



Decision Document

Environmental Protection Act 1986, Part V

Proponent: FMR Investments Pty Ltd

Licence: L4680/1988/13

Registered office: Level 2, 2 Hardy Street
SOUTH PERTH WA 6151

ACN: 009 411 349

Premises address: Greenfields Processing Site
Part mining tenement M15/154 and Lot 102 on Plan 40393
Great Eastern Highway
COOLGARDIE WA 6429

Issue date: Thursday, 22 October 2015

Commencement date: Sunday, 1 November 2015

Expiry date: Saturday, 31 October 2020

Decision

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

Decision Document prepared by: Fiona Sharpe
Licensing Officer

Decision Document authorised by: Danielle Eyre
Delegated Officer



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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	Category number(s)	Assessed design capacity
	5	1 400 000 tonnes per year
Application verified	Date: 07/09/2015	
Application fee paid	Date: 23/09/2015	
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		
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 checked="" type="checkbox"/> Assessed under Part IV <input type="checkbox"/>
Is the proposal subject to Ministerial Conditions?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>
		Ministerial statement No: EPA Report No:



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"/>
Is the Premises subject to any EPP requirements?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>

3 Executive summary of proposal and assessment

The Greenfields processing plant and tailings storage facility (TSF) are located approximately 3 km to the north-east of Coolgardie. The processing facility is located on M15/154 under a lease agreement with the tenement holders (Focus Minerals Pty Ltd) and the TSF's are located on Lot 102 on Plan 40393 owned by FMR Investments Pty Ltd.

The Greenfields processing plant is a standard carbon-in-leach gold mill, which toll treats ore from a variety of sources and has a nominal 1 400 000 tonnes per year capacity.

The TSF is located approximately 200 m east of the plant and comprises of three main cells (TSF1, TSF2 and TSF3).



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	L1.2.1 – 1.2.3	General conditions 1.2.1 – 1.2.3 are included in the Licence.	General provisions of the <i>Environmental Protection Act 1986</i> .
Premises operation	L1.3.1 – 1.3.5	DER's assessment and decision making are detailed in Appendix A.	Application supporting documentation
Emissions general	L – no conditions	No general emission conditions are required.	N/A
Point source emissions to air including monitoring	L – no conditions	Operation There are no significant point source air emissions from the operation. No conditions are required.	General provisions of the <i>Environmental Protection Act 1986</i> .
Point source emissions to surface water including monitoring	L – no conditions	Operation There are no significant point source emissions to surface water from the operation. No conditions are required.	General provisions of the <i>Environmental Protection Act 1986</i> .
Point source emissions to groundwater including	L – no conditions	Operation There are no significant point source emissions to groundwater from the operation. No conditions are required.	General provisions of the <i>Environmental Protection Act</i>



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monitoring			1986.
Emissions to land including monitoring	L – no conditions	Operation There are no significant point source emissions to land from the operation. No conditions are required.	General provisions of the <i>Environmental Protection Act 1986</i> .
Fugitive emissions	L – no conditions	Operation Significant fugitive emissions are not expected to occur from the operations. Dust is generally not an issue at the premises. Water trucks and sprays are used for dust suppression on haul roads and other trafficked areas as well as in the crushing and grinding circuits. FMR enforces a speed limit of 20 km per hour on and around the TSFs which minimises dust lift. No conditions are required for fugitive emissions.	Application supporting documentation General provisions of the <i>Environmental Protection Act 1986</i> .
Odour	L – no conditions	Operation No significant odour emissions are expected from the premises. No conditions are required.	General provisions of the <i>Environmental Protection Act 1986</i> .
Noise	L – no conditions	Operation Significant noise emissions are not expected from the premises. The town of Coolgardie is the nearest human sensitive receptor to the site, located approximately 3 km south-west. There have been no recorded noise complaints received. No conditions are required.	Application supporting documentation <i>Environmental Protection (Noise) Regulations 1997</i>
Monitoring general	L2.1.1 – 2.1.2	Conditions 2.1.1 and 2.1.2 have been included in the Licence to ensure monitoring is undertaken in accordance with the relevant standards and undertaken at appropriate intervals.	General provisions of the <i>Environmental</i>



DECISION TABLE			
Works Approval / Licence section	Condition number W = Works Approval L = Licence	Justification (including risk description & decision methodology where relevant)	Reference documents
			<i>Protection Act 1986.</i>
Monitoring of inputs and outputs	L – no conditions	There is no monitoring of inputs and outputs required.	N/A
Process monitoring	L2.2.1	Process monitoring has been included in this Licence to ensure tailings deposition and water recovered from the TSF is measured.	General provisions of the <i>Environmental Protection Act 1986.</i>
Ambient quality monitoring	L2.3.1	<p>Normal Operation</p> <p><i>Emission:</i> Tailings held in the TSF as a waste product from gold processing include cyanide and metals and metalloids. Seepage from the TSF into the surrounding groundwater may occur over time as tailings are deposited into the facility.</p> <p><i>Impact:</i> Contamination of groundwater and surrounding soils and potentially vegetation death.</p> <p><i>Controls:</i> The TSFs are constructed with a clay liner to minimise seepage. Groundwater monitoring is undertaken around the TSFs from a network of eight monitoring bores. A water balance model prepared by GHD for TSF3, including seepage rate calculations determined that seepage would be less than 0.05% of the total slurry discharged.</p> <p><u>Risk Assessment</u> <i>Consequence:</i> Moderate <i>Likelihood:</i> Possible <i>Risk Rating:</i> Moderate</p> <p><u>Regulatory Controls</u> Condition 2.3.1 requires quarterly ambient groundwater monitoring in order to determine if any seepage is occurring into the surrounding groundwater. A standing</p>	<p>Application supporting documentation</p> <p>General provisions of the <i>Environmental Protection Act 1986.</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>water level limit of 4 mbgl has been carried over from the previous licence. This limit is to ensure water levels do not rise significantly, causing potential vegetation harm or death. The current suite of monitoring parameters on the Licence is not sufficient to represent tailings chemistry. The following metals and ions have been added to the quarterly regime; cadmium, copper, lead, mercury, zinc, arsenic, chromium, iron, magnesium, nickel, sodium, potassium, calcium and chloride.</p> <p>WAD CN is listed as a monitoring parameter, however, there was previously no limit. A limit of 0.5 mg/L has now been included in the Licence, in accordance with the International Cyanide Code. Premises operation condition 1.3.4 also ensures the TSFs are managed so that seepage is collected and the supernatant pond is minimised as far as practicable to minimise seepage.</p> <p><u>Residual Risk</u> <i>Consequence:</i> Moderate <i>Likelihood:</i> Possible <i>Risk Rating:</i> Moderate</p>	
Meteorological monitoring	L – no conditions	No conditions are required for meteorological monitoring.	N/A
Improvements	L – no conditions	No improvement conditions are required.	N/A
Information	L3.1.1 – 3.3.1	Standard conditions are included in the Licence relating to the management of records and complaints, notification requirements and the submission of an annual audit compliance report and annual environmental report are included on the Licence.	N/A
Licence Duration	N/A	The duration of the licence has been issued at five years in accordance with DER's Guidance Statement on Licence Duration.	Guidance Statement on Licence Duration



5 Advertisement and consultation table

Date	Event	Comments received/Notes	How comments were taken into consideration
28/09/2015	Application advertised in West Australian (or other relevant newspaper)	No comments received	N/A
25/09/2015	Proponent sent a copy of draft instrument	No comments received	N/A



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

Premises Operation - Abnormal Operation

Emission Description

Emission: Pond overtopping and release of tailings containing cyanide, toxic metals, sulfide minerals and dissolved solids.

Impact: Contamination of surrounding soils with toxic metals, sulfide minerals, dissolved solids and cyanide affecting soil and ground water quality and causing vegetation stress or even deaths if the exposure is for a prolonged period.

Controls: The facilities are constructed and maintained in accordance with original management documents, including a minimum freeboard and daily inspections.

Risk Assessment

Consequence: Moderate

Likelihood: Unlikely

Risk Rating: Moderate

Regulatory Controls

Condition 1.3.3 relates to maintaining a minimum top of embankment freeboard of 500 mm within all storage facilities containing saline, alkaline or cyanide constituents to accommodate extreme rainfall events and prevent overtopping. Condition 1.3.5 relates to carrying out visual daily inspections by the licensee for the embankment freeboard.

Residual Risk

Consequence: Moderate

Likelihood: Unlikely

Risk Rating: Moderate

Premises Operation - Emergency Situation

Emission Description

Emission: Tailings are transported in pipelines through areas of native vegetation. Emissions will occur if the pipelines rupture and/or leak.

Impact: Contamination of surrounding soils with dissolved solids can affect groundwater quality and cause vegetation stress or even death if exposure is for a prolonged period.

Controls: Pipelines have been constructed in accordance with AS/NZS standards.

Risk Assessment

Consequence: Moderate

Likelihood: Possible

Risk Rating: Moderate

Regulatory controls

Condition's relating to pipelines will be included in the Licence through conditions 1.3.1 and 1.3.5. Condition 1.3.1 will ensure pipelines containing environmentally hazardous materials will be managed appropriately and corrective action is taken in the event that pipelines leak or rupture. Condition 1.3.5 will ensure twice daily inspections are carried out for pipeline integrity.

Residual Risk

Consequence: Moderate

Likelihood: Unlikely

Risk Rating: Moderate