



Decision Document

Environmental Protection Act 1986, Part V

Proponent: Independence Jaguar Limited

Licence: L8151/2005/2

Registered office: Suite 4, Level 5
85 South Perth Esplanade
SOUTH PERTH WA 6151

ACN: 060 620 751

Premises address: Jaguar Operations
Mining Tenements M37/44, M37/515, M37/1132, M37/1153, M37/1228,
M37/1230, M37/1257 and M37/1290
LEONORA WA 6438

Issue date: Wednesday, 3 April 2013

Commencement date: Wednesday, 3 April 2013

Expiry date: Monday, 2 April 2018

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 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
Manager Licensing



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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.

Works approval and licence conditions

DER has three types of conditions that may be imposed on works approvals and licences. They are as follows;

Standard conditions (SC)

DER has standard conditions that are imposed on all works approvals and licences regardless of the activities undertaken on the Premises and the information provided in the application. These are included as the following conditions on works approvals and licences:

Works approval conditions: 1.1.1-1.1.4, 1.2.1, 1.2.2, 5.1.1 and 5.1.2.

Licence conditions: 1.1.1-1.1.4, 1.2.1-1.2.4, 5.1.1-5.1.4 and 5.2.1.

For such conditions, justification within the Decision Document is not provided.

Optional standard conditions (OSC)

In the interests of regulatory consistency DER has a set of optional standard conditions that can be imposed on works approvals and licences. DER will include optional standard conditions as necessary, and are likely to constitute the majority of conditions in any licence. The inclusion of any optional standard conditions is justified in Section 4 of this document.

Non standard conditions (NSC)

Where the proposed activities require conditions outside the standard conditions suite DER will impose one or more non-standard conditions. These include both premises and sector specific conditions, and are likely to occur within few licences. Where used, justification for the application of these conditions will be included in Section 4.



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	<table border="1"> <thead> <tr> <th>Category number(s)</th> <th>Assessed design capacity</th> </tr> </thead> <tbody> <tr> <td>5</td> <td>3,200,000 tonnes per year</td> </tr> <tr> <td>6</td> <td>500,000 kL per year</td> </tr> <tr> <td></td> <td></td> </tr> </tbody> </table>	Category number(s)	Assessed design capacity	5	3,200,000 tonnes per year	6	500,000 kL per year		
	Category number(s)	Assessed design capacity							
	5	3,200,000 tonnes per year							
	6	500,000 kL per year							
Application verified	Date: N/A								
Application fee paid	Date: N/A								
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 type="checkbox"/> No <input checked="" type="checkbox"/> Referral decision No: Managed under Part V <input 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 type="checkbox"/>								
Is the Premises within an Environmental Protection Policy (EPP) Area	Yes <input type="checkbox"/> No <input 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

Independence Jaguar Limited (Independence) is a fully owned subsidiary of Independence Group NL (IGO). Independence owns and operates the Jaguar and Bentley base metals projects, collectively known as the Jaguar Operation (Jaguar). Jaguar is located approximately 60 kilometres (km) north of Leonora. The operation consists of the Jaguar and Bentley underground mines and a 2,600,000 tonne zinc and copper concentrator plant. Independence holds tenements north and south of Jaguar covering a belt of 40km strike which is up to 5km wide.

Jaguar has been assessed as “prescribed premises” categories 5 and 6 under Schedule 1 of the Environmental Protection Regulations 1987.

Jaguar includes a mill for processing or beneficiation of metallic or non-metallic ore, including storage of bulk diesel and oil, and a tailings pipeline from the processing plant to Tailings Storage Facility 2 (TSF2). TSF2 was constructed under works approval W5262/2012/1 issued on 21 March 2013. A compliance certificate was received 21 August 2013. TSF2 has replaced TSF1 to accepting tailings generated by the nearby Jaguar Base Metals Concentrator.

Mine dewater from Jaguar and Bentley underground mines is pumped to the Bentley settling ponds and turkey’s nest. The water is then pumped to the Jaguar turkey’s nest where it can be used for dust suppression. This water is also available to the process water pond, or if unneeded, is diverted to the disused Teutonic Bore open pit for disposal.

Registrations R1980/2008/1 (category 89 – putrescible landfill), and R1983/2008/1 (category 85 – sewage facility) were issued shortly after the time of the commissioning of the processing plant in 2008.

The intent of this Licence amendment and partial Decision Document is to assess the potential environmental impacts of emissions and discharges associated the increase in throughput of processing from 2,600,000 tonnes per annum to 3,200,000 tonnes per annum.



4 Decision table

All applications are assessed in line with the *Environmental Protection Act 1986*, the *Environmental Protection Regulations 1987*, DEC's Policy Statement - Limits and targets for prescribed premises (2006), 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	OSC or NSC	Justification (including risk description & decision methodology where relevant)	Reference documents
Premises operation	L1.3.2 – 1.3.6 L1.3.8	OSC	<p>Normal Operation</p> <p><u>Emission Description</u></p> <p><i>Emission:</i> The increase in the processing throughput from 2,600,000 tonnes per year to 3,200,000 tonnes per year, will increase the waste product from the processing plant, which is discharged as tailings into the tailings storage facility 2 (TSF2). This may cause seepage of leachate into the underlying groundwater causing subsequent contamination of groundwater and also groundwater mounding.</p> <p><i>Impact:</i> Contaminated groundwater from leachate would have a harmful effect on any groundwater dependent ecosystems. Groundwater mounding has the potential to saturate subsurface soils, introduce salts, generate acids and mobilise metals. This could potentially contaminate shallow-rooted vegetation, which normally relies on surface water run-off.</p> <p><i>Controls:</i> A number of controls have been implemented by Independence to ensure seepage and its impacts are minimised. These controls include the following:</p> <ul style="list-style-type: none"> • The TSF basin was constructed with a compacted clay liner with a permeability of between 1×10^{-8} and 1×10^{-9}; • An active recovery plan of seepage water from production bores; • An active seepage management plan; • A network of underdrainage pipelines to direct tails liquor to wells on the downstream side of the TSF embankments, which is then recirculated back to the processing plant; • A two metre deep seepage recovery trench to capture seepage at the 	<p>Applicant supporting document</p> <p>General provisions of the <i>Environmental Protection Act 1986</i>.</p>



DECISION TABLE				
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			<p>embankment toe and return to the process plant;</p> <ul style="list-style-type: none"> A groundwater monitoring regime of 12 bores for a suite of appropriate parameters. <p><u>Risk Assessment:</u> <i>Consequence:</i> Moderate <i>Likelihood:</i> Possible <i>Risk Rating:</i> Moderate</p> <p><u>Regulatory Controls</u> OSCs 1.3.2 – 1.3.6 to ensure the TSFs are managed appropriately are included on the licence and have not changed during this amendment. They include management of freeboard, supernatant pond, seepage management and infrastructure inspections. These conditions are deemed suitable to manage the increase in throughput.</p> <p>OSC 1.3.8 has been placed on the Licence to ensure the Licensee continues to operate the recovery bores for TSF1 until such a time is agreed by the CEO.</p> <p>Independence will be required to continue ambient groundwater quality monitoring in accordance with OSC 3.8.1. Monthly monitoring of SWL will provide early indications of groundwater mounding. If any indication of seepage occurs due to the increase in tailings, a reassessment will occur and DER may amend the licence to include an improvement condition for a seepage management plan to be implemented.</p> <p><u>Residual Risk</u> <i>Consequence:</i> Moderate <i>Likelihood:</i> Possible <i>Risk Rating:</i> Moderate</p>	



DECISION TABLE				
Works Approval / Licence section	Condition number W = Works Approval L= Licence	OSC or NSC	Justification (including risk description & decision methodology where relevant)	Reference documents
Process monitoring	L3.7.1	OSC	No change to the process monitoring is required during this amendment as the monitoring requirements will ensure volumes of tailings, water recovered and seepage water recovered are measured. The units for this monitoring, however, were previously incorrect and have now been amended correctly.	General provisions of the <i>Environmental Protection Act 1986</i> .
Improvements	L4	N/A	<p>The improvement condition has been removed as the seepage management plan was submitted to DER in December 2014.</p> <p>Independence were required through an improvement condition to reduce the groundwater levels affected by seepage by December 2014. Independence submitted an update to DER which showed SWLs are now compliant with both targets and limits set within the licence with levels dropping further. Independence have committed to continuing the operation of recover bores until such time that all recovery bores are dry and it can be confirmed that the TSF 1 tailings are completely dry, no seepage is occurring and the SWLs in the TSF 1 monitoring bores have returned to pre-deposition levels. This condition has now been removed and there are no new improvement conditions required in the Licence.</p>	Applicant supporting document
Licence Duration	N/A	N/A	The duration of the Licence has not been reassessed during this amendment. The expiry date remains 2 April 2018.	N/A



5 Advertisement and consultation table

Date	Event	Comments received / Notes	How comments were taken into consideration
11 March 2013	Application advertised in <i>The West Australian</i>	None received	N/A
19 June 2015	Draft amendment sent to proponent	A number of comments have been received for minor changes within the Licence. These changes relate to wording/administrative changes.	Changes accepted.



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