



Partial Decision Document

Environmental Protection Act 1986, Part V

Proponent: Pilbara Iron Company (Services) Pty Ltd

Licence: L5258/1991/11

Registered office: Level 22, Central Park
152-158 St Georges Terrace
PERTH WA 6000

ACN: 107 210 248

Premises address: Mt Brockman and Nammuldi Iron Ore Mines
Tenements – part of; AML70/4, ALM70/272, G47/01242, G47/01243,
L47/140, L47/141, L47/388, L47/647, LGE G848898, LG848907 and LPL
N050438 within co-ordinates: E535363 N7536177; E 544071 N7257202;
E553417 N7525629; E548757 N7517535; E538693 N7517627; E531400
N7517644; E527723 N7519096 and E525753 N7531802.
MT SHEILA WA 6751

Issue date: Thursday, 26 May 2011

Commencement date: Sunday, 29 May 2011

Expiry date: Thursday, 28 May 2020

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 and that Licence and its conditions will ensure that an appropriate level of environmental protection is provided.

Decision Document prepared by: Ty Hibberd/ Rachel Vukmirovic
Licensing Officer

Decision Document authorised by: Alana Kidd
Delegated Officer



Contents

Partial Decision Document	1
Contents	2
1 Purpose of this Document	2
2 Administrative summary	3
3 Executive summary of proposal and assessment	4
4 Decision table	6
5 Advertisement and consultation table	10
6 Risk Assessment	11
Appendix A	12
Appendix B	17

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* (the Act). 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 type="checkbox"/>	
	Licence amendment <input checked="" type="checkbox"/>	
	Works Approval amendment <input type="checkbox"/>	
Activities that cause the premises to become prescribed premises	Category number(s)	Assessed design capacity
	5	45,000,000 tonnes per year
	6	42,300,000 tonnes per year
	12	10,000,000 tonnes per year
	54	486 cubic metres per day
	64	5,114 tonnes per year
	73	18,740 cubic metres
Application verified	Date: N/A	
Application fee paid	Date: N/A	
Works Approval has been complied with	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A <input type="checkbox"/>	
Compliance Certificate received	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A <input 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: 131, 867 and 925 EPA Report No: 467, 1393 and 1457
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 ₂ requirements of Kwinana EPP.		



3 Executive summary of proposal and assessment

Pilbara Iron Company (Services) Pty Ltd (the Licensee) operates the Mt Brockman and Nammuldi Iron Ore Mines (B2/Nammuldi) under L5258/1991/11 for Category 5, 6, 12, 54, 64 and 73 activities under the *Environmental Protection Regulations 1987* (the EP Regulations). B2/Nammuldi is located within the West Pilbara region of Western Australia approximately 75 kilometres (km) north-west of Tom Price.

The Licensee has applied to amend Licence L5258/1991/1 to:

- Expand the Prescribed Premises boundary to include new activities associated with Nammuldi Incremental Tonnes, incorporating parts of tenements ALM70/272, G47/01243, L47/140, L47/388, L47/647, LGE G848898 and LPL N050438;
- Increase the design capacity for Categories 5, 12, 54, 64 and 73;
- Include the B2 Mine Admin wastewater treatment plant (WWTP) constructed under W5717/2014/1 (compliance document received on 13 August 2015) and the Nammuldi Fixed Plant WWTP;
- Include the Nammuldi Below Water Table (NBWT) Putrescible Landfill constructed under W5506/2013/1 (compliance document received on 10 August 2015);
- Include the Brockman Fuel Hub constructed under W5142/2012/1 (compliance document received on 14 October 2015); and
- Remove the Pit 5 dewatering discharge point.

This Partial Decision Document assesses whether the risk profile of emissions and discharges from the Premises will significantly change as a result of the above requests. As a result of this assessment, the following changes have been made to the Licence:

- Prescribed premise boundary amended;
- Design capacity for Category 5 increased to 45 million tonnes per annum (Mtpa) (from 44.6 Mtpa) to match the State Agreement limit for the site;
- Design capacity for Category 12 increased to 10 Mtpa (from 2.22 Mtpa) and condition L1 added requiring that any Crushing and Screening (C&S) plant onsite be managed in accordance with the *Iron Ore (WA) Mobile Crushing and Screening Management Plan*, Rio Tinto, 2015 (RTIO-HSE-0235877);
- Inclusion of the B2 Mine Admin WWTP and Nammuldi Fixed Plant WWTP and increased design capacity of Category 54 to 486 cubic meters per day (m³/day) (from 446 m³/day). Reference to the 'Mine' WWTP was removed;
- Inclusion of the NBWT Putrescible Landfill and increased design capacity for Category 64 to 5,114 tpa (from 4,400 tpa);
- Inclusion of the Brockman Fuel Hub and increased design capacity for Category 73 to 18,740 m³ (from 1,365 m³); and
- Removal the Pit 5 dewatering discharge point.

Further to these amendments, existing Licence conditions were also reassessed in accordance with Departmental reform as published on DER's website under "*Administrative changes implemented within the Department of Environment Regulation*" www.der.wa.gov.au. Changes to the Licence in accordance with Departmental reform include:

- A revision of terms in the 'Definitions' section;
- Removal of previous conditions 1, 2, 3, 6 - 10, 14, 15, 19, 21, 23, 33 and 34 relating to targets, liquid chemical storage, stormwater management, bioremediation and duplication between Part IV and V conditions under the *Environmental Protection Act 1986* (the EP Act); and
- New Premises maps.

Finally, as a part of this amendment the expiry date for L5258/1991/11 was extended until Saturday, 24 May 2020 (from Saturday, 28 May 2016). DER is strategizing to convert all RTIO Part V Licences to DERs most current Licence template. To allow time to convert L5258/1991/11, the Licence expiry



date was extended until 2020. Before this date, L5258/1991/11 will be converted and reissued in liaison with RTIO.

Where conditions have been added or removed from the existing Licence these have been justified in the Decision Table below (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 TABLE			
Licence section	Condition number	Justification (including risk description & decision methodology where relevant)	Reference documents
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.	N/A.
General conditions	L5	Previous conditions L8, L9, L10 and L19 were removed in accordance with Departmental reform and the removal of redundant and/or non-specific conditions. Instead, Condition L5 was included on the Licence requiring that the Licensee to install and maintain mechanisms to treat and dispose or reuse stormwater that has come in contact with hydrocarbon-affected infrastructure at B2/Nammuldi (e.g. mechanical infrastructure with exposed lubricants or areas where there is a higher potential for hydrocarbon spills).	General provisions of the <i>Environmental Protection Act 1986</i> . <i>Environmental Protection (Unauthorised Discharges) Regulations 2004</i> .
	N/A.	Previous conditions L14 and L15 were removed in accordance with Departmental reform. These conditions have been deleted as it is the occupier's responsibility to ensure they comply with relevant legislative requirements for the storage and handling of environmentally hazardous materials. Unauthorised discharges of environmentally hazardous materials may be subject to the provisions of the <i>Environmental Protection (Unauthorised Discharges) Regulations 2004</i> .	DER public website at: www.der.wa.gov.au . DER guidance statement <i>Licensing and works approvals process</i> (September 2015).
Premises operation	N/A.	The Prescribed Premises boundary was amended to include new activities associated with Nammuldi Incremental Tonnes, incorporating parts of tenements ALM70/272, G47/01243, L47/140, L47/141, L47/388, L47/647, LGE G848898 and LPL N050438. The boundary also better aligns with the boundary associated with Part IV Ministerial Statement 925. The map depicting the B2/Nammuldi Prescribed Premises boundary was amended to reflect this change.	General provisions of the <i>Environmental Protection Act 1986</i> . <i>Iron Ore (WA) Mobile Crushing and Screening Management Plan, Rio Tinto, 2015 (RTIO-HSE-</i>
	N/A.	The design capacity for Category 5 was increased to 45 Mtpa (from 44.6 Mtpa) to	



DECISION TABLE			
Licence section	Condition number	Justification (including risk description & decision methodology where relevant)	Reference documents
	L1	<p>match the State Agreement limit for the site.</p> <p>The design capacity for Category 12 was increased 10 Mtpa (from 2.22 Mtpa) to allow sufficient capacity for multiple C&S 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 Mtpa. Condition L1 has been added to the Licence to ensure any mobile C&S plants on the Premises are managed in accordance with the <i>Iron Ore (WA) Mobile Crushing and Screening Management Plan</i>, Rio Tinto, 2015 (RTIO-HSE-0235877).</p>	<p>0235877). Works Approval and supporting information for W5506/2013/1.</p> <p>Works Approval and supporting information for W5142/2012/1.</p>
	L4	<p>The Premises design capacity for Category 54 was increased to 486 m³/day (from 446 m³/day) to account for the B2 Mine Admin WWTP constructed under W5717/2014/1 and Nammuldi Fixed Plant WWTP. The B2 Mine Admin WWTP replaces the Mine WWTP. The Nammuldi Fixed Plant WWTP, which was not subject to a Works Approval, is installed and operational at B2/Nammuldi. However, the Licensee recently determined that the design capacity of the Nammuldi Fixed Plant WWTP is 20 m³/day and thus should be incorporated into the Category 54 design capacity for the Premises. Condition L4 (previously L5) was amended to include the 'B2 Mine Admin WWTP' and 'Nammuldi Fixed Plant WWTP', and remove reference to the 'Mine WWTP'. A map depicting all WWTPs and irrigation areas at B2/Nammuldi was included on the Licence.</p>	
	N/A.	<p>The Premises design capacity for Category 64 was increased to 5,114 tpa (from 4,400 tpa) to account for the NBWT Putrescible Landfill constructed under W5506/2013/1. A map depicting the landfill areas at B2/Nammuldi was included on the Licence.</p>	
	N/A.	<p>The Premises design capacity for Category 73 was increased to 18,740 m³ (from 1,365 m³) to account for the Brockman Fuel Hub constructed under W5142/2012/1 and all other bulk storage facilities onsite. As noted against previous conditions L14 and L15, it is the occupier's responsibility to ensure they comply with relevant legislative requirements for the storage and handling of environmentally hazardous materials.</p>	
	N/A.	<p>The Pit 5 dewatering discharge point was removed from the Licence. The Licensee advised DER that discharges to Pit 5 are no longer required. The appended map depicting dewatering discharge locations at B2/Nammuldi was replaced to reflect</p>	



DECISION TABLE			
Licence section	Condition number	Justification (including risk description & decision methodology where relevant)	Reference documents
		this change.	
Point source emissions to surface water including monitoring	L12 – L14	<p>The Licence has condition L12 (previously L20) and L13 (previously L20) relating to dewatering discharge locations and monitoring of cumulative discharge volume. These conditions were amended to remove reference to the Pit 5 discharge point.</p> <p>Condition L14 was included on the Licence to reference infrastructure constructed to minimise erosion and scouring impacts at the Duck Creek discharge point.</p> <p>Previous condition L21 was removed in accordance with Departmental reform as this condition duplicated requirements under Part IV Ministerial Statement 867. Point source emissions of dewatering water to Duck Creek can be sufficiently regulated under Part IV Ministerial Statement 925, conditions 6-1 to 7-5. Ministerial conditions 6-1 and 7-1 require the Licensee to ensure that dewatering and discharge do not cause long term impacts on the health and abundance of groundwater-dependent vegetation communities in Duck Creek, or the environmental and conservation values of Duck Creek, respectively. To ensure Ministerial conditions 6-1 and 7-1 are met, the Licensee has developed and implemented site-specific groundwater, surface water and vegetation monitoring and management plans. The Licensee is required to report the results of these monitoring programs annually to the Office of the Environmental Protection Authority (OEPA). Any identified environmental impacts as a result of dewatering will be managed accordingly under Part IV of the EP Act by OEPA.</p>	<p>General provisions of the <i>Environmental Protection Act 1986</i>.</p> <p><i>Environmental Protection (Unauthorised Discharges) Regulations 2004</i>.</p> <p>Ministerial Statement 867 and 925.</p>
Emissions to land including monitoring	N/A.	Details of DER's assessment and decision making are included in Appendix A.	<p>General provisions of the <i>Environmental Protection Act 1986</i>.</p> <p><i>Environmental Protection (Unauthorised Discharges) Regulations 2004</i>.</p> <p>DER guidance statement <i>Licencing and works approvals process</i> (September 2015).</p>



DECISION TABLE			
Licence section	Condition number	Justification (including risk description & decision methodology where relevant)	Reference documents
Fugitive emissions	N/A.	Details of DER's assessment and decision making are detailed in Appendix B.	General provisions of the <i>Environmental Protection Act 1986</i> . <i>Environmental Protection (Unauthorised Discharges) Regulations 2004</i>
Ambient quality monitoring	N/A.	Previous condition L23 has been removed. The Licensee is obligated under Ministerial Statements 867 and 925 to monitor and manage vegetation health at B2/Nammuldi. Vegetation health can be adequately regulated by these Ministerial Statements.	Ministerial Statement 867 and 925.
Licence duration	N/A.	As a part of this amendment, the expiry date for L5258/1991/11 has been extended until Thursday, 28 May 2020 (from Saturday, 28 May 2016). DER is strategizing to convert all RTIO Part V Licences to DERs most current Licence template. In the near future, L5258/1991/11 is to be converted and reissued in liaison with RTIO.	N/A.



5 Advertisement and consultation table

Date	Event	Comments received/Notes	How comments were taken into consideration
24/03/2016	Proponent sent a copy of draft instrument.	<p>Comments received 22/04/2016. The Licensee requested the following changes:</p> <ol style="list-style-type: none">1. Change in design capacity from 4,100m³ to 18,740 m³ for category 73 to include the Brockman Fuel Hub and other consolidated fuel storage; and2. Minor administrative amendments and provision of updated Schedule 1 maps. <p>Updated premises map received 12/05/2016 showing location of Brockman Fuel Hub.</p> <p>Confirmation received 24/05/2016 of Premises address and the inclusion of mining tenement L47/141 to cover the location of the Brockman Fuel Hub.</p>	<ol style="list-style-type: none">1. The design capacity has been increased to 18,740m³; and2. Schedule 1 maps amended. <p>Premises map in Schedule 1 maps replaced.</p> <p>Premises address updated.</p>



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) Soil Bioremediation Facilities (Landfarm)

Emission Description

Emission: Discharges of hydrocarbon contaminated soils beyond the landfarm area into the environment.

Impact: Hydrocarbons in high concentrations can have toxic effects on aquatic organisms if allowed to enter surface waters near the facility.

Controls: Soil bioremediation facilities are bunded to prevent the ingress and egress of stormwater during heavy rain events. In the rare event that a significant rainfall causes the release of hydrocarbon contaminated stormwater does runoff beyond the landfarm area it is likely that concentrations would be very low.

Risk Assessment

Consequence: Minor

Likelihood: Rare

Risk Rating: Low

Regulatory Controls

Previous conditions L33 and L34 for the soil bioremediation facility have been removed as this is a secondary activity, which does not contribute to the nature and type of emissions from the primary activity. This is in accordance with the DER guidance statement *Licensing and works approvals process* (September 2015). The *Environmental Protection (Unauthorised Discharges) Regulations 2004* adequately regulate the discharge of hydrocarbon contaminated materials. As contaminated soils are effectively separated from the environment through bunding and hardstanding, the regulation of how soils are remediated is not required. The Licensee will still be required to effectively treat contaminated soils prior to disposal or have contaminated soils removed by a licensed contractor.

Risk Assessment

Consequence: Minor

Likelihood: Rare

Risk Rating: Low

(b) NBWT Putrescible Landfill (W5506/2013/1)

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 from the newly constructed NBWT Putrescible Landfill (W5506/2013/1).

Impact: Contamination of the surrounding environment including soil, surface water and groundwater causing potential death of vegetation and fauna. The nearest surface water body is an ephemeral creek approximately 200 metres (m) east of the project site (Duck Creek tributary). Ministerial Statement 925 includes conditions relating to the protection of Duck Creek. The NBWT Putrescible Landfill is also located more than 1 km for site offices and other amenities.

Controls: The Licensee states that waste to be disposed of at the NBWT Putrescible Landfill is not expected to generate significant amounts of contaminated leachate or windblown rubbish. The Licensee will implement the following controls to manage emissions from the NBWT Putrescible Landfill site:



- The site is located in an area separated from surface water bodies (>200m away);
- Depth to groundwater at the site is more than 25 m. Trenches for waste are 2 m deep providing a significant buffer to groundwaters. Groundwater bores at the stockyards, which are located approximately 1 km south of the site, will continue to be monitored;
- A 2.4 m high fence and locked gate is installed along the perimeter of the site restricting entry and spread of windblown rubbish;
- Windblown rubbish will be collected on a regular basis and returned to the tipping face;
- Drains dug around the perimeter of the NWBT Putrescible Landfill divert stormwater from the site;
- No hazardous materials (including hydrocarbon contaminated waste) will be disposed of at the site; and
- Signage has been erected at the entrance to the site outlining the type of waste that can be disposed of at the landfill.

Risk Assessment

Consequence: Insignificant

Likelihood: Rare

Risk Rating: Low

Regulatory Controls

The Licence has conditions L15 to L19 (previously L24 – L29) relating to the management of the site's putrescible landfills. Condition 15 specifies the types of waste that may be accepted at the putrescible landfills. Conditions 16 - 19 ensure appropriate management of the putrescible landfills (e.g. cover requirements and positioning of waste). No additional conditions are required on the Licence for the management of the NWBT Putrescible Landfill.

Residual Risk

Consequence: Insignificant

Likelihood: Rare

Residual Risk Rating: Low

(c) WWTPs

There are four WWTPs at B2/Nammuldi which classify as Prescribed Activities under Schedule 1 of the EP Regulations (i.e. >20 m³/day). These WWTPs are as follows:

- B2 Village WWTP – Design capacity 240 m³/day. Irrigates to a 5.6 hectare (ha) sprayfield. Amended to the Licence in 2012;
- B2 Mine Admin WWTP – Constructed under W5717/2014/1. Design capacity 40 m³/day. Irrigates to 2.2 ha sprayfield. This plant replaced the previously operational 20 m³/day 'Mine WWTP';
- Jerriwah Village WWTP – Constructed under W5477/2013/1. Design capacity 186 m³/day. Irrigates to the a 5.0 ha sprayfield; and
- Nammuldi Fixed Plant WWTP – Previously installed onsite, but only recently identified as having a design capacity of 20 m³/day. Irrigates to a 0.65 ha sprayfield.

The total design capacity for Category 54 is 486 m³/day.

Emission Description

Emission: Discharge from the WWTPs to the irrigation sprayfields.

Impact: Effluent discharged as irrigation to land has the potential to result in degraded or waterlogged land, with soil or groundwater contamination arising where the effluent is either saline, turbid, nutrient enriched, and/or contaminated with metals. Odours due to poor effluent treatment can also arise causing nuisance impacts to nearby sensitive receptors.



Controls: All WWTPs were sited to as to maximise separation distance between surface water bodies and populated areas (e.g. camps, administrative building etc.) whilst considered operational needs.

B2 Village WWTP siting:

- Depth to groundwater is approximately 14 m below ground level (mbgl);
- The nearest significant drainage line is Duck Creek, approximately 1.5 km from the B2 Village WWTP; and
- The nearest sensitive receptor (other than B2 Village) is the townsite of Tom Price, approximately 75 km north-west.

B2 Mine Admin WWTP siting:

- Depth to groundwater is approximately 39 m mbgl;
- The nearest significant drainage lines are Duck Creek, 6.9 km north-east, and Boolgeeda Creek, 5.7 km south-east; and
- The nearest sensitive receptor (other than onsite accommodation camps) is the townsite of Tom Price, approximately 56 km north-west.

Jerriwah Village WWTP siting:

- Depth to groundwater is approximately 14 m mbgl;
- The nearest significant drainage line is Duck Creek, approximately 1.5 km from the Jerriwah Village WWTP;
- An ephemeral drainage line exists 200 m west of the Jerriwah WWTP; and
- The nearest sensitive receptor (other than onsite accommodation camps) is the townsite of Tom Price, approximately 75 km north-west.

Nammuldi Fixed Plant WWTP

- The nearest significant drainage line is Duck Creek, >2 km away;
- An ephemeral drainage line exists approximately 200 m east of the Nammuldi Fixed Plant WWTP; and
- The nearest sensitive receptor (other than onsite accommodation camps) is the townsite of Tom Price, approximately 75 km north-west.

All WWTPs were designed so that the treated effluent would meet the *National Water Quality Management Strategy, Australian Guidelines for Sewerage Systems – Effluent Management* (Agriculture and Resource Management Council of Australia and New Zealand Australian and New Zealand Environment and Conservation Council, 1997) (NWQMS 1997) discharge criteria shown in Table 2.

Table 2: NWQMS 1997 Australian Guideline for effluent discharge.	
Parameter	Australian Guideline
Biochemical Oxygen Demand (BOD)	20-30 mg/L
Total Suspended Solids (TSS)	25-40 mg/L
Total Nitrogen (TN)	20-50 mg/L
Total Phosphorus (TP)	6-12 mg/L
Residual chlorine (RS)	N/A
pH	6 - 9
<i>E.coli</i>	10 ⁵ - 10 ⁶ cfu/100ml

All irrigation sprayfield areas are sized appropriately to ensure nutrient loading rates for Nitrogen and Phosphorus are not in excess of relevant industry standards or guidelines. Each irrigation sprayfield is fenced and signed to restrict personnel from accessing these areas. Site management is carried out as per the HSEQ management system and includes regular inspections, weed management and



servicing. Pooling of irrigated treated wastewater and surface runoff is unlikely due to vegetation uptake and the high evaporation rate experienced in the region.

Risk Assessment

The Licensee's Annual Environmental Report (AER) for the 2014 reporting period (1 January – 31 December 2014) included monitoring results for the Mine and B2 Village WWTPs. The Jerriwah Village WWTP was added to the Licence in April 2015.

The Licensee reported continuous exceedances of effluent quality targets for the Mine WWTP during the 2014 reporting period. The Mine WWTP has since been decommissioned and replaced by the B2 Mine Admin WWTP constructed under Works Approval W5717/2014/1. Sampling conducted in the commissioning phase of the B2 Mine Admin WWTP identified elevated levels of Chemical Oxygen Demand (COD), Total Nitrogen (TN) and *Escherichia coli*. The Licensee explained that elevated levels for COD and TN were expected during the commissioning period as the micro-organisms required for anaerobic digestion are becoming established in the system. The Licensee explained that the elevated levels for *E. coli* were the result of inadequate chlorine dosing at the time; dosing has since been increased. Values for COD, TN and *E. coli* all demonstrated a general declining trend throughout the commissioning period and are expected to stabilise as the WWTP establishes optimum aerobic digestion.

The B2 Village WWTP and sampling parameters analysed in the 2014 reporting period were within the expected target performance range. In August 2013, elevated levels of Total Suspended Solids (TSS) and Total Phosphorus (TP) were reported. Subsequent monitoring undertaken in September reported results below the relevant trigger levels. These levels were maintained throughout 2014.

Wastewater sampling parameters analysed in the commissioning period (29/12/14 – 08/2/2015) for the Jerriwah Village WWTP (W5477/2013/1) were within the expected target performance.

No complaints have been received in relation to the B2/Nammuldi WWTPs and associated sprayfields.

Consequence: Insignificant

Likelihood: Unlikely

Risk Rating: Low

Regulatory Controls

The B2/Nammuldi WWTPs (not including the recently decommissioned Mine WWTP) have been assessed as posing a low environmental risk. This risk was determined based on the following criteria:

- Treatment performance (i.e. few target exceedances);
- Environmental siting (i.e. the nearest sensitive ecosystem is Duck Creek >1 km away from each WWTP and the depth to groundwaters is >10 m);
- Separation distance to the nearest residential town is >50 km away; and
- No complaints have been lodged in relation the B2/Nammuldi WWTPs.

As such, previous conditions L6 and L7 relating to effluent water quality targets and nutrient loading rates were removed. The removal of targets from activities posing a low environmental risk is in accordance with Departmental reform. Unauthorised discharges and potential environmental harm can be sufficiently regulated under section 49 of the Act and the *Environmental Protection (Unauthorised Discharges) Regulations 2004*.

Condition L4 (previously L5) requires the Licensee to monitor the WWTPs water quality on a quarterly basis and report these results in the AER. This condition has been updated to ensure the Licensee provides an assessment and comparison against the *National Water Quality Management Strategy, Australian Guidelines for Sewerage Systems - Effluent Management, Agriculture and Resource*



Management Council of Australia and New Zealand and Australian and New Zealand Environment and Conservation Council, 1997 (NWQMS 1997) and all recorded monitoring data. A definition for NWQMS 1997 has been added to the Licence.

Residual Risk

Consequence: Insignificant

Likelihood: Unlikely

Residual Risk Rating: Low



Appendix B

Fugitive emissions

Emission Description

Emission: Fugitive dust from the daily operation of B2/Nammuldi where sources of dust can be attributed to stockpiles, materials handling and crushing, and vehicle movements on dirt roads within site.

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 increased capacity for Category 5 has the potential to cause further dust emissions from the Premises. However the Licensee has stipulated that no change to dust emissions will occur onsite to what has been previously assessed through Works Approval processes. The nearest residential town is Tom Price approximately 75 km away, and hence impacts to human health from dust are unlikely.

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.

Risk Assessment

Consequence: Insignificant

Likelihood: Possible

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 L1 and L2 have been deleted and no specific conditions for dust emissions have been included in this Licence.

Risk Assessment

Consequence: Insignificant

Likelihood: Possible

Residual Risk Rating: Low