



Application for Licence Amendment

Part V Division 3 of the *Environmental Protection Act 1986*

Licence Number	L6420/1988/14
Licence Holder	Kalgoorlie Consolidated Gold Mines Pty Ltd
ACN	009 377 619
File Number	DER2015/002506-1
Premises	Fimiston Plant and Tailings Storage Facilities Mining Tenements G26/15, G26/44-68, G26/70-71, G26/73-78, G26/82-86, G26/99-107, G26/138-145, G26/149, G26/159, G26/160, G26/165, G26/166, L26/267, M26/39, M26/46, M26/78, M26/86, M26/95, M26/267-268, M26/294, M26/308, M26/326, M26/359, M26/377, M26/383, M26/405, M26/448, M26/451 and M26/715 KALGOORLIE WA 6430
Date of Report	08/02/2021
Decision	Revised licence granted

**A/MANAGER, RESOURCE INDUSTRIES
REGULATORY SERVICES**

an officer delegated under section 20 of the *Environmental Protection Act 1986* (WA)

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1. Decision summary

Licence L6420/1988/14 is held by Kalgoorlie Consolidated Gold Mines Pty Ltd (Licence Holder) for the Fimiston Plant and Tailings Storage Facilities (the Premises), located in Kalgoorlie WA.

This Amendment Report documents the assessment of potential risks to the environment and public health from proposed changes to the emissions and discharges during the operation of the Premises. As a result of this assessment, Revised Licence L6420/1988/14 has been granted.

The Revised Licence issued as a result of this amendment consolidates and supersedes the existing Licence previously granted in relation to the Premises.

2. Scope of assessment

2.1 Regulatory framework

In completing the assessment documented in this Amendment Report, the department has considered and given due regard to its Regulatory Framework and relevant policy documents which are available at <https://dwer.wa.gov.au/regulatory-documents>.

2.2 Application summary

On 24 November 2020, the Licence Holder submitted an application to the department to amend Licence L6420/1988/14 under section 59 and 59B of the *Environmental Protection Act 1986* (EP Act). The following amendments are being sought:

- operation of infrastructure constructed and commissioned under works approval W5532/2013/1 for the Fimiston Emissions Reduction Project (ERP) including installation of new emissions control equipment including a Retort Oven in the Gold Room, a Wet Scrubber, Regenerative Thermal Oxidiser (RTO) and Carbon Filter Beds to treat the off-gas from the Carbon Regeneration Kilns;
- amending authorised emission points to air in Table 2.2.1 of the licence to reflect the new abatement system; and
- amending Table 1.3.1 containment infrastructure of the licence to include retort room liquid mercury store and mercury storage facility.

Commissioning report for the emissions reduction project was submitted to the department on 15 October 2020. The Delegated Officer has considered the commissioning report and considers that the data adequately demonstrates that the project design criteria in terms of mercury capture and VOC destruction have been achieved.

3. Risk assessment

The department assesses the risks of emissions from prescribed premises and identifies the potential source, pathway and impact to receptors in accordance with the *Guidance Statement: Risk Assessments* (DER 2017).

To establish a Risk Event there must be an emission, a receptor which may be exposed to that emission through an identified actual or likely pathway, and a potential adverse effect to the receptor from exposure to that emission.

3.1 Source-pathways and receptors

3.1.1 Emissions and controls

The key emissions and associated actual or likely pathway during premises operation which have been considered in this Amendment Report are detailed in Table 1 below. Table 1 also details the proposed control measures the Licence Holder has proposed to assist in controlling these emissions, where necessary.

Table 1: Licence Holder controls

Emission	Sources	Potential pathways	Proposed controls
Mercury	Mercury storage facility, retort room liquid mercury store	Spills/ discharge to land resulting in contamination of soils / groundwater	Mercury storage shed constructed in accordance with AS 3780:2008 <i>The Storage and Handling of Corrosive Substances</i>
Mercury	Carbon Regeneration Kilns	Air/windborne pathway causing impacts to health and amenity	Kiln Off-Gas Cleaning Circuit (Wet Scrubber, RTO, Carbon Filter Bed) A2 Mercury emissions managed in accordance with <i>Fimiston Air Quality Management Plan (FAQMP)</i> required under Condition 7 of Ministerial Statement 782, issued under Part IV of the <i>Environmental Protection Act 1986</i> .
	Gold room furnace		Mercury Retort Oven

3.1.2 Receptors

In accordance with the *Guidance Statement: Risk Assessment* (DER 2017), the Delegated Officer has excluded employees, visitors and contractors of the Licence Holder's from its assessment. Protection of these parties often involves different exposure risks and prevention strategies, and is provided for under other state legislation.

Table 2 below documents environmental receptors that may be impacted as a result of emission and discharges from the Premises (*Guidance Statement: Environmental Siting* (DER 2016)) as relevant to the scope of this amendment application.

Table 2: Sensitive receptors and distance from prescribed activity

Human receptors	Distance from prescribed activity
City of Kalgoorlie-Boulder	Is approximately 3 km from Fimiston open pit.
Environmental receptors	Distance from prescribed activity
Groundwater (hypersaline)	Groundwater depth ranging from 5-20mbgl have been recorded in the TSF compliance monitoring bores.

3.2 Risk ratings

Risk ratings have been assessed in accordance with the *Guidance Statement: Risk Assessments* (DER 2017) for those emission sources which are proposed to change and takes into account potential source-pathway and receptor linkages as identified in Section 3.1. Where linkages are in-complete they have not been considered further in the risk assessment.

Where the Licence Holder has proposed mitigation measures/controls (as detailed in Section 3.1), these have been considered when determining the final risk rating. Where the Delegated Officer considers the Licence Holder's proposed controls to be critical to maintaining an acceptable level of risk, these will be incorporated into the licence as regulatory controls.

Additional regulatory controls may be imposed where the Licence Holder's controls are not deemed sufficient. Where this is the case the need for additional controls will be documented and justified in Table 3.

The Revised Licence L6420/1988/14 that accompanies this Amendment Report authorises emissions associated with the operation of the Premises.

The conditions in the Revised Licence have been determined in accordance with *Guidance Statement: Setting Conditions* (DER 2015).

Table 3. Risk assessment of potential emissions and discharges from the Premises during operation

Risk Event					Risk rating ¹ C = consequence L = likelihood	Licence Holder's controls sufficient?	Conditions ² of licence	Justification for additional regulatory controls
Source/Activities	Potential emission	Potential pathways and impact	Receptors	Licence Holder's controls				
Operation								
Operation of a new retort oven in the Gold room, carbon regeneration kiln	Mercury and other VOCs	Air/windborne pathway causing impacts to health and amenity	City of Kalgoorlie Boulder	See Table 1	Medium C = Minor L =Unlikely	Yes	Amended Table 2.2.1- Emission points to air	Licence holder controls conditioned
Mercury storage facility (up to 2 years of storage)	Mercury	Spills/ discharge to land resulting in contamination of soils / groundwater	Hypersaline groundwater, depth ranges between 5-20mbgl in groundwater compliance bores as recorded in recent GW monitoring report (A1951473)		Medium C = Minor L =Unlikely	Yes	Amended Table 1.3.1- Containment infrastructure	Licence holder controls conditioned

Note 1: Consequence ratings, likelihood ratings and risk descriptions are detailed in the *Guidance Statement: Risk Assessments* (DER 2017).

Note 2: Proposed Licence Holder's controls are depicted by standard text. **Bold and underline text** depicts additional regulatory controls imposed by department.

4. Consultation

Table 4 provides a summary of the consultation undertaken by the department.

Table 4: Consultation

Consultation method	Comments received	Department response
Department of Mines, Industry Regulation and Safety (DMIRS) advised of proposal on 17/12/2020	No comments received.	N/A.
Licence Holder was provided with draft amendment on 25/01/2021	The Licence Holder provided comments and waived the remaining comment period on 3/02/2021. Refer to Appendix 1.	Refer to Appendix 1.

5. Conclusion

Based on the assessment in this Amendment Report, the Delegated Officer has determined that a Revised Licence will be granted, subject to conditions commensurate with the determined controls and necessary for administration and reporting requirements.

5.1 Summary of amendments

Table 5 provides a summary of the proposed amendments and will act as record of implemented changes. All proposed changes have been incorporated into the Revised Licence as part of the amendment process.

Table 5: Summary of licence amendments

Condition no.	Proposed amendments
--	Licence amended to new format. Existing conditions renumbered. Table numbers updated.
Table 7	Containment infrastructure table updated to include retort room liquid mercury store and mercury storage facility constructed in accordance with W5532/2013/1.
Table 9	Emission points to air updated to reflect current abatement infrastructure constructed in accordance with W5532/2013/1 and emission point height for A1 (kiln off-gas cleaning circuit final stack) updated

References

1. Department of Environment Regulation (DER) 2016, *Guidance Statement: Environmental Siting*, Perth, Western Australia.
2. DER 2017, *Guidance Statement: Risk Assessments*, Perth, Western Australia.
3. DER 2015, *Guidance Statement: Setting Conditions*, Perth, Western Australia.

Appendix 1: Summary of Licence Holder's comments on risk assessment and draft conditions

Condition	Summary of Licence Holder's comment	Department's response
Condition 24 Table 13	<p>The Licence Holder has stated the "Note 5" should apply to both pH and EC – allowing both these parameters to be tested "In-field non-NATA accredited analysis permitted". In previous versions of the licence these two parameters were grouped as one as they are both undertaken quarterly.</p> <p>The Licence Holder requested that Note 5 is added as a superscript notation to EC in Table 13.</p>	The department has updated Table 13 as requested.
Notification sub-heading	The Licence Holder has stated that all sub-headings have been removed as part of the reformatting of the licence. However sub-heading "4.1 Notification" remains.	The department has deleted the "4.1 Notification" sub-heading.
Definitions Table 18	<p>The Licence Holder requests that the definitions for FSGMP and KSGMP are amended to change the dates.</p> <p>The Licence Holder has stated that the most recent versions are June 2020 for both documents and these were both approved by the department on 17 July 2020.</p>	The definitions for both FSGMP and KSGMP have had the dates changed to June 2020.
Schedule 1 Premises map	The Licence Holder requests that the Premises Map provided in Schedule 1 be replaced as the new map includes tenement M26/39 and the location of the Mobile Crushing activities, which should have been included in the last licence amendment issued 13 August 2020.	The department has replaced the Schedule 1 Premises map with the revised map.

Appendix 2: Application validation summary

SECTION 1: APPLICATION SUMMARY						
Application type						
Works approval	<input type="checkbox"/>					
Licence	<input type="checkbox"/>	Relevant works approval number:		None	<input type="checkbox"/>	
		Has the works approval been complied with?			Yes	<input type="checkbox"/>
		Has time limited operations under the works approval demonstrated acceptable operations?			Yes	<input type="checkbox"/>
		Environmental Compliance Report / Critical Containment Infrastructure Report submitted?			Yes	<input type="checkbox"/>
		Date Report received:				
Renewal	<input type="checkbox"/>	Current licence number:				
Amendment to works approval	<input type="checkbox"/>	Current works approval number:				
Amendment to licence	<input checked="" type="checkbox"/>	Current licence number:	L6420/1988/14			
		Relevant works approval number:	W5532/2013/1	N/A	<input type="checkbox"/>	
Registration	<input type="checkbox"/>	Current works approval number:		None	<input type="checkbox"/>	
Date application received		24 November 2020				
Applicant and Premises details						
Applicant name/s (full legal name/s)		Kalgoorlie Consolidated Gold Mines Pty Ltd				
Premises name		Fimiston Plant, Fimiston Tailings Disposal and Kaltails Tailings Disposal				
Premises location		Tenements on M26, G26, L26 and M26				
Local Government Authority		Kalgoorlie-Boulder City				
Application documents						
HPCM file reference number:		DER2015/002506-1				
Key application documents (additional to application form):		<ul style="list-style-type: none"> Emission and discharge points (A1957541) Emissions and discharges (A1957542) Waste storage (A1957543) Amendment form (A1957545) 				
Scope of application/assessment						

<p>Summary of proposed activities or changes to existing operations.</p>	<p><i>Licence amendment</i></p> <p>Requests authorisation of operation of infrastructure constructed and commissioned under W5532/2013/1. Following amendments are proposed to the licence:</p> <ul style="list-style-type: none"> • Table 2.2.1 emission points to air to be updated to reflect the new abatement systems and to rectify stack heights referenced; and • Update Table 1.3.1 Containment infrastructure to include Retort room for elemental Hg storage and the Hg Storage Facility for storage of mercury contaminated waste streams.
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Category number/s (activities that cause the premises to become prescribed premises)

Table 1: Prescribed premises categories

Prescribed premises category and description	Assessed production or design capacity	Proposed changes to the production or design capacity (amendments only)
Category 5: Processing or beneficiation of metallic or non-metallic ore	13 350 000 tonnes per year	No change proposed

Legislative context and other approvals

<p>Has the applicant referred, or do they intend to refer, their proposal to the EPA under Part IV of the EP Act as a significant proposal?</p>	<p>Yes <input type="checkbox"/> No <input checked="" type="checkbox"/></p>	<p>Referral decision No: Managed under Part V <input type="checkbox"/> Assessed under Part IV <input type="checkbox"/></p>
<p>Does the applicant hold any existing Part IV Ministerial Statements relevant to the application?</p>	<p>Yes <input checked="" type="checkbox"/> No <input type="checkbox"/></p>	<p>Ministerial statement No: 782 EPA Report No: 1273</p>
<p>Has the proposal been referred and/or assessed under the EPBC Act?</p>	<p>Yes <input type="checkbox"/> No <input checked="" type="checkbox"/></p>	<p>Reference No:</p>
<p>Has the applicant demonstrated occupancy (proof of occupier status)?</p>	<p>Yes <input checked="" type="checkbox"/> No <input type="checkbox"/></p>	<p>Certificate of title <input type="checkbox"/> General lease <input type="checkbox"/> Expiry: Mining lease / tenement <input type="checkbox"/> Expiry: Other evidence <input type="checkbox"/> Expiry:</p>
<p>Has the applicant obtained all relevant planning approvals?</p>	<p>Yes <input type="checkbox"/> No <input type="checkbox"/> N/A <input checked="" type="checkbox"/></p>	<p>Approval: Expiry date: If N/A explain why? <i>Mining</i></p>

		<i>tenement</i>
Has the applicant applied for, or have an existing EP Act clearing permit in relation to this proposal?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	CPS No: N/A No clearing is proposed.
Has the applicant applied for, or have an existing CAWS Act clearing licence in relation to this proposal?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Application reference No: N/A Licence/permit No: N/A No clearing is proposed.
Has the applicant applied for, or have an existing RIWI Act licence or permit in relation to this proposal?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Application reference No: Licence/permit No: Licence / permit not required.
Does the proposal involve a discharge of waste into a designated area (as defined in section 57 of the EP Act)?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Name: N/A Type: Has Regulatory Services (Water) been consulted? Yes <input type="checkbox"/> No <input type="checkbox"/> N/A <input checked="" type="checkbox"/> Regional office:
Is the Premises situated in a Public Drinking Water Source Area (PDWSA)?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Name: N/A Priority: N/A Are the proposed activities/landuse compatible with the PDWSA (refer to WQPN 25)? Yes <input type="checkbox"/> No <input type="checkbox"/> N/A <input checked="" type="checkbox"/>
Is the Premises subject to any other Acts or subsidiary regulations (e.g. <i>Dangerous Goods Safety Act 2004, Environmental Protection (Controlled Waste) Regulations 2004, State Agreement Act xxxx</i>)	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	If Yes include details here. <i>Dangerous Goods Safety Act 2004</i> <i>Environmental Protection (Controlled Waste) Regulations 2004</i>
Is the Premises within an Environmental Protection Policy (EPP) Area?	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	EP (Goldfields Residential Areas) SO ₂ Policy 1992

Is the Premises subject to any EPP requirements?	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	If Yes, include details here: Site is subject to SO ₂ requirements of Goldfields EPP.
Is the Premises a known or suspected contaminated site under the <i>Contaminated Sites Act 2003</i> ?	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Classification: possibly contaminated – investigation required (PC–IR) Date of classification: multiple reported contaminated sites overlapping with premises boundary
Direct interest stakeholders		
Kalgoorlie- Boulder City (LGA)	Letter to be sent Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	
DMIRS	Letter to be sent Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	
OEPA	Letter to be sent Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	