

Decision Document

Environmental Protection Act 1986, Part V

Proponent: Pilbara Iron Company (Services) Pty Ltd

Licence: L5275/1972/12

Registered office: Level 22, Central Park

152-158 St Georges Terrace

PERTH WA 6000

ACN: 107 210 248

Premises address: Paraburdoo Iron Ore Mine

AML70/246, L47/326, AG70/4, AG70/14 and AML70/4

ROCKLEA WA 6751

Issue date: Thursday, 15 May 2014

Commencement date: Wednesday, 28 May 2014

Expiry date: Friday, 27 May 2033

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 legal requirements.

Decision Document prepared by: Christine Pustkuchen

Licensing Officer

Decision Document authorised by:

Alana Kidd

Delegated Officer

Environmental Protection Act 1986
Decision Document: L5275/1972/12
File Number: DER2014/000429

Page 1 of 19

Amendment date: Thursday 19, May 2016

Contents

Decision Document	1	
Contents		2
1 Purpose of this	Document	2
2 Administrative	summary	2
3 Executive sum	mary of proposal and assessment	3
4 Decision table		5
5 Advertisement	and consultation table	13
6 Risk Assessme	ent	15
Appendix A	16	
Appendix B	18	
Appendix C	19	

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 Appro New Licence Licence amo Works Appro	e	
	Category number(s)	Assessed design capacity	
 	5	30,000,000 tonnes per annual period	
Activities that cause the premises to become	6	800,000 tonnes per annual period	
prescribed premises	12	10,000,000 tonnes or more per	
	12	annual period	
	52	127.5 MW	
	64	5,000 tonnes per annual period	
	73	5,903 cubic metres in aggregate	
Application verified	Date: 26/6/2	2015	
Application fee paid	Date: N/A		
Works Approval has been complied with	Yes⊠	No N/A	
Compliance Certificate received	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		Referral decision No:	
Protection Authority (EPA) under Part IV of the Environmental Protection Act 1986?	Yes□	No⊠ Managed under Part V □	



		Assessed under Part IV		
In the preparal subject to Ministerial Conditions?	Voo□ No♡	Ministerial statement No:		
Is the proposal subject to Ministerial Conditions?	Yes⊡ No⊠	EPA Report No:		
Does the proposal involve a discharge of waste	Yes□ No⊠			
into a designated area (as defined in section 57 of the <i>Environmental Protection Act 1986</i>)?	Department of W	ater consulted Yes ☐ No ☒		
Is the Premises within an Environmental Protection	Policy (EPP) Area	a 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 and assessment

Pilbara Iron (Company) Service Pty Ltd (the Licensee) operate the Paraburdoo Iron Ore Mine which is located in the Pilbara region of Western Australia, approximately 80 kilometres (km) south of Tom Price.

This Decision Document assesses an amendment request made by the Licensee. The following forms the basis of this assessment:

- The emissions and discharges associated with the construction and operation of a new putrescible landfill adjacent to the existing site, including an increase in throughput for Category 64:
- The emissions and discharges associated with the operation of a new waste dump landfill constructed under W5568/2013/1;
- Change in tenement number (removal of L3116/4589) with the correct tenement number L47/326 and the replacement of premise map in Attachment 1 with new updated map;
- Removal of Category 61 (Liquid Waste facility);
- Addition of Category 12 (Screening etc. of material);
- Addition of Category 73 (Chemical Storage);
- Addition of design/production capacities for Category 5, 6, 12, 52, 64 and 73 activities;
- Air emission for the Paraburdoo power stations; and
- Other changes have been made to reflect 'Departmental reform' as published on DER's website
 under "Administrative changes implemented within the Department of Environment Regulation"
 www.der.wa.gov.au.

Putrescible landfill expansion

The Licensee proposes to expand the onsite putrescible landfill facility as the existing putrescible landfill is nearing capacity. The "new putrescible landfill" includes the construction of new trenches and a 1.8 metre (m) high mesh fence in an area directly south of the existing putrescible landfill. All trenches will be 'drive-in' trenches to reduce the amount of wind-blown rubbish, with a tipping area of less than 30 m. The depth of each trench is expected to be on average 3 m deep. The width of the trenches will be 30 m and the length up to 50 m. An earthen bund will also be constructed around the perimeter to prevent storm water from coming into contact with waste. The expected types of waste to be disposed of at the new putrescible landfill include:

Amendment date: Thursday 19, May 2016

- Clean fill;
- Inert waste type 1;
- Inert waste type 2;
- Putrescible waste;
- Type 1 special waste; and

Environmental Protection Act 1986
Decision Document: L5275/1972/12
File Number: DER2014/000429

Page 3 of 19

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Type 2 special waste.

A specific trench within the landfill will be designated to accept only Type 1 (e.g. protective equipment from personnel working in areas with potentially fibrous material such as personal ventilation collection systems, used air filters and clothing) and Type 2 special waste. Type 2 special waste will include small amounts of expired over-the-counter medicines (all expired prescription medicines are sent offsite), medical gloves, bandages, saline solution, needles, syringes, alcohol and other drug testing equipment and general packaging waste. It is expected that the landfill will have an annual throughput of 3,000 tonnes per annum (tpa) and have an operating life of 10+ years.

Construction of the new putrescible landfill will commence in Q1 2016 (pending approval).

Waste dump landfill

The Licensee has constructed a waste dump landfill within the previously mined out and backfilled 4W Pit. The waste dump landfill will accept predominantly inert wastes (rubber tyres, conveyor belt, low grade steel spools, concrete, unrecoverable steel and inert plastics), but also broken wooden pallets, which are classified as putrescible under the Landfill Definitions.

The design capacity of the waste dump landfill is approximately 2,000 tpa and will have an expected lifespan of 5+ years.

Chemical storage

A reconciliation of diesel storage tanks was conducted across the premises and it was determined that approximately 5,903 kilolitres (kL) of fuel is stored onsite. This triggers Category 73 "Bulk storage of chemicals" as it exceeds the threshold of 1,000 cubic meters (m³) in aggregate. The Licensee currently holds a registration (R1891 issued in 2006) for Category 73 and has requested to have Category 73 added to the Licence.

Power stations

As a part of this amendment, consideration was given to air emissions from Paraburdoo's Category 52 power stations. A condition and map was added to the Licence to depict these stations and their respective stack air emission points.

Where conditions have been added or removed from the existing Licence these have been justified in Section 4.



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 TAB	DECISION TABLE			
Licence section	Condition number L= Licence	Justification (including risk description & decision methodology where relevant)	Reference documents	
Preamble / Introduction	N/A.	The Licence template was amended to a format consistent with other Premises occupied by the Licensee. Premises production / design capacities were included for Category 5, 6, 52, 64 and 73 activities.	NA.	
Definitions	N/A.	Various definitions have been removed where no longer relevant to the current Licence, or added where necessary to account for current operations and Licence conditions.	NA.	
General conditions	N/A.	General conditions pertaining to the Annual Environmental Report have been moved to the end of the Licence to form a consolidated reporting section. This format is consistent with other instruments for Premises occupied by the Licensee.	N/A.	
Premises operation	L1	Amendments to Prescribed Premise Categories Category 12 with a design capacity of 10,000,000 tpa has been included onto the Licence to allow for multiple plants to operate onsite simultaneously in the future. The Licensee must ensure that the combined design capacity of all Category 12 mobile plants onsite at the same time is restricted to 10,000,000 tpa.	General provisions of the Environmental Protection Act 1986. Dangerous Goods Safety Act 2004.	
		Condition L1 has been added to the Licence. The mobile plants are to be managed in accordance with the <i>Iron Ore (WA) Mobile Crushing and Screening Management Plan</i> , Rio Tinto, 2015 (RTIO-HSE-0235877) and Licence conditions.	DER public website at: www.der.wa.gov.au	
	N/A.	Category 61 "Liquid waste facility" has been removed from the Licence. The category is not consistent with the activities that occur on the premises. Oily water that is generated on site (from the mine site workshop and surrounding facilities) is captured and treated by an oily water separator. This treated water is then disposed of through the onsite bioremediation facility. The Licensee has confirmed that no offsite generated waste is treated through the Paraburdoo bioremediation facility. Therefore Category 61 does not apply and has been removed from the Licence.	Environmental Protection (Unauthorised Discharges) Regulations 2004. DER guidance	

Environmental Protection Act 1986
Decision Document: L5275/1972/12

File Number: DER2014/000429

Amendment date: Thursday, 19 May 2016



DECISION TABL	DECISION TABLE			
Licence section	Condition number L= Licence	Justification (including risk description & decision methodology where relevant)	Reference documents	
		The design capacity for Category 64 has been increased from 3,000 to 5,000 tpa. This is to include the addition of the Category 64 waste dump landfill (2,000 tpa) which was constructed under W5568/2013/1 (Compliance document received Friday, 29 May 2015). The design capacity for the sites putrescible landfill is 3,000 tpa – this will not change as a result of this amendment – rather the new putrescible landfill will not be utilised until the existing putrescible landfill area is exhausted but there is approval to use it when needed.	statement Licencing and works approvals process, September 2015.	
		Category 73 with a design capacity of 5,903 m³ has been included onto the Licence following a review by the Licensee of the fuel storage onsite, which is over 1,000 m³, and hence triggers the Category 73 threshold. The Licensee previously held a registration for Category 73 but wishes to have it included on the licence. Bulk fuel storage is managed on site by two Dangerous Goods licences (DG5008720 and DGS003726) and all storage tanks are either double skinned or located within a bunded area.		
	L2	Stormwater Previous conditions L4(a) and L4(b) were removed in accordance with Departmental reform. New condition L2 was included on the Licence to ensure appropriate management of infrastructure which has the potential to contaminate stormwaters on the Premises.		
	L9	Chemical storage Previous condition L7(a) and L7(b) have been removed from the Licence as storage of these substances can be sufficiently regulated by the <i>Dangerous Goods Safety Act 2004</i> , the <i>Environmental Protection Act 1986</i> (the Act) and the <i>Environmental Protection (Unauthorised Discharges) Regulations 2004</i> .		
		Previous condition L7(c) relating to recovery, removal and disposal of contaminated materials resulting from spills or leaks is now condition L9.		
	L12 – L20	Putrescible landfill expansion The current Licence has conditions relating to operation of the site putrescible landfill (tipping area length and height above ground). No additional landfill management conditions for the putrescible landfill are required to be added to the Licence as a result of this amendment.		
		Conditions L17 – L20 have been added to the Licence to ensure that the new putrescible landfill is constructed in accordance with the documentation provided to DER and that a compliance document is submitted when the works have been completed. Condition L20 was		

Page 6 of 19



DECISION TAB	DECISION TABLE			
Licence section	Condition number L= Licence	Justification (including risk description & decision methodology where relevant)	Reference documents	
	N/A.	also added to ensure that deposition of waste does not occur prior to groundwater monitoring bores being installed (see 'Emissions to land' section). Soil bioremediation Previous conditions L9 for oily and solvent wastewater treatment systems and 12 (a) – 12(d) for the soil bioremediation facility have been removed as these are secondary activities, which do not contribute to the nature and type of emissions from the primary activity. This is in accordance with the DER guidance statement <i>Licencing and works approvals process, September 2015</i> .		
Point source emissions to air including monitoring	N/A.	Construction and Operation - Putrescible landfill No point source air emissions are expected during construction or operation of the expanded putrescible landfill. No specified conditions relating to point source emissions to air or the monitoring of such emissions are required to be added to the Licence.	General provisions of the <i>Environmental</i> <i>Protection Act 1986</i> .	
	N/A.	Operation - Waste Dump landfill No point source air emissions are expected during the operation of the site's waste dump landfill. No specified conditions relating to point source emissions to air or the monitoring of such emissions are required to be added to the Licence.	Application supporting documentation Works approval and Supporting Documentation for	
	L25	 Operation – Paraburdoo Power Stations Power production at Paraburdoo includes three gas operated generators: GTG-1 (LM6000 SPRINT unit) which is a gas operated generator with an output of approximately 38 megawatt (MW) (using SPRINT capacity - can produce 42.5 MW); GTG-2 (LM6000 SPRINT unit) which is a gas operated generator with an output of approximately 38 MW (using SPRINT capacity - can produce 42.5 MW); and GTG-3 (LM6000 SPRINT unit) which is a gas operated generator with an output of approximately 38 MW (using SPRINT capacity - can produce 42.5MW). 	W4400/2007/1	
		Maximum design capacity for Category 52 is 127.5 MW.		
		There is also a backup 21 MW gas fired diesel generator (GTG-0). This station has not been included on the Licence as per the definition of Category 52, which does not include emergency or standby power generation plants.		
		Works Approval W4400/2007/1 was issued for the construction, commissioning and operation		



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		of GTG-3 in January 2008. All other stations were constructed and operational prior to this date.		
		Sinclair Knight Merz (SKM), on behalf of the Licensee, conducted an air quality impact assessment of the proposed construction of GTG-3. Information was collected from two nearby sensitive receptors, Paraburdoo town site (5.2 km away) and the construction camp (approximately 1.2 km away). Nitrogen dioxide (NO ₂) concentrations at Paraburdoo and the camp were estimated to be 25 ppb (parts per billion) and 40 ppb, respectively. These figures fell below the <i>National Environment Protection (Ambient Air Quality) Measure</i> (NEPM) standard of 120 ppb (max. hourly average).		
		The Licensee monitored NOx emissions during the commissioning phase for GTG-3. Measure concentrations of NOx were below NEPM standards.		
		The Licence was reviewed January 2008 giving consideration to GTG-3 and other operating power stations at Paraburdoo. In this review, DER considered the above information, power plant design (i.e. NEPM and World Health Organisation standards), and NPI reporting data submitted by the Licensee for Paraburdoo. It was concluded that the operation of these plants can be sufficiently regulated under the current operating Licence conditions and provisions of the Act and the <i>Environmental Protection Regulations 1987</i> (the EP Regulations). Hence no further conditions were added.		
		As a part of this amendment, condition L25 was included on the Licence to provide reference to these power stations and their respective stack air emissions points. The Licensee will continue to report air emissions to NPI and DER (as a part of the annual fee calculation).		
		A Licence review will take place in the near future in the process of converting L5375/1972/12 to DER's most current Licence template. This review will consider whether air monitoring conditions are required on the Licence for Paraburdoo.		
Point source emissions to surface water including monitoring	L4 – L6	The Licence has conditions relating to the monitoring of dewatering discharge points to surface water. A minor change has been made the frequency of the monitoring of dewatering discharge at Joe's Crossing. The requirement to undertake monthly monitoring for Total Dissolved Solids and Total Suspended Solids has been changed to quarterly. This is because of the low discharge volumes with long periods where no water is discharged. The Annual Environmental Report has shown that the results are well within previous set limits. Monthly	General provisions of the <i>Environmental</i> <i>Protection Act 1986</i> . Application supporting documentation	



DECISION TAB	DECISION TABLE			
Licence section	Condition number L= Licence	Justification (including risk description & decision methodology where relevant)	Reference documents	
		monitoring of pH is still a requirement of the amended licence. Previous conditions L6(b) and L6(f) have been collated to form Condition L5 which details water monitoring and reporting requirements for Paraburdoo.	DER public website at: www.der.wa.gov.au	
	N/A.	Condition L6 (previously L6(e)) has been amended to remove the targets from the Licence. The removal of reference to targets is in accordance with Departmental reform. The Licensee will be required to still compare the surface water monitoring results to the appropriate ANZECC 2000 water quality values in the Annual Environmental Report.	ANZECC 2000	
	N/A.	Construction and Operation - Putrescible landfill No point source emissions to surface water are expected during construction or operation of the new putrescible landfill. There are no permanent bodies of water in close proximity to the sites putrescible landfill. The nearest waterbody is Turee Creek, which is approximately 12 km away. Operation - Waste Dump landfill No point source emissions to surface water are expected during the operation of the sites waste dump landfill. There are no permanent bodies of water in close proximity to the sites waste dump landfill. The nearest waterbody is Turee Creek, which is approximately 17 km away. No specified conditions relating to point source emissions to surface water or the monitoring of such emissions are required to be added to the Licence as part of this amendment.		
Point source emissions to groundwater including monitoring	L5	Construction and Operation - Putrescible landfill No point source emissions to groundwater are expected during construction or operation of the expanded putrescible landfill. The Licensee has stated that the depth to groundwater in the area is greater than 15 metres below ground level (mbgl). The licence has conditions relating to groundwater monitoring for the new putrescible landfill area. Operation - Waste Dump landfill No point source emissions to groundwater are expected during the operation of the sites waste dump landfill. The Licensee has stated that the depth to groundwater in the area is greater than 15 mbgl.	N/A.	
		The Licence has conditions relating to groundwater monitoring from bores within the premises.		

Page 9 of 19



Licence	Condition	Justification (including risk description & decision methodology where relevant)	Reference
section	number L= Licence	ducumount (moraumig new accomplian a accommon moraciegy miles research)	documents
		There will be no changes to these conditions as a result of this amendment. No specified conditions relating to point source emissions to groundwater or the monitoring of such emissions are required to be added to the Licence.	
		Assessment of the impact of landfill seepage on groundwater is discussed in the 'Emissions to land' section.	
Emissions to land including monitoring	L12 – L24	Construction and Operation Details of DER's assessment and decision making are included in Appendix A.	General provisions of the Environmental Protection Act 1986.
			Application supportant documentation.
Fugitive emissions	N/A	Construction and Operation Details of DER's assessment and decision making are included in Appendix B.	Application supportant documentation
			General provisions of the <i>Environmental</i> <i>Protection Act 1986.</i>
			DER public website at: www.der.wa.gov.au
Odour	N/A	Construction and Operation Details of DER's assessment and decision making are included in Appendix C.	Application supportant documentation.
Noise	N/A	Construction and Operation - Putrescible landfill and Waste dump landfill Emission Description Emission: Noise emissions from vehicle movement and earthmoving equipment. Impact: Nuisance noise emissions impacting nearby sensitive receptors (Kurri Kulli mine camp - 2.6km away). Controls: The Licensee has stated that noise levels will comply with the Environmental Protection (Noise) Regulations 1997 at all times. Noise levels are not expected to be significant.	Application supportant documentation. Environmental Protection (Noise) Regulations 1997.
		Risk Assessment	

Page 10 of 19



Licence section	Condition number L= Licence	Justification (including risk description & decision methodology where relevant)	Reference documents
		Consequence: Insignificant Likelihood: Rare Risk Rating: Low	
		Regulatory Controls Due to the large distance to the nearest sensitive receptor (2.6km away) it is unlikely that noise emissions will have a significant impact on the offsite environment. No specified conditions are required to be added to the Licence.	
		Residual Risk Consequence: Insignificant Likelihood: Rare Risk Rating: Low	
Monitoring general	L5	The existing Licence has conditions relating to monitoring of surface water and land at discharge points located at the sewage treatment plant, primary plant and heavy vehicle washdown bay. No additional conditions relating to monitoring general are required to be added to the Licence as a result of this amendment.	N/A.
Ambient quality monitoring	L5	The existing Licence has conditions relating to the monitoring of groundwater quality around the existing putrescible landfill on an annual basis. Currently there are seven monitoring bores surrounding the existing putrescible landfill. To monitor the potential impacts of the new putrescible landfill an additional three groundwater monitoring bores will be installed downstream of the new landfill area. Last year bores MB15PAFL001, MB15PAFL002, MB15PAFL003, MB15PAFL004 were installed at the landfill and have now been added into condition L5. Three new bores will be installed later this year in accordance with condition 17. Condition L5 has been updated to include the new bores (MB16PAFL001 and MB16PAFL002 and MB16PAFL003) "once installed" and a map has been added to the Licence outlining their location (Attachment 4).	Application supporting documents.
Information	L26 – L29	Previous conditions 1, 2, 4(c) and 4(d) have been moved to the end of the Licence to form a consolidated reporting section. These are now conditions L26 – L29, respectively. L25 and L26 were amended to reference 'condition 5' which requires sampling and analysis of water.	N/A.

Page 11 of 19

Amendment date: Thursday, 19 May 2016



DECISION TABL	DECISION TABLE				
Licence section	Condition number L= Licence	Justification (including risk description & decision methodology where relevant)	Reference documents		
Licence duration	N/A	The Licence duration has been extended to Friday, 27 May 2033 in regard to the DER Guidance Statement on Licence Duration.	DER Guidance Statement on Licence Duration.		

Page 12 of 19



5 Advertisement and consultation table

Date	Event	Comments received/Notes	How comments were taken into consideration
3/03/2016	Proponent sent a copy of draft instrument	Comments received/Notes Comments received 30/03/16 requesting the following changes: 1. The addition of category 12 and associated condition. 2. Minor correction to the premises production category for category 73. 3. Addition of "offsite" to stormwater management condition 2. 4. Removal of the requirement to undertake an assessment of monitoring data. 5. Removal of bores MB12, MB14 and MB18 from the bioremediation area. 6. Removal of bore PTD01 from tailings area. 7. Request to remove bores MB2, MB4, MB5, MB6 and MB6A from the new landfill area due to being dry for several years. Last year MB15PAFL001,	 Category 12 has been included in the Licence with the addition of new condition 1 to operate in accordance with Iron Ore (WA) Mobile Crushing and Screening Management Plan (RTIO-HSE-0235877). The category 73 production capacity has been changed from 5683 cubic meters to 5903 cubic meters. Discharge onsite is still a discharge to the environment and therefore the inclusion of this reference has not been included in the Licence. The requirement to undertake an assessment has been removed, however a comparison with previous years' data remains a requirement of the Licence. The removal of bores MB12, MB14 and MB18 has not been authorised, the Licensee concurred that this is the correct outcome in an email received 22/4/16.
		MB15PAFL002, MB15PAFL003 and MB15PAFL004 were installed at the landfill. 8. Request to no longer undertake monthly monitoring of pH, Total Dissolved Solids (TDS), Total Suspended Solids (TSS) of the	 PTD01 has not been removed. The assessment of this requirement is not the subject of the current amendment. Removal of bores has not been completed and will be assessed upon submission of a further amendment request. Bores MB15PAFL001, MB15PAFL002, MB15PAFL003 and
		dewatering discharge to Joe's crossing due to low volumes. 9. The requirement to compare results against livestock drinking water trigger values and not slightly disturbed aquatic ecosystems for the discharge for Joe's Crossing. 10. Requested an update maps in schedule	MB15PAFL004 have been added to the Licence. 8. Monthly monitoring of pH remains a requirement of the licence. The requirement to undertake monthly monitoring when discharging for TDS and TSS has been changed to quarterly due to monitoring results being well within former limits. 9. The requirement to compare monitoring results to appropriate guidelines is a requirement of the



Date	Event	Comments received/Notes	How comments were taken into consideration	
		1. 11. An email request received 21/04/16 to remove bores MB7, MB8, and MB9 from the old landfill area due to waste last being disposed in the 1990s.	 amended licence. pH values have on occasion exceeded ANZECC guidelines for slightly disturbed ecosystems. 10. Schedule 1 maps have been updated as requested. 11. The requirement to monitor MB7, MB8 and MB9 remains a requirement of the current amended licence. The assessment of this requirement is not the subject of the current amendment. 	
		Updated map of groundwater monitoring		
		bores received 11 May 2016.	Map of monitoring bores updated in Schedule 1.	



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

Emissions to land including monitoring

(a) Putrescible landfill

Emission Description

Emission: Discharge of leachate from waste onto land, generation of wind-blown waste and the release of contaminated stormwater (that has been in contact with waste) on to land.

Impact: Contamination of the surrounding environment including soil, surface water and groundwater causing potential death of vegetation and fauna.

Controls: No emissions to land are expected during the construction of the site's new putrescible landfill. The Licensee will implement the following controls to manage leachate during operations:

- The new putrescible landfill is located in an area separated from surface water bodies (>12km away) and groundwater (>15mbgl);
- Three new groundwater monitoring bores will be installed downstream of the new putrescible landfill to expand the monitoring bore network so impacts to groundwater from landfill leachate can be monitored;
- No hydrocarbon contaminated waste will be disposed of at the new putrescible landfill. Any
 contaminated material generated onsite will be transported off site to an appropriate licensed
 facility;
- Type 1 and Type 2 special waste (will includes used protective equipment, used air filters and clothing, small amounts of expired medicines, medical gloves, bandages, needles and other drug testing equipment) is not expected to generate significant amounts of contaminated leachate; and
- Waste will be compacted and covered by a loader at least weekly.

The Licensee will implement the following controls to manage windblown waste during operations:

- The new putrescible landfill will be fenced with a 1.8m mesh fence to contain windblown litter; and
- Windblown rubbish will be collected on a regular basis and returned to the tipping face.

The Licensee will implement the following controls to manage stormwater during operations:

 Stormwater run-off will be diverted around the new putrescible landfill through the use of earthen bunds surrounding the perimeter of the facility to prevent stormwater coming into contact with waste.

Risk Assessment

Consequence: Insignificant Likelihood: Unlikely Risk Rating: Low

Regulatory Controls

The three new monitoring bore locations have been added to the Licence as part of this amendment. The bores are not expected to be installed until Q2 2016. A condition has been added to the Licence to ensure deposition of waste does not occur at the new putrescible landfill until the bores have been installed. Bores MB16PAFL001, MB16PAFL002 and MB16PAFL003 have been included in condition L5 to be monitored "once installed".

The current Licence has conditions relating to waste management (trench location and cover requirements) and stormwater management for the site's existing putrescible landfill. These conditions will remain on the Licence and will apply to the sites new putrescible landfill. No addition conditions are required to be added to the Licence.

Environmental Protection Act 1986
Decision Document: L5275/1972/12
File Number: DER2014/000429

Page 16 of 19

Amendment date: Thursday, 19 May 2016

Residual Risk
Consequence Insignificant
Likelihood: Unlikely
Risk Rating: Low

(b) Waste dump landfill

Emission Description

Emission: Discharge of leachate from waste onto land, generation of wind-blown waste and the release of contaminate stormwater (that has been in contact with waste) on to land.

Impact: Contamination of the surrounding environment including soil, surface water and groundwater causing potential death of vegetation and fauna.

Controls: The Licensee will implement the following controls to manage leachate from the waste dump landfill during operations:

- The waste dump landfill is located in an area separated from surface water bodies (>17km away) and groundwater (>70mbgl);
- The waste dump landfill will only receive inert waste in accordance with the Landfill waste classification and Waste Definitions (1996) and wooden pallets. There will be no hazardous waste placed in the landfill. Therefore contaminated leachate is unlikely to be generated;
- Waste will be covered on a regular basis;
- There is little risk of wind-blown waste being generated at the landfill site due to the type of waste being deposited (i.e. Rubber tyres, conveyor belts, concrete, wood(broken pallets) and inert plastics); and
- Stormwater run-off will be diverted around the landfill through the use of earthen bunds where practical.

Risk Assessment

Consequence: Insignificant Likelihood: Unlikely Risk Rating: Low

Regulatory Controls

To ensure only inert waste and wooden pallets are disposed of at the waste dump landfill a condition L20 has been added to the Licence outlining this restriction. This will ensure all other putrescible waste is disposed of at the sites putrescible landfill. Conditions L21 - 23 have been added to the Licence to ensure appropriate management of waste at the waste dump landfill.

Amendment date: Thursday, 19 May 2016

Residual Risk

Consequence Insignificant Likelihood: Unlikely Risk Rating: Low

Appendix B

Fugitive emissions

Emission Description

Emission: Fugitive dust from the construction of the new putrescible landfill and daily operation of the Paraburdoo Mine where sources of dust can be attributed to stockpiles, materials handling and crushing, and vehicle movements on dirt roads.

Impact: Dust emissions can be harmful to human health and the environment. Elevated total suspended particulates can impact ambient environmental quality resulting in amenity impacts and can smother vegetation.

Controls: The construction or operation of the new putrescible landfill expansion is not expected to generate significant dust. Existing dust controls which will continue to be implemented include:

- · Spraying working surfaces with water using water carts;
- Stockpile water sprays;
- Water sprays on crushing plants;
- Dust collection systems such as baghouses, coverings on conveyors / transfer points and dust filters:
- · Sealing of working surfaces where practicable; and
- Rehabilitation of disturbed areas where possible.

The nearest residential town is Tom Price, which is approximately 80 km south.

Risk Assessment

Consequence: Insignificant Likelihood: Unlikely Risk Rating: Low

Regulatory Controls

Given the Licensee's management controls and the location of the Premises, fugitive emissions of dust are considered a low risk. Fugitive dust emissions can be sufficiently regulated under Section 49 of the Act. The Licensee has a statutory responsibility to comply with the Act during the operation of the Premises. The *Environmental Protection (Unauthorised Discharges) Regulations 2004* also apply. Consequently, previous Licence conditions L3(a) and L3(b) have been deleted and no specific conditions for dust emissions have been included in this Licence.

Risk Assessment

Consequence: Insignificant Likelihood: Unlikely Risk Rating: Low



Appendix C

Odour

(a) Putrescible landfill

Emission Description

Emission: Fugitive odour emissions. No odour emissions are expected during construction. Impact: Nuisance odour emissions impacting sensitive receptors (Kurri Killi mine camp – 2.6 km

away).

Controls: Weekly covering of wastes with inert fill to prevent odour.

Risk Assessment

Consequence: Insignificant

Likelihood: Rare Risk Rating: Low

Regulatory Controls

Significant levels of odour are not expected to be generated during the operation of the putrescible landfill. There are no nearby sensitive receptors that could be impacted by odour and the regular covering of wastes with inert fill will ensure odour emissions do not impact the offsite environment. No conditions relating to odour management are required to be added to the Licence.

Residual Risk

Consequence: Insignificant Likelihood: Unlikely Risk Rating: Low

(b) Waste dump landfill

Emission Description

Emission: Fugitive odour emissions

Impact: Nuisance odour emissions impacting nearby sensitive receptors

Controls: Due to the inert nature of the waste material, no odours will be emitted from the waste dump

landfill. No other putrescible waste other than wooden pallets will be disposed of.

Risk Assessment

Consequence: Insignificant

Likelihood: Rare Risk Rating: Low

Regulatory Controls

Due to the large distance to the nearest sensitive receptor (Kurri Kulli mine camp - 2.6 km away) and the nature of the waste disposed of it is unlikely that odour emissions will have a significant impact on the offsite environment. No conditions relating to odour are required to be added to the Licence.

Amendment date: Thursday, 19 May 2016

Residual Risk

Consequence: Insignificant

Likelihood: Rare Risk Rating: Low

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Page 19 of 19

IRLB_TI0669 v2.7