



# Decision Document

## *Environmental Protection Act 1986, Part V*

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**Proponent:** **Kalgoorlie Consolidated Gold Mine Pty Ltd**

**Licence:** **L5946/1988/13**

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**Registered office:** Kalgoorlie Consolidated Gold Mines Pty Ltd  
Black Street  
KALGOORLIE WA 6430

**ACN:** 099 377 619

**Premises address:** Gidji Processing Plant  
Tenements G24/24-33  
KALGOORLIE WA 6430

**Issue date:** Friday, 26 September 2014

**Commencement date:** Monday, 29 September 2014

**Expiry date:** Saturday, 28 September 2029

### **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:

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Senior Licensing Officer

Decision Document authorised by:

Jonathan Bailes  
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.



## 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>438,000 tonnes per annual period</td> </tr> </tbody> </table>	Category number(s)	Assessed design capacity	5	438,000 tonnes per annual period
	Category number(s)	Assessed design capacity			
5	438,000 tonnes per annual period				
Application verified	Date: 20 August 2015				
Application fee paid	NA				
Works Approval has been complied with	Yes <input type="checkbox"/> No <input type="checkbox"/> N/A <input type="checkbox"/>				
Compliance Certificate received	Yes <input 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					
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> ?	<table border="1"> <tr> <td>Yes <input type="checkbox"/> No <input checked="" type="checkbox"/></td> <td>           Referral decision No:            Managed under Part V <input type="checkbox"/>            Assessed under Part IV <input type="checkbox"/> </td> </tr> </table>	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"/>		
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?	<table border="1"> <tr> <td>Yes <input checked="" type="checkbox"/> No <input type="checkbox"/></td> <td>           Ministerial statement No: 28 &amp; 77             EPA Report No:         </td> </tr> </table>	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Ministerial statement No: 28 & 77  EPA Report No:		
Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Ministerial statement No: 28 & 77  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"/> If Yes include details of which EPP(s) here.				
Is the Premises subject to any EPP requirements?	Yes <input type="checkbox"/> No <input type="checkbox"/> If Yes, include details here, e.g. Site is subject to SO <sub>2</sub> requirements of Kwinana EPP.				



### 3 Executive summary of proposal and assessment

Kalgoorlie Consolidated Gold Mines Ltd (KCGM) operates the Fimiston open pit, Mt Charlotte underground mine, Fimiston mill and Gidji Processing Plant on behalf of joint venture owners Barrick Ltd (Australia Pacific) and Newmont Asia Pacific Ltd (Newmont).

The Gidji Processing Plant, located 17 kilometres north of Kalgoorlie-Boulder, treats refractory gold sulphide concentrate produced by the Fimiston mill. The purpose of this amendment is to remove metal smelting or refining from the licence. The Licensee also applied to increase the throughput of 351,000 to 438,000 tonnes per annual period however this was not assessed on the basis that this increase needs to be approved under Part IV of *The Environmental Protection Act 1986* and any approved increase reflected in Ministerial Statement Nos. 77 and 28. This Part IV amendment is delayed and the Licensee has requested that the parts of the application which do not require amendment of the Ministerial Statement to be processed. A separate application will be made for the increased throughput following the finalisation of the Part IV amendment.

Historically, the sulphide ore was initially roasted to oxidate the sulphide which in turn allowed the fine gold particles to be dissolved once the ore was placed into cyanide solution. In order to reduce its gaseous emissions to air, the site undertook an Emissions Reduction Project under Works Approval W5659/2014/1. This involved the replacement of the two 20 tonne per hour roasters with one 30 tonne per hour Ultrafine Grinding Mill (UFG) to process refractory ore from Fimiston. This is in addition to the existing 10 tonne per hour UFG mill, maintaining the sites 40 tonne per hour processing of refractory ore. The two roasters ceased operating on 26 January 2015 and 5 April 2015 respectively. This Licence amendment removes reference to all point source air emissions and associated monitoring requirements. Additionally ambient monitoring requirements in accordance with the *Environmental Protection (Goldfields Residential Areas) (Sulfur Dioxide) Policy 2003* are also no longer relevant to this licence.

The tailings from the cyanide leach and carbon-in-pulp adsorption process are sent to the Gidji Tailings Storage Facilities (TSFs). Currently, two cells are in operation, Gidji II (east) and Gidji II (west). These cells were commissioned in 2012 and 2014 respectively. Associated infrastructure supporting the process plant includes access tracks, borefields (production and monitoring bores), water storage ponds, transfer ponds and seepage interception trench. This amendment includes the removal of the Gidji I TSF as an approved tailing deposition area. Under a previous licence amendment (4 December 2014), DER agreed to allow the use of the use of the Gidji I TSF as an interim measure until the TSF reached its maximum capacity or until the new UFG mill was commissioned (whichever came first).

This amendment also removes reference to the vehicle wash down bays from the licence as no vehicles are washed down at the Gidji facility. This was confirmed through DER's Inspection of the premises on 25 March 2015. This expiry date of this Licence has also been amended to extend in accordance with DER's *Guidance Statement on Licence Duration (November 2014)*.

Other changes have also been made to reflect administrative changes implemented within the DER.



## 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
Definitions	NA	Definitions have been amended to remove reference to any terminology associated with removed conditions. Other definitions have been removed in accordance with administrative changes implemented within DER.	NA
General conditions	NA	<p>These conditions have been removed from the previous licence in accordance with administrative changes implemented within DER:</p> <ul style="list-style-type: none"> <li>• Condition 1.2.1 has been removed as it contains explanatory text only;</li> <li>• Condition 1.2.2 has been removed as it is not sufficiently clear or certain; Condition 1.2.3 and 1.2.4 have been removed as it is the occupier's responsibility to ensure that they comply with relevant legislative requirements for secondary activities such as the storage and handling of environmentally hazardous materials. Unauthorised discharges of environmentally hazardous materials are subject to the provisions of the <i>Environmental Protection (Unauthorised Discharges) Regulations 2004</i>.</li> <li>• Condition 1.2.5 has been removed as it is not sufficiently clear or certain. The condition does not specify what stormwater infrastructure is required to be constructed and maintained or what if any specific management actions are required. Contaminated stormwater has previously been assessed as posing a moderate risk. DER has considered whether the risk profile of the premises has significantly changed since the previous licence was granted. Significant changes have occurred at the site and although greater quantities cyanide will be used per tonne of concentrate processed, there will be no increase in on-site storage of reagents. Deliveries will increase in frequency to maintain stock levels to meet</li> </ul>	<p>DER public website at: <a href="http://www.der.wa.gov.au">www.der.wa.gov.au</a></p> <p><i>Environmental Protection Act 1986.</i></p> <p><i>Environmental Protection (Unauthorised Discharge) Regulations 2004</i></p>



<b>DECISION TABLE</b>			
<b>Works Approval / Licence section</b>	<b>Condition number W = Works Approval L= Licence</b>	<b>Justification (including risk description &amp; decision methodology where relevant)</b>	<b>Reference documents</b>
		increased throughput. On this basis, and in accordance with administrative changes, this condition has been removed as the risk can be managed through established site procedures. The substantive offences of the EP Act provide enforceable prohibitions for discharges of contaminated stormwater that result in pollution or environmental harm.	
<b>Premises operation</b>	L1.2.1- 1.2.4	Premises operation has been reassessed as part of this amendment. Reference to vehicle wash down bays is removed from Table 1.2.1 as no vehicles are washed down at the Gidji processing plant. References to the clay lined Gidji I TSF West Cell and the Gidji I TSF East cell are also removed from Table 1.2.1. The construction of these cells is not considered adequate to contain supernatant from tailings deposited within these cells.	<i>Environmental Protection Act 1986.</i>  <i>Environmental Protection (Unauthorised Discharge) Regulations 2004</i>  Amendment supporting documentation (30 June 2015; 20 August 2015)
<b>Emissions General</b>	NA	Condition 2.1 in previous version of licence. Removal of nil condition sections of licence in accordance with administrative changes implemented by DER.	DER public website at: <a href="http://www.der.wa.gov.au">www.der.wa.gov.au</a>
<b>Point source emissions to air, surface water, groundwater and land</b>	NA	Conditions 2.2-2.5 in previous version of licence. Point source air emission conditions have been removed from this licence as the site is no longer authorised to undertake metal roasting activities. Both roasters ceased to be operational on 26 January 2015 and 5 April 2015 respectively. A decommissioning plan is being developed to remove the infrastructure.  Removal of nil condition sections of licence in accordance with administrative changes implemented by DER.	Amendment supporting documentation (30 June 2015; 20 August 2015)  DER public website at: <a href="http://www.der.wa.gov.au">www.der.wa.gov.au</a>
<b>Fugitive emissions</b>	NA	Conditions 2.6.1- 2.6.2 in previous version of licence. Refer to improvements section below.  Removal of nil condition sections of licence in accordance with administrative	<i>Environmental Protection Act 1986.</i>  DER public website at:



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		changes implemented by DER.	<a href="http://www.der.wa.gov.au">www.der.wa.gov.au</a>
<b>Odour and Noise</b>	NA	Conditions 2.7-2.8 in previous version of licence. Removal of nil condition sections of licence in accordance with administrative changes implemented by DER.	DER public website at: <a href="http://www.der.wa.gov.au">www.der.wa.gov.au</a>
<b>Monitoring general</b>	NA	Condition 3.1.3 from the previous licence is removed as it is not enforceable and does not clearly state the outcome that must be achieved.	DER public website at: <a href="http://www.der.wa.gov.au">www.der.wa.gov.au</a>
<b>Monitoring of point source emissions to air</b>	NA	Conditions 3.2.1-L3.2.3 in previous version of licence. There are no point source emissions to air authorised under this amended licence. This section and all conditions relating to point source emissions to air have been removed.	
<b>Monitoring of point source emissions to surface water, groundwater, land; and monitoring of inputs and outputs</b>	NA	Conditions 3.3- L3.7 from previous licence. Removal of nil condition sections of licence in accordance with administrative changes implemented by DER.	DER public website at: <a href="http://www.der.wa.gov.au">www.der.wa.gov.au</a>
<b>Ambient environmental quality monitoring</b>	NA	<p>Conditions 3.8.1, 3.8.2, 3.8.1 and 3.9.1 from previous licence. There are no point source emissions to air authorised under this amended licence. All conditions relating to ambient air quality and meteorological monitoring have been removed from this licence.</p> <p>The requirement to undertake ambient groundwater monitoring and vegetation monitoring are retained in this licence.</p> <p>Removal of nil condition sections of licence in accordance with administrative changes implemented by DER.</p>	<p><i>Environmental Protection Act 1986.</i></p> <p>Gidji Tailings Storage Facilities Operating Manual- October 2015 Update</p> <p>DER public website at: <a href="http://www.der.wa.gov.au">www.der.wa.gov.au</a></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
	L2.1.4	Reference to vegetation monitoring location 3 has been removed from Table 2.1.4 as it is located in a disturbed area containing mining infrastructure with restricted access.	Kalgoorlie Consolidated Gold Mines Annual Environment Report 2015  Email correspondence from Catherine Wharton, 8 April 2016
Improvement Condition	L3.1.1	<p>The condition requiring the submission of a report on hydrogeological data, seepage recovery procedures, and the current groundwater monitoring programme is removed. This condition was completed and the report was received by DER on 31 March 2015.</p> <p>Fugitive dust emission have previously been assessed as moderate. DER has considered whether the risk profile of fugitive dust from the premises has significantly changed since the previous licence was issued. No significant changes have occurred, and therefore in accordance with administrative changes implemented within DER, generic fugitive conditions have been removed. Fugitive dust will be managed through the development of a site-specific Dust Management Plan.</p> <p><u>Standard operation</u>  <i>Emission:</i> Fugitive dust emissions from vehicle and plant movements, cleared areas, and the TSFs. Dust from TSFs will contain cyanide and other toxic metals. Gidji I TSF is not currently in use and the dust suppressing the effect of the wet tailings is not available to reduce fugitive dust emissions. Dry and high wind conditions promote dust lift off from TSFs and other surfaces.  <i>Impact:</i> Dust and cyanide emissions can be harmful to human health and the environment. Elevated total suspended particulates (TSP) impact on vegetation by smothering and through abrasion to leaves. Particulate matter less than 10</p>	<p>Gidji Tailings Storage Facility Review of Hydrogeological Data and Groundwater Management (March 2015).</p> <p><i>Environmental Protection Act 1986.</i></p> <p>DER public website at: <a href="http://www.der.wa.gov.au">www.der.wa.gov.au</a></p>





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		<p>(PM<sub>10</sub>) or 2.5 (PM<sub>2.5</sub>) microns in diameter can be inhaled deep into the lungs creating health impacts. The acute toxicity of cyanide is extremely harmful when inhaled by fauna or human receptors.</p> <p><i>Controls:</i> Use of water carts and ongoing supervision by site personnel with the early identification of any potential dust issues. Cyanide is broken down by UV light. The proposed deposition of tailings on an irregular basis will assist in reducing dust generation.</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>            Improvement condition IR1 has been added requiring the occupier to develop a Dust Management Plan to detail how the Licensee will manage the risk associated with fugitive dust emissions.</p> <p><u>Residual Risk</u>  <i>Likelihood:</i> Moderate  <i>Consequence:</i> Unlikely  <i>Risk rating:</i> Moderate</p>	
<b>Information</b>	NA	Condition 5.1.2 from the previous licence version is removed as the condition is not enforceable as the conditions for compliance are unclear.	DER public website at: <a href="http://www.der.wa.gov.au">www.der.wa.gov.au</a>
<b>Reporting</b>	L4.2.1	Condition 1.2.2 from the previous licence version has been removed however DER still requires an annual summary of reportable environmental incidents and actions taken to be provided in the Annual Environmental Report.	Amendment supporting documentation (30 June 2015; 20 August 2015)



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		<p>Reporting conditions 5.2.1, 5.2.2 and 5.2.3 from the previous licence version have been changed to reflect changes to premises operations and administrative changes implemented through Departmental reform:</p> <ul style="list-style-type: none"> <li>• Condition 5.2.1 - the removal of reference to SO<sub>2</sub> Vegetation Monitoring Program from Table 5.2.1 as the premises no longer has point source air emissions;</li> <li>• Condition 5.2.2 –part (a) removal of part condition part was not enforceable and did not clearly state the outcome that must be achieved by the Licensee.</li> <li>• Condition 5.2.2 – part (b) removal of reference to target reporting in the Annual Environmental Report.</li> <li>• Condition 5.2.3- removal of reference to point source air emissions monitoring, roaster plant process monitoring, ambient SO<sub>2</sub> and meteorological monitoring requirements in Table 5.2.2</li> </ul>	<p>DER public website at: <a href="http://www.der.wa.gov.au">www.der.wa.gov.au</a></p>
<b>Notification</b>	L4.3.1	<p>Updates have been made to this condition to remove reference to 'any failure or malfunction of pollution control equipment of any incident which has caused, is causing of may cause pollution' as this requirement exists in section 72 of the <i>Environmental Protection Act 1986</i>.</p> <p>Further information on reporting pollution obligations under s72 of the EP Act can be found at <a href="http://www.der.wa.gov.au/your-environment/reporting-pollution">www.der.wa.gov.au/your-environment/reporting-pollution</a>. Form N1 has been amended to reflect these changes.</p>	<p>Section 72 of <i>Environmental Protection Act 1986</i>.</p> <p>DER public website at: <a href="http://www.der.wa.gov.au">www.der.wa.gov.au</a></p>
<b>EPP related Requirements</b>	NA	<p>Conditions 6.1.1- 6.5.1 from the previous licence version have been removed. There are no point source air emissions authorised under this licence and all conditions relating to the <i>Environmental Protection (Goldfields Residential Areas) (Sulfur Dioxide) Policy 2003</i> and ambient air quality have been removed from the licence.</p>	<p>Amendment supporting documentation (30 June 2015; 20 August 2015)</p>
<b>Schedules</b>	N/A	<p>As there are no point source air emissions authorised under this licence, maps and attachments referencing air emissions discharge locations, ambient air monitoring and meteorological locations, and data formatting requirements, have</p>	<p>Amendment supporting documentation (30 June 2015; 20 August 2015)</p>



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		been removed. Form N1 has been updated.	DER public website at: <a href="http://www.der.wa.gov.au">www.der.wa.gov.au</a> N/A
<b>Licence Duration</b>	N/A	The licence duration has been amended in accordance with DER's Guidance Statement on Licence Duration. An expiry date of 28 September 2029 was chosen as it is the latest date that aligns with the annual reporting period for the licence as well as the company's legal access to all the tenements included within the prescribed premises boundary.	DER's Guidance Statement on Licence Duration (November, 2014)



## 5 Advertisement and consultation table

Date	Event	Comments received/Notes	How comments were taken into consideration
18 March 2016	Proponent sent a copy of draft amended instrument	-	-
8 April 2016	Proponents comments received via email from Catherine Wharton	Licensee requested that vegetation monitoring location 3 be removed from the licence condition  Minor typographical changes recommended.	DER confirmed with aerial photography and the 2015 Annual Environmental Report that this location is within an infrastructure area and removed reference to it within vegetation monitoring condition 2.1.4.



## 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