Amendment Report

Application for Works Approval Amendment

Part V Division 3 of the Environmental Protection Act 1986

Works Approval Number W6389/2020/1

Works Approval Holder Polaris Metals Pty Ltd

ACN 085 223 570

File Number DER2020/000173

Premises Parker Range Iron Ore Project

Parker Range Road

M77/741-1, M77/742 and M77/764

MARVEL LOCH

As defined by the Premises map attached to the Revised

Works Approval

Date of Report 20 August 2021

Decision Revised works approval 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

Works Approval W6389/2020/1 is held by Polaris Metals Pty Ltd (Works Approval Holder) for the Parker Range Iron Ore Project (the Premises), located on Parker Range Road, Marvel Loch, Western Australia.

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 construction and operation of the Premises. As a result of this assessment, Revised Works Approval W6389/2020/1 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 Amendment summary

On 21/06/2021 the Works Approval Holder submitted an application to the department to amend Works Approval W6389/2020/1 under section 59 and 59B of the *Environmental Protection Act 1986* (EP Act). The amendment being sought is to add prescribed premises category 12 to the works approval to allow for the installation and operation of a mobile screening plant within the premises boundary.

It is proposed that the mobile screening plant will initially be used to screen approximately 70,000 tonnes of mine waste for use as construction material to construct haul roads and internal roads necessary for mining operations. The mobile screening plant will then be used on an ad-hoc basis for construction projects as they arise throughout the project's life of mine.

W6389/2020/1 currently grants approval to construct a modular crushing and screening plant to process ore, a dewatering pipeline and evaporation dam and a landfill to support mining operations at the Parker Range Iron Ore Project. No changes to these aspects of the works approval have been proposed as part of this amendment application.

Table 1 below outlines the proposed changes to the existing Works Approval.

Table 1: Proposed changes

Category	Current throughput capacity	Proposed throughput capacity	Description of proposed amendment
Category 12: Screening of Material.	N/A	70,000 tonnes/ annual period	Installation and operation of a mobile crushing and screening plant to process up to 70,000 tonnes of waste rock material per year.
Category 5: Processing or beneficiation of metallic or non- metallic ore	5,000,000 tonnes/ annual period	N/A	N/A

Category 6: Mine dewatering	1,000,000 tonnes/ annual period	N/A	N/A
Category 89: Putrescible landfill site:	1,250 tonnes/ annual period	N/A	N/A

2.3 Approvals under Part IV of the EP Act and the EPBC Act.

Two Ministerial Statements under Part IV of the EP Act have been issued in relation to the Premises:

- MS 892 specifies requirements relating to the management of impacts on conservation significant flora, including monitoring health and abundance of declared rare flora *Isopogon robustus* and Priority 1 Flora *Lepidosperma sp. Mt Caudan* and management of conservation significant fauna, including malleefowl, western rosella and white-browed babbler. Monitoring of ambient PM₁₀ concentrations at the sensitive receptor (located at 698176E and 6533022N on Liddell Road) and management of dust complaints is also required under MS 892.
 - A section 45C amendment to MS 892 was approved on 26 June 2020 and authorised abstraction of up to 1GL/year of groundwater and disposal of excess mine dewater to an evaporation pond over the life of the project.
- MS 1060 approved on 13 July 2017 specified a time limit for proposal implementation requiring the proponent to not commence implementation of the proposal after 12 April 2022.

An approval under the *Environmental Protection Biodiversity and Conservation Act 1999* (EPBC) (EPBC 2010/5435) was also issued for the Premises. The EPBC approval contains requirements in relation to undertaking baseline flora surveys to investigate local population(s) of *Isopogon robustus* (declared rare flora) and submission of a monitoring plan. A Malleefowl Management Plan is also required under the EPBC approval.

This risk assessment has not reassessed matters which have been previously considered under the EP Act Part IV and EPBC approval processes.

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 construction and operation which have been considered in this Amendment Report are detailed in Table 2 below.

Table also details the proposed control measures the Works Approval Holder has proposed to assist in controlling these emissions, where necessary.

Table 2: Works Approval Holder controls

Emission	Sources	Potential pathways	Proposed controls
Construction	- Mobile crushing and	screening plant	,
Dust	Placement of mobile equipment, minimal earthworks and	Air/windborne pathway	Water trucks will be utilised to spray work areas as required.
Noise	vehicle movements etc.	Air/windborne pathway	None proposed. Applicant has committed that works will comply with the <i>Environmental Protection (Noise)</i> Regulations 1997.
Operation (in	cluding time limited ope	erations)	
Dust	Crushing and screening of material, vehicle movements, lift-off	Air/windborne pathway	The feed stockpiles will be sprayed with water prior to screening with a target moisture content of between 2-5%, resulting in negligible dust emissions.
	from stockpiles and/or stored product.		Water trucks will be utilised to spray work areas, roads and stockpiles during times when the screen plant is operational.
			Daily inspection of plant area will include observation of dust assessment and walking of plant site perimeter.
			 Monitoring of operational and weather conditions to support dust management.
Noise	Crushing and screening of material	Air/windborne pathway	None proposed. Applicant has committed that operations will comply with the <i>Environmental Protection (Noise)</i> Regulations 1997.
Sediment laden stormwater	Runoff from stockpiles	Overland flow	Temporary bunds will be constructed around the screening plant and product stockpile areas to prevent sediment laden stormwater runoff.
Hydrocarbon and chemical spills / leaks	Runoff from hydrocarbon and chemical storage	Infiltration and overland flow	Spill kits will be placed near the screening plant to allow timely clean-up of any hydrocarbon spills.
	areas Spills and leaks		Screening plant infrastructure will undergo regular maintenance to ensure the risk of equipment failure is minimised.
			Spillages will be cleaned up and disposed in accordance with environmental procedures.
			All hydrocarbons and dangerous goods on site will be stored and handled according to the applicable sections of the Dangerous Goods Safety Act 2004, Dangerous Goods Safety (Storage and Handling of Non-Explosives)

Emission	Sources	Potential pathways	Proposed controls
			Regulations 2007 and Dangerous Goods Safety (Explosives) Regulations 2007.
			Chemical storage areas will be bunded with a containment capacity equivalent to 110% of the capacity of any tank or 25% of the total capacity of an interlinked system.
			Regular inspection of bunded areas to ensure capacity is maintained.

3.1.2 Receptors

In accordance with the *Guideline: Risk assessments* (DWER 2020), the Delegated Officer has excluded employees, visitors and contractors of the Works Approval 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 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
Rural Residential premises	Located approximately 12.7km north of the premises
Environmental receptors	Distance from prescribed activity
Priority ecological community – Parker Range Ecological Community (P3)	Premises located within the ecological community buffer.
Threatened/Priority fauna species:	Malleefowl and Western Rosella (Platycercus icterotis
Malleefowl– covered as part of MS892 and EPBC 2010/5435.	xanthogenys) recorded in the Parker Range Iron Ore Project area.
Western Rosella (<i>Platycercus icterotis</i> xanthogenys) – Priority 4.	
White-browed Babbler (<i>Pomatstomus</i> superciliosus)	
Threatened flora species:	Priority flora species have been recorded in the disturbance footprint for the Parker Range Iron Ore
Threatened flora species <i>Isopogon robustus</i> recorded southeast and southwest of the Parker Range Iron Ore Project area.	Project area. Chamelaucium sp. Parker Range (B.H. Smith 1255) (P1);
MS 892 specifies requirements relating to the management of impacts on conservation significant flora, including monitoring health and abundance of declared rare flora Isopogon robustus and Priority 1 Flora Lepidosperma sp. Mt Caudan	Lepidosperma sp. Parker Range (N. Gibson & M. Lyons 2094) (P1); Lepidosperma sp. Mt Caudan (N. Gibson & M. Lyons 2081) (P1); Westringia acifolia (P1); Microrys sp. nov (undescribed) Acacia concolorans (P2);

Baeckea grandibracteata subsp. Parker Range (P3);
Hakea pendens (P3);
Cryptandra crispula (P3);
Rinzia torquata (Priority 3);
Lepidosperma ferricola (Priority 3);
Verticordia mitoides (Priority 3), and
Banksia shanklandiorum (P4).

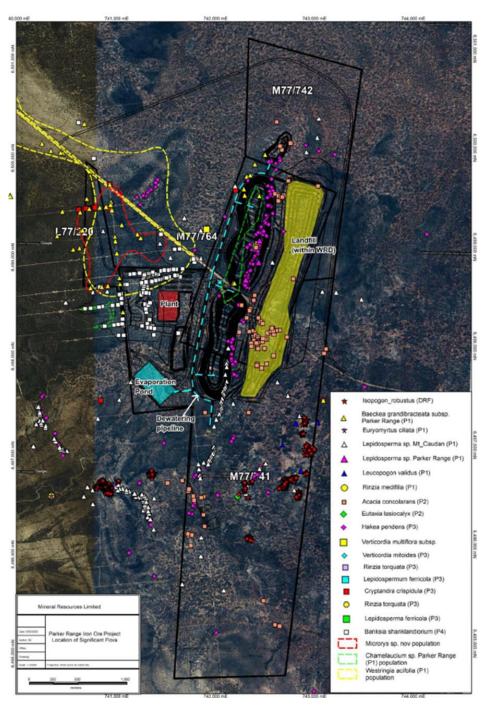


Figure 1: Location of significant flora in relation to the premises activities.

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 Works Approval 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 Works Approval Holder's proposed controls to be critical to maintaining an acceptable level of risk, these will be incorporated into the works approval as regulatory controls.

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

The Revised Works Approval W6389/2020/1 that accompanies this Amendment Report authorises construction and time-limited operations. The conditions in the Revised Works Approval have been determined in accordance with *Guidance Statement: Setting Conditions* (DER 2015).

A licence is required following the time-limited operational phase authorised under the works approval to authorise emissions associated with the ongoing operation of the Premises. A risk assessment for the operational phase has been included in this Amendment Report, however licence conditions will not be finalised until the department assesses the licence application.

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

Risk Event	Risk Event				Risk rating ¹	Works		
Source/Activities	Potential emission	Potential pathways and impact	Receptors	Works Approval Holder's controls	C = consequence L = likelihood	Approval Holder's controls sufficient?	Conditions ² of works approval	Justification for additional regulatory controls
Construction								
Placement of screen and associated equipment including vehicle movements	Dust	Air/windborne pathway	Closest human receptor is	Refer to	C = Slight L = Rare Low Risk	Y	N/A	N/A
(reversing beepers) and minimal earthworks	Noise	causing impacts to health and amenity	~12.7km north of the premises.	Section 3.1	C = Minor L = Rare Low Risk	Y	N/A	N/A
Operation (including	time-limited-ope	erations operations	s)					
Screening, crushing, unloading, loading and stockpiling of material Vehicle movements	Noise	Air/windborne pathway causing impacts to health and amenity	Closest human receptors is ~12.7km north of the premises	Refer to Section 3.1	C = Minor L = Rare Low Risk	Y	N/A	N/A Environmental protection (Noise) Regulations 1997 apply
	Air/windborne pathway receptors is causing impacts to health and amenity Closest human receptors is ~12.7km north of the premises Refer to	C = Minor L = Rare Low Risk	Y	N/A	N/A			
	Dust	Air/windborne pathway causing impacts to health of vegetation /	Native vegetation Fauna	Section 3.1	C = Minor L = Unlikely Medium Risk	Y	Condition 6 –operational requirements for the control of dust from mobile plant.	Applicant's dust controls conditioned within works approval.

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Risk Event	Risk Event					Works		
Source/Activities	Potential emission	Potential pathways and impact	Receptors	Works Approval Holder's controls	C = consequence L = likelihood	Approval Holder's controls sufficient?	Conditions ² of works approval	Justification for additional regulatory controls
		fauna						
	Sediment laden stormwater	Overland runoff potentially causing ecosystem disturbance	Native vegetation	Refer to Section 3.1	C = Minor L = Unlikely Medium Risk	Y	Condition 1 – construction requirements for stormwater drainage infrastructure to be in place. Condition 6- operational requirements for clean stormwater to be diverted around mobile plant and stockpiles.	Applicant's contaminated stormwater controls conditioned within works approval.
Nutration Comments	Hydrocarbon / chemical spills	Overland runoff potentially causing ecosystem disturbance.	Native vegetation soil	Refer to Section 3.1	C = Slight L = Unlikely Low Risk	Υ	N/A	N/A Environmental Protection (Unauthorised Discharges) Regulations 2004 apply.

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

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

4. Consultation

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

Table 5: Consultation

Consultation method	Comments received	Department response
Works Approval Holder was provided with draft amendment on 16/08/2021	Response received 16/08/2021. Works approval holder had no objections to proposed conditions and waived comment period.	Noted.

5. Conclusion

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

5.1 Summary of amendments

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

Table 6: Summary of Works approval amendments

Condition no.	Proposed amendments
Front page	Category 12 added to the front page with the assessed production capacity at 70,000 tonnes per year.
Condition 1	Table 1, Item 3 – text '(Category 5)' has been added to this row to clarify that these requirements are for the Category 5 infrastructure.
	A new row has been added to Table 1. Item 6 – mobile crushing and screening plant (Category 12) construction requirements.
Condition 6	Table 2, item 1 – text added to clarify that these requirements relate to the Category 5 infrastructure.
	New row has been added to Table 2, item 5 – mobile crushing and screening plant (Category 12) operational requirements.
Condition 7	Notes under table 3 have been deleted as they do not relate to the contents of table 3.
Table 4 - Definitions	Definitions 'environmental commissioning' and 'environmental commissioning report' have been deleted from table 4 as they are not required.

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 2: Application validation summary

SECTION 1: APPLICATION SUMMARY (as updated from validation checklist)						
Application type						
Works approval						
		Relevant works approval number:		None		
		Has the works approvith?	oval been complied	Yes □	No □	
Licence		Has time limited ope works approval dem acceptable operatio	onstrated	Yes □	No □ N/A □	
		Environmental Com Critical Containmen Report submitted?		Yes □	No □	
		Date Report receive	ed:			
Renewal		Current licence number:				
Amendment to works approval	\boxtimes	Current works approval number:	W6389/2020/1			
Amendment to licence		Current licence number:				
Amendment to licence		Relevant works approval number:		N/A		
Registration		Current works approval number:		None		
Date application received		21/06/2021				
Applicant and Premises details						
Applicant name/s (full legal name/s)		Polaris Metals Pty Ltd (100% subsidiary of MRL)				
Premises name		Parker Range Iron Ore Project				
Premises location	M77/741-I, M77/742, M77/764-I					
Local Government Authority	Shire of Yilagrn					
Application documents						
HPCM file reference number:	FA258264 (parent DEE2020/00173)					
Key application documents (addition application form):	Application form Supporting document					
Scope of application/assessment						

Works approval amendment

Summary of proposed activities or changes to existing operations.

W6389/2020/1 currently allows for the construction of an evaporation pond, modular crushing and screening plant (to process iron ore — Cat 5) and landfill at the Premises.

The works approval holder would like to add Category 12 – mobile crushing and screening plant to process up to 70 000 tonnes of mine waste for use as construction material to construct haul roads and internal roads for mining operations.

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 of ore.	5,000,000 tonnes per year.	No change.
Category 6 – Dewatering.	1,000,000 tonnes per year.	No change.
Category 89 – Putrescible landfill.	1,250 tonnes per year.	No change.
Category 12 – Screening of material	New category	70 000 tonnes per year.

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: 892 and 1060 EPA Report No: MS 892 specifies requirements relating to the management of impacts on conservation significant flora, including monitoring health and abundance of declared rare flora <i>Isopogon robustus</i> and Priority 1 <i>Flora Lepidosperma sp.</i> Mt Caudan and management of conservation significant fauna, including malleefowl, western rosella and white-browed babbler. Monitoring of ambient PM ¹⁰ concentrations at the sensitive receptor (located at 698176E and 6533022N on Liddell Road) and

		management of dust complaints is also required under MS 892.
		A section 45C amendment to MS 892 was approved on 26 June 2020 and authorised abstraction of up to 1GL/year of groundwater and disposal of excess mine dewater to an evaporation pond over the life of the project.
		MS 1060 approved on 13 July 2017 specified a time limit for proposal implementation requiring the proponent to not commence implementation of the proposal after 12 April 2022.
Has the proposal been referred and/or assessed under the EPBC Act?	Yes ⊠ No □	Reference No: EPBC 2010/5435 The EPBC approval contains requirements in relation to undertaking baseline flora surveys to investigate local population(s) of Isopogon robustus and submission of a monitoring plan. A Malleefowl Management Plan is also required under the EPBC approval.
Has the applicant demonstrated occupancy (proof of occupier status)?	Yes ⊠ No □	Certificate of title □ General lease □ Expiry: Mining lease / tenement ⊠ Expiry: Other evidence □ Expiry:
Has the applicant obtained all relevant planning approvals?	Yes □ No □ N/A ⊠	Approval: Expiry date: If N/A explain why?
Has the applicant applied for, or have an existing EP Act clearing permit in relation to this proposal?	Yes □ No ⊠	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 □ No ⊠	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 □ No ⊠	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 ⊠ No □	Name: Goldfield groundwater area Type: Proclaimed Groundwater Area Has Regulatory Services (Water) been consulted? Yes □ No □ N/A ☒ Regional office:
Is the Premises situated in a Public Drinking Water Source Area (PDWSA)?	Yes □ No ⊠	Name: N/A Priority: N/A Are the proposed activities/ landuse compatible with the PDWSA (refer to WQPN 25)? Yes □ No □ 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 2004, State Agreement Act xxxx)	Yes ⊠ No □	Mining Act 1976 Dangerous Goods Safety Act 2004 Environment Protection and Biodiversity Conservation Act 1999 Rights in Water and Irrigation Act 1914
Is the Premises within an Environmental Protection Policy (EPP) Area?	Yes □ No ⊠	
Is the Premises subject to any EPP requirements?	Yes □ No ⊠	
Is the Premises a known or suspected contaminated site under the Contaminated Sites Act 2003?	Yes □ No ⊠	If Yes include details here. Classification: N/A Date of classification: N/A