



# Decision Document

## *Environmental Protection Act 1986, Part V*

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**Proponent:** BHP Billiton Iron Ore Pty Ltd

**Licence:** L6942/1997/13

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

**ACN:** 008 700 981

**Premises address:** Eastern Ridge Iron Ore Mine  
Mining Tenement ML244SA within coordinates MGA Zone 50:  
E785173 N7418988; E785185 N7419480; E785188 N7419479; E785489 N7420006;  
E786900 N7419610; E786868 N7419375; E789754 N7419124; E789724 N7418892;  
E789733 N7418894; E789953 N7418948; E790319 N7419038; E790690 N7419056;  
E790724 N7419078; E791559 N7419208; E791546 N7420479; E793041 N7421261;  
E793051 N7421266; E793107 N7421254; E793368 N7421197; E792862 N7419712;  
E792800 N7419531; E792795 N7419525; E792332 N7419001; E792222 N7418670;  
E792115 N7417719; E791965 N7417430; E791913 N7417331; E791683 N7416888;  
E791808 N7415908; E790128 N7415851; E789478 N7415952; E789178 N7415998;  
E789046 N7416019; E788635 N7415958; E787550 N7415798; E786796 N7415687;  
E786535 N7415652; E785056 N7415452; E784531 N7415466; E784145 N7415549;  
E783054 N7416157; E782553 N7416446; E782529 N7416460; E782806 N7418247;  
E782833 N7418421; E785173 N7418988  
NEWMAN WA 6753

**Issue date:** Thursday, 12 November 2015

**Commencement date:** Tuesday, 17 November 2015

**Expiry date:** Sunday, 16 November 2025

### Decision

Based on the assessment detailed in this document the Department of Environment Regulation (DER), has decided to issue an amended licence. DER considers that in reaching this decision, it has taken into account all relevant considerations and that the Licence and its conditions will ensure that an appropriate level of environmental protection is provided.

Decision Document prepared by: Haley Brunel & Michael Christensen  
Licensing Officer

Decision Document authorised by: Alana Kidd  
Manager Licensing – Resource Industries

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## 1 Purpose of this Document

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

## 2 Administrative summary

Administrative details											
Application type	Works Approval <input type="checkbox"/> New Licence <input checked="" type="checkbox"/> Licence amendment <input type="checkbox"/> Works Approval amendment <input type="checkbox"/>										
Activities that cause the premises to become prescribed premises	<table border="1"> <thead> <tr> <th>Category number(s)</th> <th>Assessed design capacity</th> </tr> </thead> <tbody> <tr> <td>5</td> <td>31,000,000 tonnes per annual period</td> </tr> <tr> <td>6</td> <td>13.9 gigalitres per annual period</td> </tr> <tr> <td>63</td> <td>10,000 tonnes per annual period</td> </tr> <tr> <td>85</td> <td>52 cubic metres per day</td> </tr> </tbody> </table>	Category number(s)	Assessed design capacity	5	31,000,000 tonnes per annual period	6	13.9 gigalitres per annual period	63	10,000 tonnes per annual period	85	52 cubic metres per day
	Category number(s)	Assessed design capacity									
	5	31,000,000 tonnes per annual period									
	6	13.9 gigalitres per annual period									
63	10,000 tonnes per annual period										
85	52 cubic metres per day										
Application verified	Date: 7 September 2015										
Application fee paid	Date: 28 September 2015										
Works Approval has been complied with	Yes <input type="checkbox"/> No <input type="checkbox"/> N/A <input checked="" type="checkbox"/>										
Compliance Certificate received	Yes <input type="checkbox"/> No <input type="checkbox"/> N/A <input checked="" type="checkbox"/>										
Commercial-in-confidence claim	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>										
Commercial-in-confidence claim outcome	N/A										
Is the proposal a Major Resource Project?	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>										



Was the proposal referred to the Environmental Protection Authority (EPA) under Part IV of the <i>Environmental Protection Act 1986</i> ?	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Referral decision No: Managed under Part V <input type="checkbox"/> Assessed under Part IV <input checked="" type="checkbox"/>
Is the proposal subject to Ministerial Conditions?	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Ministerial statement No: 478, 712 and 834
Does the proposal involve a discharge of waste into a designated area (as defined in section 57 of the <i>Environmental Protection Act 1986</i> )?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Department of Water consulted Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	
Is the Premises within an Environmental Protection Policy (EPP) Area Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> If Yes include details of which EPP(s) here.		
Is the Premises subject to any EPP requirements? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> If Yes, include details here, eg Site is subject to SO <sub>2</sub> requirements of Kwinana EPP.		

### 3 Executive summary of proposal and assessment

BHP Billiton Iron Ore Pty Ltd (BHPBIO) operates the Eastern Ridge Iron Ore Mine (the Project) located approximately 8 kilometres (km) northeast of Newman in the Pilbara region of Western Australia. The minesite is located on the Ophthalmia Range in the vicinity of the Fortescue River and is approximately 30 km to the southwest of the Ethel Creek pastoral station homestead. The Project is comprised of Orebodies 23, 24 and 25.

Overburden and ore is selectively mined at the Project using conventional open-pit mining methods at a mining rate of up to 31 million tonnes per annum (mtpa). Following drilling and blasting, the ore is loaded by hydraulic excavators and/or front end loaders into dump haul trucks for transport to the primary crushing areas or to blending stockpiles for later use. The crushed and screened ore is placed by conveyor on stockpiles located to the south of the Orebody 25 (OB25) run of mine pad and wheeled front end loaders are used to load the ore directly onto the rail wagons or into a hopper that feeds a train load-out system.

Mine dewatering is undertaken at a rate of approximately 13.9 gegalitres per annum and is discharged to the environment via four discharge points. There are two contingency discharge points included on the Licence to allow for the discharge of in-pit sump water and discharge during wet weather events and equipment malfunctions.

BHPBIO has approval to operate a Category 63 Inert Landfill at the Project with a capacity of 10,000 tonnes. Under this category, used tyres and conveyor belts are disposed of within overburden storage areas.

BHPBIO operates two Biomax wastewater treatment plants (WWTP) at the Project. Treated wastewater from the 30 m<sup>3</sup> per day capacity OB25 New Biomax is discharged to a 5,475 m<sup>2</sup> irrigation area. The OB24 Admin WWTP, with a design capacity of 22 m<sup>3</sup>, discharges treated wastewater to evaporation ponds for disposal.

At the time of this renewal, the following amendments, requested by the Licensee, were also assessed:



- add new inert landfill and tyre dump locations;
- remove the OB24 Admin Biomax wastewater treatment plant;
- add the OB25 New Biomax wastewater treatment plant;
- removal of emission point D05;
- update a discharge point reference;
- amend the dewatering discharge limit values; and
- amend the conditions relating to the bioremediation of soils.

The Licence has also been converted to the latest template version 2.9.



## 4 Decision table

All applications are assessed in line with the *Environmental Protection Act 1986*, the *Environmental Protection Regulations 1987* and DER's Operational Procedure on Assessing Emissions and Discharges from Prescribed Premises. Where other references have been used in making the decision they are detailed in the decision document.

DECISION TABLE			
Works Approval / Licence section	Condition number W = Works Approval L= Licence	Justification (including risk description & decision methodology where relevant)	Reference documents
General conditions	L1.2.3	<p><u>Emission Description</u></p> <p><i>Emission:</i> Stormwater contaminated with hydrocarbons, chemicals and/or heavy metals from operational areas.</p> <p><i>Impact:</i> Contamination of surrounding land and surface water drainage systems. Potential impacts on ecology of surface water.</p> <p><i>Controls:</i> BHPBIO has implemented the following measures to minimise contamination of stormwater:</p> <ul style="list-style-type: none"> <li>contaminated runoff from areas of likely hydrocarbon and/or solvent contamination is treated to achieve a hydrocarbon concentration of less than 15 mg/L prior to being discharged;</li> <li>waste management structures, including but not limited to protective bunding, skimmers, silt traps, fuel and oil traps, drains and sealed collection sumps have been installed and maintained to recover spills and allow treatment to remove contaminants within impervious containment structures prior to discharge;</li> <li>storage of waste materials in holding tanks;</li> <li>stormwater runoff is directed away from landfill areas;</li> <li>spills or leaks or chemicals including fuels, oils or other hydrocarbons are removed for appropriate disposal;</li> <li>hazardous liquid chemicals and other substances are stored in properly bunded compounds to minimise the potential for land, surface water or groundwater contamination;</li> <li>process water and wash down water is collected and re-used or transferred to the bioremediation facility for treatment; and</li> <li>oily water separators treat potentially contaminated wastewater prior to discharge.</li> </ul>	Application supporting documentation



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		<p><u>Risk Assessment</u>  <i>Consequence:</i> Minor  <i>Likelihood:</i> Possible  <i>Risk Rating:</i> Moderate</p> <p><u>Regulatory Controls</u></p> <p>Condition 1.2.2 has been added to the Licence to require the operator to appropriately respond to spills of environmentally hazardous materials. Condition 1.2.3 has been included in the Licence to ensure all practical measures are implemented to prevent stormwater run-off becoming contaminated by the activities on the Premises and to treat contaminated or potentially contaminated stormwater as necessary prior to being discharged.</p> <p>These conditions replace Conditions 4, 5, 6, 7, 9, 10, 11, on the previous version of the Licence.</p> <p><u>Residual Risk</u>  <i>Consequence:</i> Insignificant  <i>Likelihood:</i> Unlikely  <i>Risk Rating:</i> Low</p>	
Premises operation	L1.3.1	<p><u>Emission Description</u>  <i>Emission:</i> The following emissions could potentially gain access to the environment during operation of the premises:</p> <ul style="list-style-type: none"> <li>• landfill emissions;</li> <li>• wastewater from the OB24 Administration WWTP;</li> <li>• treated wastewater from oily water separators (OWS); and</li> <li>• leachate from the bioremediation facilities.</li> </ul>	<p>Application supporting documentation</p> <p>EPA Guidance Statement No. 17 – <i>Guidance Statement for Remediation</i></p>



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Works Approval / Licence section	Condition number W = Works Approval L = Licence	Justification (including risk description & decision methodology where relevant)	Reference documents
		<p><i>Impact:</i> Contamination of surrounding land and surface water drainage systems. Potential impacts from the addition of nutrients, hydrocarbons/chemicals and heavy metals.</p> <p><i>Controls:</i> The following controls are in place for each of the following infrastructure:</p> <p><b>Landfill</b> Waste disposed of to the landfill is restricted to inert waste, minimising the potential for leachate from the landfill and subsequent environmental impacts.</p> <p><b>Wastewater Treatment Plants</b> BHPBIO operates two WWTPs within the premises. Orebody 25 WWTP, which is discussed further in the emissions to land section, and the OB24 administration WWTP. The OB24 administration WWTP discharges to a HDPE lined evaporation pond, minimising the potential for nutrient rich wastewater to access the environment.</p> <p><b>OWS treated wastewater</b> BHPBIO operates four Oily Waste Water (OWW) treatment systems on the premises. Three are located at Orebody 24 facility and one is located at Orebody 25 facility.</p> <p>The Orebody 25 OWW treatment system treats oily water generated from the Mobile Equipment Maintenance (MEM) workshop. Following treatment waste water is pumped to an impermeable holding tank. From the holding tank treated waste water is either reused for dust suppression or transferred to the Orebody 24 HV/LV OWW treatment system for additional treatment, if required.</p> <p>The three OWW treatment systems at Orebody 24 are referred to as:</p> <ol style="list-style-type: none"> <li>1. OWS 1352 – OHP;</li> <li>2. OWS 1353 – HV/LV washpad; and</li> <li>3. OWS 1354 – MEM.</li> </ol> <p>These treatment systems discharge treated waste water to two HDPE lined evaporation ponds. Should the capacity of these lined ponds be exceeded the water is pumped to a</p>	<p><i>Hierarchy for Contaminated Land</i> (EPA, 2000).</p>



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		<p>concrete lined Turkey's nest to supplement process water for dust suppression purposes.</p> <p><b>Bioremediation facilities</b> Two bioremediation facilities, located at Orebody 24 and Orebody 25, are operated within the premises. These facilities are managed in accordance with the EPA Guidance Statement No. 17 – <i>Guidance Statement for Remediation Hierarchy for Contaminated Land</i> (EPA, 2000).</p> <p><u>Risk Assessment</u> <i>Consequence:</i> Minor <i>Likelihood:</i> Possible <i>Risk Rating:</i> Moderate</p> <p><u>Regulatory Controls</u> Condition 1.3.1-1.3.6 have been applied to the Licence to specify the waste acceptance and waste processing requirements applicable to the landfill, WWTPs and bioremediation facilities operating within the premises.</p> <p>Condition 1.3.7 has been included in the Licence to specify the requirements for containment infrastructure on site which stores waste from the OWSs, washdown facilities, OB24 Administration WWTP and bioremediation facilities.</p> <p><u>Residual Risk</u> <i>Consequence:</i> Insignificant <i>Likelihood:</i> Unlikely <i>Risk Rating:</i> Low</p>	
<b>Emissions general</b>	L2.1.1	Descriptive limits will be set through conditions of the licence and therefore Condition 2.1.1, regarding recording and investigation of exceedances of limits has been included.	N/A
<b>Point source emissions to</b>	L2.2.1 and 3.2.1	DER's decision making and risk assessment is detailed through Appendix A for point source emissions to surface water.	Application supporting





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<b>surface water including monitoring</b>			documentation  BHP Billiton Iron Ore, Orebody 24/25 Upgrade Project, Environmental Management Plan, January 2010.  Technical Memorandum, Site-Specific Trigger Values – Eastern Ridge, Golder Associates, 25 September 2013
<b>Emissions to land including monitoring</b>	L2.3.1, 2.3.2 and 3.3.1	<p><u>Emission Description</u>  <i>Emission:</i> Effluent is treated through a Biomax wastewater treatment plant and irrigated to land.</p> <p><i>Impact:</i> Effluent contains high levels of nutrients which can cause eutrophication of in waterbodies impacting ecosystem processes and function. A number of water bodies including the Fortescue River and Homestead Creek and located within close proximity to the WWTP. The irrigation of treated effluent can also encourage excess growth of weeds.</p> <p><i>Controls:</i> The licensee has developed the following controls</p> <ul style="list-style-type: none"> <li>• Regular inspections of the WWTP and irrigation area</li> <li>• Regular maintenance to WWTP and irrigation infrastructure</li> </ul>	Application supporting documentation



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		<ul style="list-style-type: none"> <li>• WWTP has an alarm which will be activated in the event of malfunction to the air compressor and discharge pump</li> </ul> <p><u>Risk Assessment</u>  <i>Consequence:</i> Minor  <i>Likelihood:</i> Unlikely  <i>Risk Rating:</i> Moderate</p> <p><u>Regulatory Controls</u>            Condition 2.3.1 has been detailed on the licence identifying and allowing the discharge of treated effluent. Condition 3.5.1 has been added to the licence outlining the monitoring frequency and parameters.</p> <p>These conditions replace condition 21, 22, 23, 24 and 25, on the previous version of the Licence.</p> <p>Monitoring results provided in the commissioning report for the OB25 C30K Biomax system indicates that treated wastewater discharged from the facility regularly exceeds the effluent quality parameters assessed under Works Approval W5282/2012/1.</p> <p>An improvement condition has been included in the Licence, requiring the Licensee to report to DER within 2 months, advising of the actions to be implemented to improve the quality of treated wastewater discharged from the WWTP, including implementation timeframes and reporting requirements. The alternative is that the Licensee demonstrates that no environmental impact has or will occur as a result of the discharge of treated wastewater from the OB25 C30K Biomax system.</p> <p><u>Risk Assessment</u>  <i>Consequence:</i> Minor  <i>Likelihood:</i> Unlikely  <i>Risk Rating:</i> Moderate</p>	



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Fugitive emissions	N/A	<p><u>Emission Description</u>  <i>Emissions:</i> Dust emissions are generated from the processing of ore through crushing and screening. Dust is also produced from vehicle transport and other ancillary infrastructure on-site. The mine site is situated approximately 7km east from the town of Newman and approximately 5km west of Ophathalmia Dam.</p> <p><i>Impacts:</i> Decreased quality of local air shed from dust particulates. Smothering of vegetation.</p> <p><i>Controls:</i> The licensee has developed a range of dust management controls including:</p> <ul style="list-style-type: none"> <li>• dampening haul roads, unsealed roads and construction areas with water trucks;</li> <li>• dust extraction via collectors;</li> <li>• transfer points enclosed and fitted with water sprays;</li> <li>• land disturbance and exposed soil restricted to a practicable minimum;</li> <li>• sprinklers / water sprays on the processing circuit (e.g. primary crusher bins, ore stockpiles);</li> <li>• ore conditioning;</li> <li>• dust suppression equipment is maintained in efficient operating condition in accordance with relevant regulations;</li> <li>• vehicle speeds on haul roads is restricted to minimise dust;</li> <li>• where practicable, blasting is timed to coincide with favourable wind and weather conditions;</li> <li>• routine maintenance and housekeeping practices are implemented to ensure waste materials do not accumulate and lead to the generation of unacceptable airborne dust;</li> <li>• informing all employees and contractors of the importance of minimising ambient dust levels;</li> <li>• a Near Infrared (NIR) Moisture Analyser is used to monitor the moisture content of material on the conveyor system. In the event that moisture content is outside the accepted ore moisture range, the water supply is adjusted to ensure adequate dust suppression;</li> </ul>	<p>BHP Billiton Iron Ore, Orebody 24/25 Upgrade Project, Environmental Management Plan, January 2010.</p> <p>BHP Billiton Iron Ore, OB23 Environmental Management Plan, November 2008.</p>



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		<ul style="list-style-type: none"> <li>rehabilitation of disturbed areas; and</li> <li>a dust monitoring programme.</li> </ul> <p>The dust management controls described above are outlined in the Orebody 23 Environmental Management Plan (November, 2008) and the Orebody 24/25 Upgrade Project Environmental Management Plan (January 2010), required under Ministerial Statements 478 and 712, respectively.</p> <p>Under the OB23 Environmental Management Plan the Licensee also committed to implementing a dust monitoring programme to quantify the significance of dust emissions and to determine the ambient dust conditions.</p> <p>A network of real-time monitoring stations surrounding Newman to monitor atmospheric PM<sub>10</sub> concentrations has been established. The real-time monitoring stations provide 10 minute data through to operations personnel. There are two solar powered BAM1020 dust monitoring PM<sub>10</sub> units at the Eastern Ridge operations. The background monitoring monitoring site is located approximately 5 km north west of the OB24 operations. The Eastern Ridge boundary monitoring location is situated approximately 1.2 km south west of the OB25 operations and 2.8 km north west of the Newman townsite.</p> <p><u>Risk Assessment</u>  <i>Consequence:</i> Minor  <i>Likelihood:</i> Possible  <i>Risk Rating:</i> Moderate</p> <p><u>Regulatory Controls</u>            Fugitive dust emissions have been assessed as a moderate risk emission due to the site's proximity to the town of Newman and the potential for cumulative impacts associated with BHPBIO's Mt Whaleback Iron Ore Mine located to the west of Newman. At this stage, no conditions relating to the management of dust have been included on the Licence.</p>	



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		<p>The general provisions of the <i>Environmental Protection Act 1986</i>, with respect to the causing of pollution and environmental harm, will apply and the site will also be subject to regular inspections by DER officers. Under condition 4.1.4 the Licensee is required to implement a complaints managements system. Any complaints, including those related to dust, will need to be reported to DER via the Annual Environmental Report.</p> <p>Dust management meaures are also required under Ministerial Statements 478 and 712, through the implementation of the Environmental Management Plans.</p> <p>Any future applications to increase the category 5 production capacity will be subject to DER approval via an amendment to Licence L6942/1997/13. During this approval process an assessment of dust emissions and proposed management actions will be undertaken to determine if conditions relating to the management and/or monitoring of dust are required.</p> <p><u>Residual Risk</u>  <i>Consequence:</i> Minor  <i>Likelihood:</i> Possible  <i>Risk Rating:</i> Moderate</p>	
<b>Odour</b>	N/A	There are no significant odour emissions expected to be generated from the premises and as such no conditions are in the licence.	N/A
<b>Noise</b>	N/A	<p>The nearest sensitive receptor is located approximately 7km east from the premises and as such noise emissions are not considered to be an issue. There are no conditions in the licence.</p> <p>Compliance with the <i>Environmental Protection (Noise) Regulations 1997</i> is required.</p>	<p>BHP Billiton Iron Ore, Orebody 24/25 Upgrade Project, Environmental Management Plan, January 2010.</p> <p><i>Environmental</i></p>



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<b>Works Approval / Licence section</b>	<b>Condition number W = Works Approval L= Licence</b>	<b>Justification (including risk description &amp; decision methodology where relevant)</b>	<b>Reference documents</b>
			<i>Protection (Noise) Regulations 1997</i>
<b>Monitoring general</b>	L3.1.1, 3.1.2, 3.1.3, 3.1.4	Standard monitoring conditions for the collection, handling and analysis of samples and calibration of monitoring equipment are detailed in the licence.	
<b>Monitoring of inputs and outputs</b>	L3.4.1	Monitoring of waste inputs to the landfill has been added to the licence through condition 3.6.1 requiring the licensee to monitor tonnes accepted to the landfill on a monthly basis.	
<b>Process monitoring</b>	L3.5.1	Treated waste water from the oily water separators is discharged to two HDPE lined evaporation ponds. The evaporation ponds overflow to a Turkey's Nest which is used to store water for dust suppression.  Condition 3.5.1 has been added to the licence requiring the licensee to undertake process monitoring for TRH on a quarterly basis. A limit of 15 mg/L has also been specified.	Application supporting documentation
<b>Ambient quality monitoring</b>	N/A	There are no conditions for ambient environmental quality monitoring required for this licence.	N/A
<b>Meteorological monitoring</b>	N/A	There are no conditions for meteorological monitoring required for this licence.	N/A
<b>Improvements</b>	N/A	There are no improvement conditions required for this premises.	N/A
<b>Information</b>	L4	Standard conditions for the recording of information, reporting and notification to the DER has been added to the licence.	N/A
<b>Licence Duration</b>	N/A	In accordance with DER's Licence Duration Guidance Statement, finalised in November 2014, this Licence has been issued for a period of 10 years. This guidance statement requires a transition period for existing licences. During this transition period, licences are to be renewed for varying periods of up to 20 years, to ensure that in future a similar number of licences will expire (and require renewal) each year.	DER Guidance Statement, <i>Licence Duration</i> (November, 2014)



## 5 Advertisement and consultation table

Date	Event	Comments received/Notes	How comments were taken into consideration
N/A	Application advertised in West Australian (or other relevant newspaper)	N/A	N/A
14/09/2015	Proponent sent a copy of draft instrument	<p><b>Table 1.3.3</b> – Change the cover requirements from by the end of the working day in which the waste was deposited to monthly.</p> <p><b>Table 1.3.4</b> – Change the infrastructure requirements for the lined evaporation ponds from HDPE lined to concrete.</p> <p><b>Table 2.2.1</b> – Remove discharge point D05 as water discharged from this point is already monitored at D04-3 and D04-4.</p> <p><b>Table 2.2.2</b> – change the limits associated with the discharge of excess dewatering water to targets.</p> <p>Remove Selenium, Boron, Molybdenum and Silver from the monitoring requirements as these parameters are not on the existing Licence and there are no known possible sources.</p>	<p>Noted and changed. Considering the waste is inert, DER considers monthly covering to be adequate.</p> <p>Noted and specifications changed.</p> <p>Discharge point D05 has been removed from the Licence. DER understands that there has been no discharge from this location for at least the past two reporting periods. Further to this, monitoring conducted at discharge point D04-4 is representative of the water which may be discharged from D05.</p> <p>The limits have been removed from the Licence. The Licensee will, however, be required to compare the monitoring results to the site specific triggers and report any exceedances in the AER, including details of investigations conducted with respect to trigger exceedances and any remedial action implemented.</p> <p>Selenium, Boron, Molybdenum and Silver have been removed and will not require to</p>



Date	Event	Comments received/Notes	How comments were taken into consideration
		<p><b>Condition 2.3</b> – Include nutrient loading rates associated with the irrigation of treated wastewater.</p> <p><b>Table 2.3.2</b> – Change the limits associated with the discharge of treated wastewater from the WWTPs to targets.</p> <p><b>Table 3.2.1</b> - Remove Selenium, Boron, Molybdenum and Silver from the monitoring requirements as these parameters are not on the existing Licence and there are no known possible sources.</p> <p><b>Table 3.3.1</b> – Change the volumetric flow rate averaging period from monthly to quarterly.</p> <p><b>Table 3.5.1</b> – Change the limit for Total Recoverable Hydrocarbons to a target.</p>	<p>be sampled for.</p> <p>Change not implemented. DER is no longer applying limits for nutrient loading rates to Licences.</p> <p>The limits have been removed from the Licence and will not be applied as targets. The Licensee will be required to report treated wastewater monitoring results to DER via the AER, comparing results against the manufacturers specifications. DER has also included an improvement condition, requiring the Licensee to provide a plan which details how the Orebody 25 WWTP will be managed to improve the quality of treated wastewater being discharged for irrigation or to demonstrate that no environmental has or will occur as a result of the discharge.</p> <p>Change implemented.</p> <p>Change implemented. As flow rate is a continuous measure the data will still accurately reflect the volume discharged if collected quarterly as opposed to monthly.</p> <p>Change not implemented. DER considers that 15 mg/L is a reasonable limit for water reused for dust suppression.</p>





Date	Event	Comments received/Notes	How comments were taken into consideration
		<p><b>Table 4.2.1</b> – Include the requirement to only report the surface water monitoring results by exception only and provide results associated with exceedances of the site specific trigger levels.</p>	<p>Change not implemented. DER requires the whole data set to be provided to be able to identify trends over time.</p>
29/10/2015	Proponent sent updated draft instrument	<p><b>Condition 1.3.8</b> – The Licensee has requested that the production capacity for Category 5 be increased from 15,000,000 tonnes per annum to 31,000,000 tonnes per annum, to align with Ministerial Statements 712, 834 and 1018.</p> <p>The Licensee has advised that the increase in production has been achieved through improved supply chain efficiencies.</p> <p><b>Condition 2.2.1</b> – Minor updates to accurately describe the surface water emission points.</p> <p><b>Condition 3.2.1</b> – Change monitoring frequency for emissions to surface water from ‘Quarterly’ to ‘Quarterly when discharging’. Taking a sample will not always be possible as emissions are not</p>	<p>Change has been implemented.</p> <p>Ministerial Statement 712 for the Orebody 25 extension does not define the ‘processing rate’, however, specifies a production rate of 8,000,000 tonnes per annum. Ministerial Statement 834 for the Orebody 24/25 Upgrade Project specifies an ore processing rate of 18,000,000 tonnes per annum and Ministerial Statement 1018, for Orebody 32, specifies a mining rate of 5,000,000 tonnes per annum.</p> <p>The existing Environmental Management Plans for Eastern Ridge include provisions for the management of dust, including the provision to implement a dust monitoring programme.</p> <p>Updated.</p> <p>Updated.</p>



Date	Event	Comments received/Notes	How comments were taken into consideration
		continuous.	



## 6 Risk Assessment

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

**Table 1: Emissions Risk Matrix**

Likelihood	Consequence				
	Insignificant	Minor	Moderate	Major	Severe
Almost Certain	Moderate	High	High	Extreme	Extreme
Likely	Moderate	Moderate	High	High	Extreme
Possible	Low	Moderate	Moderate	High	Extreme
Unlikely	Low	Moderate	Moderate	Moderate	High
Rare	Low	Low	Moderate	Moderate	High



## Appendix A

### Point source emissions to surface water including monitoring

#### Emission Description

*Emission:* Dewatering is required at Eastern Ridge to allow for the mining of iron ore below the water table. The water is discharged into a series of infiltration basins located on the confluence of the Fortescue River and Homestead Creek. The basins are located on a low rise outcropping of calcrete providing a direct connection to the alluvial aquifer (Fortescue River Basin).

Water from dewatering can be saline and/or contain elevated levels of nutrients and metals.

*Impact:* Saline water and high levels of nutrients and metals can adversely affect flora and fauna and impact on other water users. Nutrients can cause eutrophication and metals have the potential to impact ecosystem processes and function.

The Fortescue River and Homestead Creek lead to Ophthalma Dam which is an artificial aquifer recharge system. The Ophthalmia aquifer provides a potable water supply via the Ophthalmia Borefield to Newman.

*Controls:* The licensee has developed the following controls:

- Dewater is discharged to infiltration basins connected by overflow canals which allows for suspended solids to be removed.
- An Environmental Management Plan has been developed for the premises which includes surface water management practices and a surface water monitoring programme. The monitoring programme includes monitoring at the points of discharge for a range of physical and chemical parameters.
- The establishment of site-specific trigger values based on monitoring data from 1999 to 2012. The site-specific triggers were developed in accordance with the Australian Water Quality Guidelines for Fresh and Marine Waters, Australian and New Zealand Environmental and Conservation Council and Agriculture and Resources Management Council of Australia and New Zealand (ANZECC & ARMCANZ, 2000) by Golder Associates.

#### Risk Assessment

*Consequence:* Minor

*Likelihood:* Possible

*Risk Rating:* Moderate

#### Regulatory Controls

Condition 2.2.1 identifies all of the authorised emission points to surface water. Condition 3.2.1 details the required frequency and parameters for monitoring of the emissions to surface water. The Licensee will be required to report the monitoring results to DER in the Annual Environmental Report, comparing results against the site-specific triggers, providing details of investigations conducted in response to trigger exceedances, environmental impacts associated with exceedances and remedial action implemented.

DER can consider the application of licence limits for surface water discharges if environmental impacts are identified as a result of changes to the physical and chemical properties of the water discharged.

These conditions replace condition 14, 15, 16, 17, 18, 19 and 20 on the previous version of the Licence.



Residual Risk

*Consequence:* Minor

*Likelihood:* Unlikely

*Risk Rating:* Moderate