



Application for Works Approval Amendment

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

Works Approval Number	W6209/2019/1
Works Approval Holder	Hastings Technology Metals Limited
ACN	122 911 399
File Number	DER2019/000040
Premises	Yangibana Rare Earths Project Legal description – Mining Tenements G09/14, M09/158, M09/157, G09/18, G09/17, G09/20, M09/161, M09/162, G09/26, M09/162, M09/178 WEST LYONS RIVER WA 6705 As defined by the Premises map attached to the Revised Works Approval
Date of Report	7/11/23
Decision	Revised works approval granted

A/Manager, Resources Industries
RESOURCE INDUSTRIES
an officer delegated under section 20 of the *Environmental Protection Act 1986* (WA)

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1. Decision summary

Works Approval W6209/2019/1 is held by Hastings Technology Metals Limited for the Yangibana Rare Earths Project (the Premises), located at Mining Tenements G09/14, M09/158, M09/157, G09/18, G09/17, G09/20, M09/161, M09/26, M09/162 and M09/178 within West Lyons River WA 6705.

This Amendment Report documents the assessment of potential risks to the environment and public health from proposed changes to the emissions and discharges during construction and operation of the Premises. As a result of this assessment, Revised Works Approval W6209/2019/1 has been granted.

The Revised Works Approval issued as a result of this amendment consolidates and supersedes the existing Works Approval 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 7 February 2023 the Works Approval Holder submitted an application to the department to amend Works Approval W6209/2019/1 under section 59 and 59B of the *Environmental Protection Act 1986* (EP Act). The following amendments are being sought:

- Amendment to site landfill locations (Category 64)
- Inclusion of tenements M09/162, M09/178, M 09/176 and G 09/26, to allow for expansion of prescribed premises boundary to incorporate Run-of-Mine Pad (ROM) (included as category 5 infrastructure) and proposed location of new landfill site “Landfill Auer North”.

The Yangibana Rare Earths Project (the Yangibana Project) is located approximately 270 kilometres (km;) east-northeast of the town of Carnarvon on Gifford Creek and Wanna Stations in the Gascoyne Region of Western Australia. Early minor or preliminary works (i.e. construction of 100-person accommodation village, access road, process plant earthworks) are currently being undertaken to support investigative studies and in preparation for the project-wide construction phase of the Yangibana Project, which will involve the construction of the process plant (which includes a power plant, bulk chemicals storage facilities and sewage treatment plant), tailings storage facilities (TSFs), landfill sites, waste depot and pit dewatering facilities, herein referred to as the ‘project’. W6209/2019/1, granted 17/6/2022 provides existing approval for category 5, 6, 64 and 85 prescribed premises activities for the project.

W6209/2019/1 currently provides approval for two landfill locations (Bald Hill and Frasers Landfill, with combined total of 3,487 tonnes). Compliance has been demonstrated by the applicant for the construction of a landfill at Bald Hill, and landfill activities are now licenced under L9336/2022/1. The applicant now wishes to include an additional landfill site named “Landfill Auer North” within tenements M09/178 and G 09/26. The additional landfill request is as a result of difficulties in excavation of existing approved locations during early works phase of the project. The applicant wishes to retain approval of existing landfill locations for revisiting

at a later date, but as an interim measure requires the additional approval for a new landfill location to supplement existing operations the Bald Hill site.

This amendment application also requests approval for the expansion of a Run-of-Mine (ROM) pad. The applicant is seeking the inclusion of tenement M 09/176, to allow for the expansion of the ROM pad into this tenement. Figure 1 provides an overlay of the revised prescribed premise layout.

Table 1 below outlines the proposed changes to the existing Works Approval. Schedule 1 of the works approval provides a map of landfill infrastructure, including the location of the proposed new landfill on M 09/176 and existing approved landfill locations and expanded ROM pad.

Table 1: Proposed changes to prescribed activities

Category	Current [design] [throughput] capacity	Proposed [design] [throughput] capacity	Description of proposed amendment
64	Production of design capacity – 20 tonnes or more per year.	3487 tonnes per annum.	<ul style="list-style-type: none"> • A change in the prescribed premises boundary is required to allow an additional landfill to be installed in mining tenements M09/178 and G09/26. • Existing landfill location approval to be retained. • No changes are proposed design capacity. • The expansion of premises boundary remains within the development envelope as detailed in MS 1110.
5	1100,000 tonnes per annual period	No change	<ul style="list-style-type: none"> • Inclusion of M 09/176 and M09/178 in the prescribed premises boundary for expansion of ROM pad. • Expansion not to exceed 5ha • Expansion to remain within approved development of MS 1110 • Expansion not to exceed authorised extent of clearing in MS 1110

2.3 Part IV of the EP Act

The Applicant referred the Yangibana Project to the Environmental Protection Authority (EPA) under s38 of the EP Act in January 2017. The level of assessment was set at Public Environmental Review (PER) in February 2017. The proposal scope of assessment for the EPA

included five open mine pits, tailings facilities and ancillary infrastructure to support the mining operation.

During EPA assessment of the proposal there was a s.41A(3) of the EP Act approval granted on 25 August 2017 to allow minor or preliminary works within the proposal development envelope associated with water investigations, geotechnical assessments, environment surveys and mineral exploration activities. It also includes works for the construction of an accommodation village with associated sewage treatment facility, irrigation field and access roads.

There were also two s.43A of the EP Act changes to the proposal approved during the assessment as follows:

- June 2018 - Changes to the development envelope for the proposed airstrip, a Borefield and water pipeline along with increased TSF capacities; and
- May 2019 – Changes to the TSFs to combine TSF1 and TSF2 (into the Beneficiation TSF) and TSF3 and the evaporation (into the Hydromet TSF) along with increased TSF capacities. A change to the deposition methodology of the Beneficiation TSF from central thickened discharge to perimeter discharge in a paddock style design was also approved.

The EPA published Report 1642 in June 2019 (EPA Report 1642) which is its report and recommendations to the Minister for Environment on the proposal.

EPA Report 1642 identified the following key environmental factors during the course of its assessment:

- Human Health
- Flora and Vegetation
- Subterranean Fauna
- Terrestrial Environmental Quality
- Inland Waters

Refer to full decision report for W6209/2019/1 published on 17/6/2020 for full discussion.

MS 1110 details the approved development footprint. No change to the development footprint is proposed with the expansion of ROM pad. The applicant has confirmed that the proposal to extend the ROM pad does not exceed the authorised extent of clearing detailed in MS 1110.

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 time limited operation which have been considered in this Amendment Report are detailed in Table 2 below. Table 2 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
Dust	Expansion of ROM pad. Construction of landfill bunkers Operation of expanded ROM Pad	Air/windborne pathway	No controls proposed for construction activities. Dust from the ROM pad will be managed through: <ul style="list-style-type: none"> • Sprinklers systems on ROM infrastructure • Covers; and • Water sprays using a water cart.
Gaseous emissions and odour (emission screened out due to no pathway to receptor)	Landfill bunkers	Air/windborne pathway	<ul style="list-style-type: none"> • Weekly covering of disposed wastes. • Landfill located away from the camp and village to prevent nuisance odour.
Leachate	Landfill bunkers	Leachate containing contaminants is released to drainage lines during heavy rainfall events Seepage to groundwater	<ul style="list-style-type: none"> • Leachate is contained in the waste bunker until it is evaporated. • Depth of bunkers is maintained to contain rainfall. • 3m separation maintained between the base of the landfill cells and groundwater. • Drainage around bunkers redirects surface water flow away from bunkers. • Bunkers located at least 250m from Fraser creek.
Windblown waste	Landfill bunkers/transfer of waste	Air/windborne pathway	<ul style="list-style-type: none"> • Daily inspections of the tipping faces and housekeeping. • Waste is compacted as soon as practicable, following placement, to reduce the potential for windblown litter. • Landfill to be fenced. • Putrescible waste covered with soil on a weekly basis. • Daily collection of windblown litter.
Contaminated surface water run off	Landfill bunkers	Surface water run off	<ul style="list-style-type: none"> • Leachate is contained in the waste bunker until it is evaporated • Depth of bunkers is maintained to contain rainfall

Emission	Sources	Potential pathways	Proposed controls
			<ul style="list-style-type: none"> • 3m separation maintained between the base of the landfill cells and groundwater • Drainage around bunkers redirects surface water flow away from bunkers • Bunkers located at least 250m from Fraser creek

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 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
Gifford Creek Station homestead Screened out as a receptor to fugitive emissions (dust, odour, noise) due to distance (no pathway).	Approximately 15 km from ROM pad and approximately 10 km from proposed new landfill location.
Environmental receptors	Distance from prescribed activity
Priority Flora: Eleven Priority Flora species (including six significant range extensions) according to EPA Report 1642.	Located within and surrounding the premises.
Gifford Creek calcretes Priority Ecological Community (PEC) - a network of shallow calcrete aquifers that host a stygofauna community.	Underlying the premises
Lyons River, Frasers Creek and associated tributaries/drainage lines	Frasers Creek – approx.. 1.5 to 2 km from new landfill location, but tributary to Fraser Creek identified approximately 200 metres from the new landfill location.
Groundwater	Depth to groundwater is estimated at 8 metres

	below ground level, with the revised landfill locations located within previously disturbed soils
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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 4.

The Revised Works Approval W6209/2019/1 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 time limited operations

Risk Event					Risk rating ¹ C = consequence L = likelihood	Works Approval Holder's controls sufficient?	Conditions ² of works approval	Justification for additional regulatory controls
Source/Activities	Potential emission	Potential pathways and impact	Receptors	Works Approval Holder's controls				
Construction								
Expansion of ROM pad Construction of landfill bunkers.	Fugitive dust	Pathway: Air/wind dispersion Impact: Impacts to ecological health	Native vegetation, including priority flora	Refer to Section 3.1	C= Slight L = Unlikely Low risk	Y	N/A	N/A – existing works approval conditions applicable
Time Limited Operations								
Operation of expanded ROM pad	Fugitive dust (radionuclides)	Pathway: Air/wind dispersion Impact: Impacts to ecological health	Nearest dwelling is Gifford Creek Homestead approx. 15 km SSW of the plant (no pathway). Native vegetation, including priority flora	Refer to Section 3.1	C= Moderate L = Unlikely Medium risk	Y	Condition 1	No change to original risk rating. Existing conditions on Works approval sufficient to manage risk. Refer to section 11.4 and 12.1 of original decision report for W6209/2019/1 for a details on decision making for this risk event.
Operation of new Cat. 64: Class II or III putrescible landfill site	Leachate seepage	Direct discharge	Groundwater aquifers Surface water systems through	Refer to Section 3.1	C = Slight L = Rare Low Risk	Y	Condition 1, 3-5, 12, 14	Existing conditions on works approval are sufficient to manage these risks during TLO.
	Contaminated stormwater runoff							

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Risk Event					Risk rating ¹	Works Approval Holder's controls sufficient?	Conditions ² of works approval	Justification for additional regulatory controls
Source/Activities	Potential emission	Potential pathways and impact	Receptors	Works Approval Holder's controls	C = consequence L = likelihood			
			superficial aquifer recharge					
	Windblown waste	Pathway: Air/wind dispersion	Native vegetation, including priority flora	<i>Refer to Section 3.1</i>	C = Slight L = Unlikely Low Risk	Y		

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 5 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 13 July 2023	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 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 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 Works Approval as part of the amendment process.

Table 6: Summary of works approval amendments

Condition no.	Proposed amendments
Cover page	Legal description updated to include tenements M 09/176 and G09/26
Table 1	Update to text to provide flexibility for the applicant to construct third proposed landfill.
Schedule 1 Map	Map updated to include additional prescribed premises tenements, expansion of ROM pad and updated landfill location.
Schedule 2	Updated to include additional landfill location

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: Summary of Works Approval Holder's comments on risk assessment and draft conditions

Condition	Summary of Works Approval Holder's comment	Department's response
Cover page	Please update to include additional tenements: <ul style="list-style-type: none"> - M09/162 - M09/178 	Cover page and works approval history table updated to include additional tenements.
Condition 1 table 1	Amend construction/installation requirement wording to "sprinkler system fitted to ROM infrastructure for dust suppression"	Condition 1 table 1 wording amended in line with applicants request as it was an error.
	Request to remove map of landfill bunker design in schedule 1. This figure is surplus to needs as design requirements are adequately outlined in condition 1.	Agree, Figure removed from schedule 1.

Appendix 2: Application validation summary

SECTION 1: APPLICATION SUMMARY			
Application type			
Amendment to works approval	<input checked="" type="checkbox"/>	Current works approval number:	W6209/2019/1 W6158/2018/1 (unrelated)
Date application received	7/2/2023		
Applicant and Premises details			
Applicant name/s (full legal name/s)	Hastings Technology Metals Limited		
Premises name	Yangibana Rare Earths Project		
Premises location	<p>G09/14, G09/16, G09/17, G09/18, G09/27, M09/157, M09/158, M09/161, M09/162, M09/167, L09/68, L09/83 and M09/178 are located approximately 270 kilometres (km) east-northeast of the town of Carnarvon and approximately 150 km northeast of Gascoyne Junction on Wanna Station and Gifford Creek Station in the Upper Gascoyne Region of Western Australia.</p> <p>Since the last version of the works approval was approved, further tenure has been granted and has been added to the Prescribed Premises boundary. Specifically, G09/26 has been added and is the site of the proposed additional landfill site, and M09/176 has been added as this will include a portion of the ROM.</p>		
Local Government Authority	Shire of Upper Gascoyne		
Application documents			
HPCM file reference number:	DER2019/00040-2		
Key application documents (additional to application form):	General supporting information document provided.		
Scope of application/assessment			
Summary of proposed activities or changes to existing operations.	<p>As part of the early works activities, it has been observed that areas previously approved for landfill are not suitable areas at this stage of the operation.</p> <p>This works approval revision seeks to incorporate a new area into the approved landfill footprint, one that has been previously excavated for the disposal of exploration wastes, where the ground is softer, and digging is easier.</p>		

Category number/s (activities that cause the premises to become prescribed premises)

Table 1: Prescribed premises categories

Prescribed premises category and description	Assessed design capacity	Proposed changes to the production or design capacity (amendments only)
Category 64: Class II or III putrescible landfill site: premises on which waste (as determined by reference to the waste type set out in the document entitled "Landfill Waste Classification and Waste Definitions 1996" published by the Chief Executive Officer and as amended from time to time) is accepted for burial.	Assessed design capacity, 3487 tonnes or more per year.	The Works approval currently allows for the annual disposal of up to 3487 tonnes per annum. The Project is not seeking to alter this disposal limit.

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 checked="" type="checkbox"/> No <input type="checkbox"/>	Referral decision No: CMS 17016 Managed under Part V <input type="checkbox"/> Assessed under Part IV <input checked="" type="checkbox"/>
Does the applicant hold any existing Part IV Ministerial Statements relevant to the application?	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Ministerial statement No: MS 1110 EPA Report No: 1642. Post assessment changes captured in MS1110 (S45c amendment)
Has the proposal been referred and/or assessed under the EPBC Act?	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Reference No: 2016/7845; approval received
Has the applicant demonstrated occupancy (proof of occupier status)?	Yes <input 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"/> Expiry: Other evidence <input type="checkbox"/> Expiry: Partial evidence provided. See comments.

Has the applicant obtained all relevant planning approvals?	Yes <input type="checkbox"/> No <input type="checkbox"/> N/A <input checked="" type="checkbox"/>	Approval: Mining tenure Expiry date:
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: Clearing of native vegetation is authorised through MS 1110 granted under Part IV of the EP Act and therefore not considered in this assessment.
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"/>	Clearing of native vegetation is authorised through MS 1110 granted under Part IV of the EP Act.
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"/>	GWL183285(2), PMB201193(1)
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"/>	
Is the Premises situated in a Public Drinking Water Source Area (PDWSA)?	Yes <input type="checkbox"/> No <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 xxx</i>)	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Yes, as tabulated in Table 7 of the Decision Report for W6209/2019/1 <i>(Environment Protection and Biodiversity Conservation Act 1999 (Cth, Land Administration Act 1997, Rights in Water and Irrigation Act 1914, Dangerous Goods Safety Act 2004, Mining Act 1978, Radiation Safety Act 1975, Part IV of the EP Act (WA)),</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"/>	