Amendment Report

Application for Licence Amendment

Part V Division 3 of the Environmental Protection Act 1986

Licence Number L9337/2022/1

Licence Holder Atlas Iron Pty Ltd

ACN 110 396 168

File Number DER2022/000284

Premises Miralga Creek Direct Shipping Ore Project

Abydos Link Road East

Mining tenement M45/1282

MARBLE BAR WA 6760

As defined by the coordinates in Schedule 2 of the Revised

Licence

Date of Report 5 July 2023

Decision Revised licence granted

Alana Kidd

Manager, Resource Industries

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

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1. Decision summary

Licence L9337/2022/1 is held by Atlas Iron Pty Ltd (Licence Holder) for the Miralga Creek Direct Shipping Ore Project (the Premises), located on Mining tenement M45/1282, East Pilbara Shire.

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 increased operation of the crushing and screening plant at the Premises. As a result of this assessment, Revised Licence L9337/2022/1 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 5 April 2023, the Licence Holder submitted an application to the department to amend Licence L9337/2022/1 under section 59 and 59B of the *Environmental Protection Act 1986* (EP Act). The following amendments are being sought:

 Removal of the Crushing and Screening Facility Operational requirement "b) Operates for only 12 hours per day, during daytime hours".

This amendment to allow non-continuous 24-hour operation is proposed to ensure production targets can be met. Noise, dust and light emissions will be produced for the duration of night time operations as per the day time operations. The annual processing throughput will not be increased.

This amendment is limited only to changes to Category 5 activities from the Existing Licence.

Table 1 below outlines the proposed changes to the existing Licence.

Table 1: Proposed throughput capacity changes

Category	Current throughput capacity	Proposed throughput capacity	Description of proposed amendment
5	2,500,000 tonnes per year.	No change.	Allowance of 24-hour operation.

2.3 Part IV of the EP Act

Ministerial Statement 1154 required the licence holder to submit a Significant Species Management Plan to address impacts to significant fauna and their habitat.

Significant Species Management Plan

The Significant Species Management Plan (SSMP) addresses the impacts upon terrestrial fauna of conservation significance and identified the following six species:

- Northern Quoll (Dasyurus hallucatus);
- Northern Brushtail Possum (*Trichosurus vulpecula arnhemensis*);
- Pilbara Leaf-nosed Bat (Rhinonicteris aurantius);
- Ghost Bat (Macroderma gigas);
- Pilbara Olive Python (Liasis olivaceus barroni); and
- Grey Falcon (Falco hypoleucos);

The SSMP addressed eight sources of impact. The following are relevant to the proposed increase in operating hours:

- Vehicle strike;
- Increased light;
- Noise and vibration; and
- Dust.

Of the impacts relevant to the proposed increase in operating hours, the management actions are as follows:

- Vehicle strike is managed by fixed maximum speed limits, signage of significant species in the area, prohibited off-road driving and restriction of night time driving.
- Light will be directed towards working areas and shielded to reduce glow.
- Noise and vibration address blasting operations to protect loss of ghost bat habitat.
- Airborne dust is managed by the Dust Management procedure (950-EN-PRO-0003) to prevent cave abandonment (Bat Call WA, 2020).

Environmental Noise and Vibration Impact Assessment

The environmental noise assessment (Talis, 2019) assumed 24 hour operations of the Premises including the crushing and screening plant. The assessment found operational noise levels (modelled on the simultaneous use of an excavator and dozer) produced 54 dB 1 km away from the source (Talis, 2019). The nearest known bat roosts are located 2.2 km from the crushing and screening activities at the Premises. Here, the assessment demonstrates operational noise received at the roosts would be less than 54 dB, which is below the L_{Amax} of 55 dB + influencing factor for the hours between 10 pm and 7 am (Talis, 2019) in the Noise Regulations (1997).

Miralga Creek Review Bat Call WA

The Miralga Creek project area was surveyed in 2019 for the presence of ghost bats and caves. The survey found a group of five roosts about 2.2 km and 2.5 km south-west of the Miralga West screening and crushing plant, suitable as temporary roosts for day-time roosting. Two of those caves presented evidence of use with fresh scat and a bat call recorded during the survey.

The nearest permanent bat roost is the historical underground Lalla Rookh gold mine (Lalla Rookh). Lalla Rookh is located outside of the Premises boundary about 6.5 km south west of the screening and crushing plant and is reported to be the preferred roost for bats which have temporarily abandoned their normal cave due to mining activities.

The disturbance threshold of the ghost bats from noise have been reported to be 60 dB(A) at 50 m away (sensu Bullen and Creese 2014). Since all of the recorded caves are more than 50

m away from the screening and crushing plant, the survey expects noise to be below the disturbance threshold of for diurnally roosting ghost bats. The survey does not expect noise from mining activity to impact roosting at the temporary roosting caves.

There is a suitable 30,000 ha of foraging habitat surrounding the roosts, with the Shaw River riparian vegetation as preferred foraging habitat in the east and south. The survey does not expect impacts to foraging from noise from mining activity.

2.4 Part V of the EP Act

Licence L9337/2022/1 granted 18 August 2022, conditions the crushing and screening facility to operate for only 12 hours per day, during daytime hours. The Decision Report granted on 18 August 2022, noted from the EPA report that 'the bats in the area may be impacted by night time noise and light emissions' and assessed noise emissions upon bats listed 'the crushing and screening facility will operate 12 hours per day, day shift only' as a control. As per Section 2.3, impacts to bats and other significant fauna are covered under Ministerial Statement 1154. Only increases to emissions and remaining non-significant receptors will be considered from this point in this assessment.

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 which have been considered in this Amendment Report are detailed in Table 2 below. Table 2 also details the proposed control measures the Licence Holder has proposed to assist in controlling these emissions, where necessary.

Table 2: Licence Holder controls

Emission	Sources	Potential pathways	Proposed controls
Dust	Crushing and screening of material	Air/windborne pathway	Will not operate 24 hours continuously. Existing controls: Speed limits on unsealed roads shall be implemented and enforced to minimise dust generation. Unsealed roads shall be appropriately constructed (particularly over areas of dispersible soils, e.g. bull dust) to minimise dust generation. Water shall be regularly applied on unsealed roads to ensure dust lift off is

Emission	Sources	Potential pathways	Proposed controls
			minimised.
			 Dust suppression additives such as I- CAT shall be investigated for use and implemented if excessive dust is on- going.
			Standard mine site dust suppression techniques shall be used on stockpiles, road and infrastructure areas, e.g. water carts and sprinklers.
			 Water carts shall be utilised to minimise dust generation and wind erosion from exposed surfaces.
			 Operation of water sprays on crushing and screening facility.
			Dust suppression within the crushing, screening and stockpiling areas shall be in the form of strategically positioned water sprays
			 Transfer points on the crushing and screening plant shall be enclosed, with water sprays on conveyor transfer points, and sprinklers fitted on the stacker conveyor.
			 Ore shall be preconditioned to the required moisture content.
			 If dust suppression additives are required, they shall be environmentally friendly (to flora, fauna, soil and water) and biodegradable.
			 Regular inspections and maintenance of dust suppression equipment.
			 Dust generating activities to cease if there is a major malfunction of dust suppressing equipment.
			 Fresh or brackish water shall be utilised, for dust suppression.
			 Reject water from the Reverse Osmosis (RO) plant, grey water and/or treated waste water from the sewage treatment plant is encouraged to be used for dust suppression, where available and approved.
			 All personnel shall undertake visual monitoring of dust emissions from their workplace/area.
			Visual inspections of dust emissions shall be undertaken on a regular basis by the Environmental Advisor.

Emission	Sources	Potential pathways	Proposed controls
			In the event dust causes limited visibility, action shall be taken to control the dust appropriately. The occurrence shall be reported as a hazard and recorded in iAuditor as such.
			 Any complaints received from the public or a community shall be recorded in INX as an incident and investigated accordingly with actions assigned to prevent reoccurrence.
			 Any complaints received from the public or a community shall be recorded in INX as an incident and investigated accordingly with actions assigned to prevent reoccurrence.
			 In the event of a major fault or malfunction of critical dust suppression equipment (i.e. dust suppression at the crusher), the dust generating activity shall cease until adequate dust suppression can be undertaken.
			If dust is suspected of having an impact on sensitive vegetation and/or fauna, the appropriate level of monitoring and investigation shall be undertaken. If excessive dust from mining-related activities is identified as a contributing factor, it shall be reported and recorded in INX as an incident.
Spills i.e.,	Refuelling of	Overland via	Existing Controls:
Hydrocarbon	crushing plant	surface or stormwater to the Shaw River	Maintenance of spill recovery and clean-up materials at all hazardous materials storage areas, with relevant employees and contractors trained in the use of such equipment.
			Containment of hazardous materials within impervious bunds and regularly inspected for evidence of spills or leaks.
			Spills to ground / outside of a bund shall be reported as an environmental incident and cleaned up appropriately.
			Spills inside a bund shall be reported as a hazard and cleaned up appropriately.
			If dust suppression additives are required, they shall be environmentally friendly (to flora, fauna, soil and water) and biodegradable.
Sediment laden or	Stormwater coming into contact with	Overland via surface or	The proposed amendment is not expected to increase contaminated

Emission	Sources	Potential pathways	Proposed controls
contaminated stormwater	dust and hydrocarbons from the crushing and screening plant.	stormwater to the Shaw River	stormwater emissions and controls on the licence already exist. Existing Controls: Stormwater management infrastructure (i.e., stormwater diversion drains and sedimentation basins) have been constructed around the crushing and screening facility to divert clean stormwater away from the facility and to contain runoff within the facility. The ROM pad has been designed and constructed to divert clean stormwater away from the facility into the sedimentation basin and to contain runoff within the facility.

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

Table 3: Sensitive human and environmental receptors and distance from prescribed activity

Human receptors	Distance from prescribed activity		
N/A	No human receptors within 5 km ¹ . Distance from prescribed activity		
Environmental receptors ^{2, 3}			
Shaw River	700 m east of the crushing and screening plant.		

Note 1: Abydos Camp is houses Atlas personnel whose occupational health and safety are regulated by the Department of Mines, Industry Regulation and Safety.

Note 2: Ministerial Statement 1154 addresses impacts upon significant fauna and their habitat for the northern quoll (Dasyurus hallucatus), ghost bat (Macroderma gigas), Pilbara leaf-nosed bat (Rhinonicteris aurantia), Pilbara olive python (Liasis olivaceus barroni), northern brushtail possum (Trichosurus vulpecula arnhemensis), and grey falcon (Falco hypoleucos) and their habitats.

Note 3: Vulnerable fauna habitat screened out as more than 2km from screening and crushing plant.

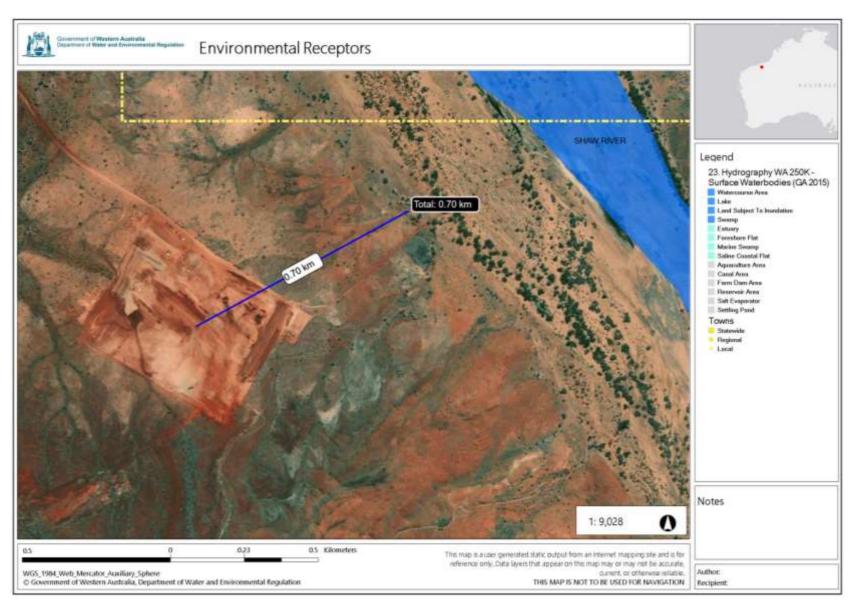


Figure 1: Distance to sensitive receptors

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 4.

The Revised Licence L9337/2022/1 that accompanies this Amendment Report authorises emissions associated with the operation of the Premises i.e., crushing and screening activities.

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

Table 4. Risk assessment of potential emissions and discharges from the Premises during operation

Risk Event	Risk Event					Licence		Justification for
Source/Activities	Potential emission	Potential pathways and impact	Receptors	Licence Holder's controls	C = consequence L = likelihood	Holder's controls sufficient?	Conditions ² of licence	additional regulatory controls
Operation								
	Dust	Air / windborne pathway causing sedimentation of watercourse or impacting flora		Refer to Section 3.1	C = Slight L = Unlikely Low Risk	Υ	Condition 1a, 1c	N/A
Screening and crushing facility intermittently during night time hours and related activities.	Environmentally hazardous spills and contaminated stormwater	Overland surface/storm water flows	Shaw River	Refer to Section 3.1	C = Slight L = Unlikely Low Risk	Y	Condition 2, 3	Condition 2: Environmentally hazardous spills to be removed. Condition 3: Materials used in the recovery of environmentally hazardous spills to be disposed of.

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

Table 5 provides a summary of the consultation undertaken by the department.

Table 5: Consultation

Consultation method	Comments received	Department response
Application advertised on the department's website 19 May 2023.	None received	N/A
Environmental Protection Authority (EPA) Services was advised of proposal 19 April 2023	EPA services replied on 21 April 2023 stating that while the EPA Report (page 28) refers to the daytime operation, the Ministerial Statement does not include any conditions for Social Surroundings.	Only increases in emissions upon receptors not listed in Ministerial Statement 1154 will be considered in this assessment.
	EPA requires Atlas to demonstrate, despite the 24-hour operation, they can still meet the requirements of the Ministerial Statement 1154 (see below). If so, then they don't need to apply for a variation under Part IV.	
	At a minimum, EPA would request the following information:	
	 Provide an updated model (for the 24-hour operation) the impacts of noise and vibration to the camp, to demonstrate that they will still remain within the acceptable limits (as per EPA Report); 	
	 Provide an updated Management Plan demonstrates they can still meet the requirements of condition 6 (Significant Species Management Plan) (this may include noise, vibration, and light emissions); and 	
	 The implication of the 24hr operations on any other aspects of their operation (e.g., increase in the approved groundwater abstraction limit of 0.9 gL/a) 	
The Shire of East Pilbara was advised of proposal 19 May 2023	None received	N/A
Licence Holder was provided with draft amendment on 29 June 2023	The Licence Holder advised spills and contaminated material are sent to their on-site bioremediation facility and request conditions 3 and 4 to align with this on-site procedure.	Conditions 4 will direct spills and contaminated material to the on-site bioremediation facility.

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 6 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 provides a summary of changes to existing conditions.

Table 6: Summary of licence amendments

Condition no.	Proposed amendments
1	Removal of operational requirement for the Crushing and Screening facility to operate for only 12 hours per day during daytime hours. Inclusion of condition to not exceed their throughput.
2, 3	Inclusion of spill recovery controls to the on-site bioremediation facility.
Table 5: Definitions	Detail requirements of the bioremediation facility.
Figure 2	Location of the bioremediation facility.

Table 7: Consolidation of licence conditions in this amendment

Existing condition	Condition summary	Revised licence condition	Conversion notes
2	Complaints	Condition 4	Updated numbering.
3	Audit of compliance	Condition 5	Updated numbering.
4	Maintain accurate and auditable books	Condition 6	Updated numbering.
5	Books	Condition 7	Updated numbering.

References

- 1. Atlas 2022, Attachment 8C: Dust Management Procedure (950-EN-PRO-0003), Perth, Western Australia.
- 2. Atlas 2022, Attachment 8E: Hydrocarbon (and Chemical) Spill Management Procedure (950-EN-PRO-0007), Perth, Western Australia.
- 3. Atlas 2022, Significant Species Management Plan, Miralga Creek, 180-LAH-EN-PLN-0001 v4, Perth, Western Australia.
- 4. Bat Call WA 2020, Miralga Creek review, Hillarys, Western Australia.
- 5. Bullen and Creese 2014, A Note on the Impact on Pilbara Leaf-Nosed and Ghost Bat Activity from Cave Sound and Vibration Levels During Drilling Operations, Volume 29, Number 3, The Western Australian Naturalist, Western Australia.
- 6. Department of Environment (DoE) 2004, *Bioremediation of hydrocarbon-contaminated* soils in Western Australia, Contaminated Sites Management Series, October, page 3 and 4.
- 7. Department of Environment Regulation (DER) 2015, *Guidance Statement: Setting Conditions*, *Perth*, Western Australia.
- 8. Department of Water and Environmental Regulation (DWER) 2020, *Guideline:* Environmental Siting, Perth, Western Australia.
- 9. DWER 2020, Guideline: Risk Assessments, Perth, Western Australia.
- 10. Western Australian Government, *Environmental Protection (Noise) Regulations* 1997, Version 2.

Appendix 1: Application validation summary

SECTION 1: APPLICATION SUMM	ARY (a	s updated from vali	dation checklist)		
Application type					
Amendment to licence	D	Current licence number:	L9337/2022/1		
Amendment to licence	\boxtimes	Relevant works approval number:		N/A	\boxtimes
Date application received		5 April 2023			
Applicant and Premises details					
Applicant name/s (full legal name/s)		Atlas Iron Pty Ltd (1	10 396 168)		
Premises name		Miralga Creek Direc	t Shipping Ore Project	t	
Premises location	Abydos Link Road East Mining tenement M45/1282 MARBLE BAR WA 6760				
Local Government Authority		Shire of East Pilbara	a		
Application documents					
HPCM file reference number:		DER2022/000284~1			
Key application documents (addition application form):	 1A: Proof of Occupier Status 1B: ASIC Company Extract 5A: Approval under EPBC Act – EPBC 2019/8601 6A: Emissions and Discharges – Light, dust, noise IBSA number provided: IBSA-2021-0321 				
Scope of application/assessment		1			
Summary of proposed activities or changes to existing operations.	Atlas Iron (the licence holder) has applied to increase the operation of the Crushing and Screening Facility from the existing 12 hours a day during the daytime to 24 hours a day, whilst maintaining the current production capacity (currently 2,500,00 tonnes per year under L9337/2022/1), to ensure production targets are achieved.				
		The facility is not expected to be operated 24 hours per day continuously. Rather the facility will have the ability to operate for 24 hours per day as and when required.			

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	2,500,000 tonnes per year	Request to operate up to 24 hours a day instead of 12 – no change to assessed production capacity under current licence

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 ⊠ No □	Referral decision No: Managed under Part V ☒ Assessed under Part IV ☒
Does the applicant hold any existing Part IV Ministerial Statements relevant to the application?	Yes ⊠ No □	Ministerial statement No: MS 1154 EPA Report No: 1689
Has the proposal been referred and/or assessed under the EPBC Act?	Yes⊠ No □	Reference No: EPBC 2019/8601, approved 18/02/2021 and varied 17/02/2023. Attachment 5A
Has the applicant demonstrated occupancy (proof of occupier status)?	Yes ⊠ No □	Mining lease / tenement ⊠ 45/1282 Expiry: 22 March 2042
Has the applicant obtained all relevant planning approvals?	Yes□ No□ N/A ⊠	Amendment
Has the applicant applied for, or have an existing EP Act clearing permit in relation to this proposal?	Yes □ No ⊠	Exemption applies – Clearing is approved and authorised under MS 1154. No clearing required for amendment
Has the applicant applied for, or have an existing CAWS Act clearing licence in relation to this proposal?	Yes □ No 🗵	No clearing is proposed.
Has the applicant applied for, or have an existing RIWI Act licence or permit in relation to this proposal?	Yes ⊠ No □	Licence/permit No: GWL176408(5) and GWL168045(8)
Does the proposal involve a discharge of waste into a designated area (as defined in section 57 of the EP Act)?	Yes □ No ⊠	Name: N/A
Is the Premises situated in a Public Drinking Water Source Area (PDWSA)?	Yes □ No ⊠	Name: N/A Priority: N/A
Is the Premises subject to any other Acts or subsidiary regulations (e.g. Dangerous Goods Safety Act 2004, Environmental Protection (Controlled Waste) Regulations	Yes ⊠ No □	Mining Act 1978 Environmental Protection (Authorised Discharges) Regulations 2004

2004, State Agreement Act xxxx)		 Aboriginal Heritage Act 1972 Aboriginal Cultural Heritage
Is the Premises within an Environmental Protection Policy (EPP) Area?	Yes □ No ⊠	N/A
Is the Premises subject to any EPP requirements?	Yes □ No ⊠	N/A
Is the Premises a known or suspected contaminated site under the Contaminated Sites Act 2003?	Yes □ No ⊠	Classification: N/A Date of classification: N/A