning approvals?</p>	<p>Yes <input type="checkbox"/> No <input type="checkbox"/> N/A <input checked="" type="checkbox"/></p>	<p>Approval: Expiry date: If N/A explain why? Holder in accordance with the <i>Iron Ore (McCarney's Monster) Authorisation Agreement Act 1972</i> and the <i>Iron Ore (Mount Newman) Agreement Act 1964</i></p>
<p>Has the applicant applied for, or have an existing EP Act clearing permit in relation to this proposal?</p>	<p>Yes <input type="checkbox"/> No <input checked="" type="checkbox"/></p>	<p>No clearing is proposed.</p>
<p>Has the applicant applied for, or have an existing CAWS Act clearing licence in relation to this proposal?</p>	<p>Yes <input type="checkbox"/> No <input checked="" type="checkbox"/></p>	<p>No clearing is proposed.</p>
<p>Has the applicant applied for, or have an existing RIWI Act licence or permit in relation to this proposal?</p>	<p>Yes <input checked="" type="checkbox"/> No <input type="checkbox"/></p>	<p>Licence/permit No: GWL158795(10)</p>
<p>Does the proposal involve a discharge of waste into a designated area (as defined in section 57 of the EP Act)?</p>	<p>Yes <input type="checkbox"/> No <input checked="" type="checkbox"/></p>	<p>Name: Pilbara Type: Proclaimed Groundwater Area/Surface Water Area Has Regulatory Services (Water) been consulted? Yes <input type="checkbox"/> No <input type="checkbox"/> N/A <input type="checkbox"/> Regional office: North West</p>
<p>Is the Premises situated in a Public Drinking Water Source Area (PDWSA)?</p>	<p>Yes <input checked="" type="checkbox"/> No <input type="checkbox"/></p>	<p>Name: Newman Water Reserve Priority: P1 Are the proposed activities/ landuse compatible with the PDWSA (refer to WQPN 25)? Yes <input type="checkbox"/> No <input type="checkbox"/> N/A <input checked="" type="checkbox"/></p>
<p>Is the Premises subject to any other Acts or subsidiary regulations (e.g. <i>Dangerous Goods Safety Act 2004</i>, <i>Environmental Protection (Controlled Waste) Regulations 2004</i>, <i>State Agreement Act xxxx</i>)</p>	<p>Yes <input checked="" type="checkbox"/> No <input type="checkbox"/></p>	<p><i>Iron Ore (McCarney's Monster) Authorisation Agreement Act 1972</i> and the <i>Iron Ore (Mount Newman) Agreement Act 1964</i></p>

Is the Premises within an Environmental Protection Policy (EPP) Area?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	N/A
Is the Premises subject to any EPP requirements?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	N/A
Is the Premises a known or suspected contaminated site under the <i>Contaminated Sites Act 2003</i> ?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Classification: N/A Date of classification: N/A