



Application for Licence Amendment

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

Licence Number	L9242/2020/1
Licence Holder	Paddington Gold Pty Ltd
ACN	008 585 886
File Number	DER2020/000062
Premises	Golden Cities Mining tenements: M24/564, M24/565, M24/616, M27/185, L24/231 As defined by the coordinates in Schedule 2 of the Licence
Date of Report	28/11/2023
Decision	Revised licence granted

A/MANAGER, RESOURCES INDUSTRIES
an officer delegated under section 20 of the *Environmental Protection Act 1986* (WA)

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1. Decision summary

Licence L9242/2020/1 is held by Paddington Gold Pty Ltd (licence holder) for the Golden Cities mine site (the premises), located on mining tenements M24/564, M24/565, M24/616, M27/185, L24/231, approximately 40 Km north of the town of Kalgoorlie, within the Goldfields-Esperance region.

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 L9242/2020/1 has been granted.

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 2 October 2023, the licence holder submitted an application to the department to amend licence L9242/2020/1 under section 59 and 59B of the *Environmental Protection Act 1986* (EP Act).

The licence holder is seeking to increase the currently prescribed 4,000,000 kL dewatering volume to 5,200,000 kL per annum. The increase is to allow for an expected increase in production associated with the Havana and Federal open mine pits. No changes associated with other aspects of the licence have been requested.

Table outlines the proposed changes to the existing licence.

Table 1: Proposed design capacity changes

Category	Current design capacity	Proposed capacity design	Description of proposed amendment
6	4,000,000 kL per annum	5,200,000 kL per annum	The dewatering discharge volumes are forecast to increase starting from October 2023 for both the Federal and Havana open pits due to increased production.
12	1,000,000 tonnes per annum	No change	No change

In amending the licence, the Chief Executive Officer has also:

- corrected clerical mistakes and unintentional errors.

The department has not undertaken any additional risk assessment of the premises related to previously authorised activities under the existing licence.

2.2.1 Dewatering volume increase

Table 2 shows the expected dewatering rates associated with the production increase of the Federal and Havana open mine pits between October 2023 and June 2024. The Mulgarrie and Jakarta open pits will be the main discharge points until April 2024 with the Federal pit providing an additional outlet from May in conjunction with its mining operations ending.

Table 2: Federal and Havana open pits estimated dewatering rates expressed in cubic meters (m³) and respective discharge pits

	Oct 23	Nov 23	Dec 23	Jan 24	Feb 24	Mar 24	Apr 24	May 24	Jun 24
Federal to Jakarta (m³)	90	90	90	90	90				
Federal to Mulgarrie (m³)						90	90	<i>Mining operations end</i>	
Havana to Mulgarrie (m³)	100	100	100	100	100	100	100	100	100
Havana to Federal (m³)								50	50

Table 3 shows the overall capacity, current standing water volume and remaining capacity in cubic meters of all pits included in licence L9242/2020/1 in September 2023. Pit capacities exclude a 6m freeboard as prescribed by condition 1 of the licence.

Table 3: Pits capacities, standing water volume and remaining capacity in cubic meters (m³) in September 2023

(m ³)	Pit overall capacity	Standing water volume	Remaining Capacity
Havana	N/A	4,390,478	Active mining
Federal	15,773,452	670	15,772,782
Mulgarrie	10,616,434	591,773	10,024,661
Jakarta	1,946,617	1,047,426	899,191

There are some uncertainties surrounding the stated dewatering rates and the capacity of each pit to house the hypersaline water, however the continued commitment to a 6m freeboard ensures that the risk associated with overtopping for instance in cases of with rainfall events is limited.

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 *Guideline: Risk assessments* (DWER 2020).

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 considered in this amendment report are detailed in Table 4. Table 4 also details the licence holder proposed control measures to assist in mitigating these emissions.

Table 4: Licence holder controls

Emission	Sources	Potential pathways	Proposed controls
Hypersaline water	Potential rupture of pipeline caused by increased flow	Direct discharge	Visual inspection of infrastructure every 12 hours. Reference to current infrastructure as containment of any possible spills between inspections.
	Groundwater mounding	Seepage through walls pit to groundwater	A minimum 6m freeboard to be maintained at all times.
	Overtopping	Direct discharge	Minimum vertical freeboard of 6 m maintained below the lower crest level at all times with monthly inspections to ensure compliance.

3.1.2 Receptors

In accordance with the *Guideline: Risk assessments* (DWER 2020), the Delegated Officer has excluded employees, visitors and contractors of the licence holder from its assessment. Protection of these parties often involves different exposure risks and prevention strategies and is provided for under other state legislation.

Table 5 provides a summary of potential human and environmental receptors that may be impacted as a result of activities within, or emission and discharges from the prescribed premises (*Guideline: Environmental siting* (DWER 2020)).

Table 5: Sensitive human and environmental receptors and distance from prescribed activity

Human receptors	Distance from prescribed activity
Residential premises	12 km west of the project area. Given the distance this has been screened out as a sensitive receptor.
Environmental receptors	Distance from prescribed activity
Threatened/Priority fauna	<p>A survey carried out in 2017 identified 5 threatened species of fauna and 5 of migratory birds to potentially occur in the project area.</p> <p>22 malleefowl mounds were located within the project area, two of which were active in 2020. One is located 500m south-west of the Jakarta Pit. The other, classified as 'recently active' is located approx. 100m south the same pit. Both are within the premises boundary.</p> <p>Malleefowl are listed as vulnerable under the <i>EPBC Act 1999</i>.</p>
Salt Lakes	<p>An extensive salt lake system is located approximately 10 km south east of the premises.</p> <p>Surface water flows in a south-east direction. Given the distance this has been screened out as a sensitive receptor.</p>
Groundwater	<p>Depth to groundwater varies significantly across the project area, ranging between 14 and 290 meters below ground level (mbgl). Total dissolved solids (TDS) range between 27,700 mg/L to 84,200 mg/L and pH ranges from 5.9 – 8.6.</p> <p>The high salinity of the groundwater means it is only utilised for industrial (mining) purposes and has no other beneficial use.</p>
PDWSA, the broad Arrow Dam catchment area	Approximately 7kms from closest of the 4 pits. Given the distance this has been screened out as a sensitive receptor.
Vegetation	Native vegetation (non-threatened or priority) consisting mainly of Eucalypt Woodland with a Saltbush understory surrounds the premises.

3.2 Risk ratings

Risk ratings have been assessed in accordance with the *Guideline: Risk Assessments* (DWER 2020) 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 incomplete, 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 6.

The revised licence L9242/2020/1 that accompanies this amendment report authorises emissions associated with the operation of the premises i.e., dewatering activities.

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

Table 6. 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								
Category 6 -Mine dewatering Discharge of mine dewater into existing authorised discharge pits at increase throughput	Hypersaline water	Direct discharge from pipeline rupture Impact: increased soil sodicity, vegetation death Maleefowl habitats reduction	Surrounding vegetation Malleefowl	Refer to Section 3.1	C = Moderate L = Unlikely Medium Risk	Y	Condition 1 and 4	Existing conditions on the licence adequately manage this risk event. No additional regulatory controls are required.
		Mounding of groundwater through seepage from pit walls Impacts: Inundation of rootzone of nearby vegetation and subsequent habitat reduction	Surrounding vegetation Malleefowl	Refer to Section 3.1	C = Moderate L = Unlikely Medium Risk	Y	Condition 1 and 4	Groundwater mounding that could potentially impact vegetation is unlikely to occur due to the licence holder's commitment to maintain a 6 meter freeboard on all discharge pits. Existing conditions on the licence adequately manage this risk event. No additional regulatory controls are required.
		Direct discharge from overtopping Impacts: Vegetation death and subsequent habitat reduction	Surrounding vegetation Malleefowl	Refer to Section 3.1	C = Moderate L = Unlikely Medium Risk	Y	Condition 1, 2, 3 and 4	As outlined within section 2.2.1 there appears to be sufficient capacity within the discharge pits to contain this increase in dewater. The licence holder has committed to maintaining the 6-meter freeboard required by condition 1 of the licence. Existing conditions on the licence adequately manage this risk event. No additional regulatory controls are required.

Note 1: Consequence ratings, likelihood ratings and risk descriptions are detailed in the *Guideline: Risk assessments* (DWER 2020).

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

The licence holder was provided with a draft amendment report and licence on 20 November 2023. On 21 November 2023 the licence holder emailed the department to waive the 21 day consultation period and requested the amended licence to be issued as soon as possible. No further comments were submitted.

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 8 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 8: Summary of licence amendments

Condition no.	Proposed amendments
N/A Category 6 - Assessed production / design capacity	Increased to 5,200,000 kL per annual period. Per year has been amended to per annual period as per current licence template.
N/A Cover page	Amend mining tenement from M324/616 to M24/616 (typo error).
Condition 1	Reference to Federal North and Federal South pits have been removed and replaced with 'Federal pit' as north and south pits no longer exist (been amalgamated into one pit) Reference to figure 3 has been replaced with reference to figure 1
Condition 2	Reference to Federal North and Federal South pits have been removed and replaced with 'Federal pit' as north and south pits no longer exist (been amalgamated into one pit) Reference to figure 3 has been replaced with reference to figure 1
Condition 3	Reference to Federal North and Federal South pits have been removed and replaced with 'Federal pit' as north and south pits no longer exist (been amalgamated into one pit)
N/A	Specified actions heading has been removed as not required
Condition 4	Reference to Federal North and Federal South pits have been removed and replaced with 'Federal pit' as north and south pits no longer exist (been amalgamated into one pit)
Schedule 1	Figures 1 – 3 have been replaced with a new premises map (Figure 1).

References

1. Department of Environment Regulation (DER) 2015, *Guidance Statement: Setting Conditions*, Perth, Western Australia.
2. Department of Water and Environmental Regulation (DWER) 2020, *Guideline: Environmental Siting*, Perth, Western Australia.
3. DWER 2020, *Guideline: Risk Assessments*, Perth, Western Australia.

Appendix 1: 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"/>	No <input type="checkbox"/>
		Has time limited operations under the works approval demonstrated acceptable operations?		Yes <input type="checkbox"/>	No <input type="checkbox"/> N/A <input type="checkbox"/>
		Environmental Compliance Report / Critical Containment Infrastructure Report submitted?		Yes <input type="checkbox"/>	No <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:	L9242/2020/1 (*disregard 2021 on application form)		
		Relevant works approval number:		N/A	<input type="checkbox"/>
Registration	<input type="checkbox"/>	Current works approval number:		None	<input type="checkbox"/>
Date application received	02/10/2023				
Applicant and Premises details					
Applicant name/s (full legal name/s)	Paddington Gold Pty Ltd				
Premises name	Golden Cities				
Premises location	M24/564, M24/565, M24/616 M27/185, L24/231				
Local Government Authority	Kalgoorlie Boulder				
Application documents					
HPCM file reference number:	DER2020/000062~2				
Key application documents (additional to application form):	Premises map Attachment 3B – Proposed activities				
Scope of application/assessment					

Summary of proposed activities or changes to existing operations.

The current licence includes the dewatering operations of four open pits, Havana, Federal, Jakarta and Mulgarrie and allows for a maximum design capacity of 4 000 000 kL per annum.

The applicant is proposing to increase the current dewatering volume to 5,200,000 kL (forecast: 5,056,542 kL) per annum to allow for an expected 33% increase in production associated with the Havana and Federal open mining pits. The expected dewatering rates are as follows:

	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun
Federal to Jakarta	90L/s	90L/s	90L/s	90L/s	90L/s				
Federal to Mulgarrie						90L/s	90L/s	Mining finished	
Havana to Mulgarrie	100L/s	100L/s	100L/s	100L/s	100L/s	100L/s	100L/s	100L/s	100L/s
Havana to Federal								50L/s	50L/s

The Federal pit will be used for storage starting from April 2024 when its operations will come to a completion.

Current capacities as at September 2023 (exclusive of 6m freeboard) are as follows

	Pit Capacity (m ³)	Water Volume (m ³) September 2023	Remaining Volume (m ³)
Havana	N/A	4,390,478	Active Mining
Federal	15,773,452	670	15,772,782
Mulgarrie	10,616,434	591,773	10,024,661
Jakarta	1,946,617	1,047,426	899,191

There is some uncertainty surrounding the Jakarta capacity for the forecasted dewatering activities, however, the applicant has committed to maintain a 6m freeboard as per the current condition on the licence.

Works approval W6244/2019/1 was granted for the construction of dewatering infrastructure associated with these four mining pits. An environmental compliance report was submitted in March 2020.

Works approval W6717/2022/1 associated with dewatering infrastructure of the Golden arrow open pit (south-west of the Jakarta pit) has been validated and is currently awaiting payment. The amendment proposes the removal of the dewatering pipeline dimension restriction (DER2022/00263~1)

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 6: Mine dewatering premises on which water is extracted and discharged into the environment to allow mining of ore	Assessed production capacity of 4,000.000 kL per annum	Increase to 5,200,000 kL per annum
Category 12: Screening, etc. of material	1,000,000 tonnes per annum	No change

Legislative context and other approvals

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?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Referral decision No: Managed under Part V <input checked="" type="checkbox"/> Assessed under Part IV <input type="checkbox"/>
Does the applicant hold any existing Part IV Ministerial Statements relevant to the application?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Ministerial statement No: EPA Report No:
Has the proposal been referred and/or assessed under the EPBC Act?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Reference No:
Has the applicant demonstrated occupancy (proof of occupier status)?	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Certificate of title <input type="checkbox"/> General lease <input type="checkbox"/> Expiry: Mining lease / tenement <input checked="" type="checkbox"/> M24/564 – 03/11/2039 M24/565 – 03/11/2039 M24/616 - 18/02/2040 M27/185 – 17/01/2037 L24/231 – 14/11/2039 Other evidence <input type="checkbox"/> Expiry:
Has the applicant obtained all relevant planning approvals?	Yes <input type="checkbox"/> No <input type="checkbox"/> N/A <input checked="" type="checkbox"/>	Approval: Expiry date: If N/A explain why? No approval required – Mining tenement
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 checked="" type="checkbox"/> No <input type="checkbox"/>	Application reference No: Licence/permit No:GWL167686
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: Proclaimed Groundwater Area/Surface Water Area Has Regulatory Services (Water) been consulted? Yes <input type="checkbox"/> No <input type="checkbox"/> N/A <input checked="" type="checkbox"/> Regional office: Swan Avon
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</i> , <i>Environmental Protection (Controlled Waste) Regulations 2004</i> , <i>State Agreement Act xxxx</i>)	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	<i>Mining Act 1978</i>
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"/>	
Is the Premises a known or suspected contaminated site under the <i>Contaminated Sites Act 2003</i> ?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Classification: Report not substantiated Date of classification: 20/02/2020