



Application for Works Approval

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

Works Approval Number W6478/2020/1

Applicant Fortescue Metals Group Ltd

ACN 002 594 872

File Number DER2020/000612

Premises Eliwana Landfill and Waste Transfer Facility
Legal description
Part of Mining Lease 47/1524
As defined by the coordinates in Schedule 2 of the Works Approval

Date of Report 30 April 2021

Decision Works approval granted

Tracey Hassell
A/Manager, Waste Industries

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

Table of Contents

1. Decision summary	1
2. Scope of assessment	1
2.1 Regulatory framework	1
2.2 Application summary and overview of Premises	1
2.3 Part IV of the EP Act.....	1
3. Risk assessment.....	1
3.1 Source-pathways and receptors	1
3.1.1 Emissions and controls	1
3.1.2 Receptors.....	3
3.2 Risk ratings.....	4
4. Consultation	7
5. Conclusion	7
References	7
Appendix 1: Summary of applicant's comments on risk assessment and draft conditions	8
Appendix 2: Application validation summary.....	11
Table 1: Proposed applicant controls	2
Table 2: Sensitive human and environmental receptors and distance from prescribed activity.	3
Table 3: Risk assessment of potential emissions and discharges from the Premises during construction, commissioning and operation.....	5
Table 4: Consultation	7

1. Decision summary

This Decision Report documents the assessment of potential risks to the environment and public health from emissions and discharges during the construction and time limited operation of the Premises. As a result of this assessment, Works Approval W6478/2020/1 has been granted.

2. Scope of assessment

2.1 Regulatory framework

In completing the assessment documented in this Decision 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 and overview of Premises

On 27 November 2020, the applicant submitted an application for a works approval to the department under section 54 of the *Environmental Protection Act 1986* (EP Act).

The application is to undertake construction works relating to a putrescible landfill and a waste transfer station at the Premises. The Premises is approximately 100 km north west of Tom Price, Shire of Ashburton.

The Premises relates to the categories and assessed design capacity under Schedule 1 of the *Environmental Protection Regulations 1987* (EP Regulations) which are defined in Works Approval W6478/2020/1. The infrastructure and equipment relating to the premises category and any associated activities which the department has considered in line with *Guidance Statement: Risk Assessments* (DER 2017) are outlined in Works Approval W6478/2020/1.

2.3 Part IV of the EP Act

The development and operation of the Eliwana Iron Ore Mine, including supporting infrastructure, was assessed by the Environmental Protection Authority under Ministerial Statement 1109. There are no matters in the Ministerial Statement that directly impact 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 *Guidance Statement: Risk Assessments* (DER 2017).

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

3.1 Source-pathways and receptors

3.1.1 Emissions and controls

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

Table 1: Proposed applicant controls

Emission	Sources	Potential pathways	Proposed controls
Construction			
Dust	Earthworks, vehicle movements and lift-off from stockpiles	Air/windborne pathway	Water trucks will be used as required
Noise	Earthworks and vehicle movements	Air/windborne pathway	No controls explicitly stated
Operation			
Dust	Lift off from landfill and stockpiles of waste.	Air/windborne pathway	Landfill cover to be applied at least weekly, if not immediately Water trucks will be used as required
Noise	Operation of machinery and movement of vehicles	Air/windborne pathway	No controls explicitly stated
Odour	Landfilling of putrescible waste	Air/windborne pathway	Landfill cover to be applied at least weekly, if not immediately Limiting tipping face to 30m in length.
Leachate	Landfilling of putrescible waste and rainfall infiltrating through waste.	Infiltration through soil	Only inert and putrescible waste will be disposed of at the landfill. Hazardous material will not be disposed at the landfill. Groundwater monitoring will be conducted on a quarterly basis
Contaminated stormwater	Rainfall coming in contact with putrescible waste	Overland flow	Diversion drainage will be used to divert surface flows around the landfill
Windblown waste	Landfilling of waste and storage of waste at the solid waste depot	Air/windborne pathway	Fence to be installed around the perimeter of both the landfill and the solid waste depot Limiting tipping face to 30m in length.
Fire/smoke		Air/windborne pathway	Five metre firebreak to be installed. No burning of waste will occur at the premises Landfill cover to be applied at least weekly, if not immediately

3.1.2 Receptors

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

Table 2 below 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 (*Guidance Statement: Environmental Siting* (DER 2016)).

Table 2: Sensitive human and environmental receptors and distance from prescribed activity

Human receptors	Distance from prescribed activity
Pastoral station homesteads and residences	None with 10km of premises boundary
Environmental receptors	Distance from prescribed activity
Conservation significant fauna: <ul style="list-style-type: none"> • <i>Dasyurus hallucatus</i> (Northern Quoll) • <i>Falco hypoleucos</i> (Grey Falcon) • <i>Liasis olivaceus</i> subsp. <i>barroni</i> (Pilbara Olive Python) • <i>Macroderma gigas</i> (Ghost Bat) 	All located within 20km of premises boundary
Priority 1 flora	~5.5km north west of premises boundary
Priority 3 Ecological Community – <i>Triodia pisolitica</i> Assemblages	~1.7km north of premises boundary
Major River – Duck Creek	~5.5km north of premises boundary
Minor, non-perennial watercourse	~300m south east of premises boundary
<i>Rights in Water and Irrigation Act 1914</i> – Pilbara Groundwater Area	Underlying the application area
<i>Rights in Water and Irrigation Act 1914</i> – Pilbara Surface Water Area	Underlying the application area
Underlying groundwater	~15 mbgl

3.2 Risk ratings

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

Where the applicant 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 applicant'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 applicant's controls are not deemed sufficient. Where this is the case the need for additional controls will be documented and justified in Table 3.

Works Approval W6478/2020/1 that accompanies this Decision Report authorises construction and time-limited operations. The conditions in the issued Works Approval, as outlined in Table 3 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 Decision Report, however licence conditions will not be finalised until the department assesses the licence application.

Table 3: Risk assessment of potential emissions and discharges from the Premises during construction and time limited operation

Risk Event					Risk rating ¹ C = consequence L = likelihood	Applicant controls sufficient?	Conditions ² of works approval	Justification for additional regulatory controls
Source/Activities	Potential emission	Potential pathways and impact	Receptors	Applicant controls				
Construction								
Earthworks, vehicle movements and lift-off from stockpiles	Dust	Air/windborne pathway causing impacts to surface water	Minor, non-perennial watercourse 300m south east	Refer to Section 3.1	C = Minor L = Rare Low Risk	Y	N/A	N/A
	Noise	Air/windborne pathway causing impacts to health and amenity	No residential receptors located within 10km of the premises	Refer to Section 3.1	No receptors present			
Operation (including time-limited-operations operations)								
Category 62 Acceptance and storage of waste pending offsite disposal. Vehicle movements Category 64 Acceptance and burial of waste	Dust	Air/windborne pathway causing impacts to surface water	Minor, non-perennial watercourse 300m south east	Refer to Section 3.1	C = Minor L = Rare Low Risk	Y	Condition 6	N/A
	Noise	Air/windborne pathway causing impacts to health and amenity	No residential receptors located within 10km of the premises	Refer to Section 3.1	No receptors present			
	Odour	Air/windborne pathway causing impacts to health and amenity	No residential receptors located within 10km of the premises	Refer to Section 3.1	No receptors present			

Risk Event					Risk rating ¹ C = consequence L = likelihood	Applicant controls sufficient?	Conditions ² of works approval	Justification for additional regulatory controls
Source/Activities	Potential emission	Potential pathways and impact	Receptors	Applicant controls				
	Leachate	Infiltration through soil profile to groundwater causing potential impacts on ecological values and beneficial uses associated with quality of water in the aquifer	Groundwater ~15m below ground level	Refer to Section 3.1	C = Minor L = Unlikely Medium Risk		Conditions 6,7 and 9	N/A
	Sediment laden stormwater	Overland runoff potentially causing ecosystem disturbance or impacting surface water quality	Adjacent vegetation and minor, non-perennial watercourse 300m south east	Refer to Section 3.1	C = Minor L = Unlikely Medium Risk	Y	Condition 6	N/A
	Windblown waste	Air/windborne pathway causing impacts to amenity	Adjacent vegetation and minor, non-perennial watercourse 300m south east	Refer to Section 3.1	C = Minor L = Unlikely Medium Risk	Y	Condition 6	N/A
	Fire/smoke	Airborne particulate matter causing impacts to health and amenity of human receptors. Damage/destruction of adjacent vegetation	Adjacent vegetation	Refer to Section 3.1	C = Moderate L = Unlikely Medium Risk	Y	<u>Conditions 6</u>	A requirement to implement a Fire and Emergency Management Plan has been added to condition 6 to ensure that the risk of fire/smoke emissions are adequately managed.

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

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

4. Consultation

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

Table 4: Consultation

Consultation method	Comments received	Department response
Application advertised on the department's website (22/01/2021)	No comments received	N/A
Local Government Authority advised of proposal (01/02/2021)	No comments received	N/A
Department of Mines, Industry Regulation and Safety (DMIRS) advised of proposal (01/02/2021)	Comments from DMIRS received on 10 February 2020, stating that DMIRS approved a landfill on Mining Lease 47/1524 via mining proposal 85599.	Noted
Draft package sent to applicant on 8 March 2021.	Email received from the applicant on 31 March 2021 providing comments on the draft Works Approval. A summary of the comments is provided in Appendix 1	Refer to Appendix 1

5. Conclusion

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

References

1. Department of Environment Regulation (DER) 2016, *Guidance Statement: Environmental Siting*, Perth, Western Australia.
2. DER 2017, *Guidance Statement: Risk Assessments*, Perth, Western Australia.
3. DER 2015, *Guidance Statement: Setting Conditions*, Perth, Western Australia.
4. DWER 2019, *Guideline: Industry Regulation Guide to Licensing*, Perth Western Australia

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

Condition	Summary of applicant's comment	Department's response
Condition 1	Amend and rephrase to: “(c) at the corresponding infrastructure location as set out in Table 1.”	Changed as requested
Compliance Reporting	Amend Heading to: “Environmental Compliance Report”	Changed as requested
Condition 4	Delete entire condition. Requirements duplicated under condition 2 for an Environmental Compliance Report.	Condition has not been deleted as requested. Condition 2 required the submission of an Environmental Compliance Report and Condition 4 authorises time limited operations once the Environmental Compliance Report has been submitted. It has been identified that Condition 4 was missing some wording, being ‘where the Environmental Compliance Report’. To remove any confusion the following wording has been deleted; ‘unless condition 2 states that no Environmental Compliance Report is applicable for that item’.
Condition 5 (b)	Delete entire condition. Duplicated in condition 5 (a).	Part (b) has been deleted as requested. Part (b) read: (b) for a period not exceeding 180 calendar days from the issue of this works approval, where condition 1 states that no Environmental Compliance Report is applicable. This is a standard condition for time limited operations, however it is noted that condition 1 did not state that an Environmental Compliance Report was not applicable for any of the items.
Condition 6	Missing reference to Table 2	Noted and amended.

Condition	Summary of applicant's comment	Department's response
Table 1: Design and construction requirements	<p>Clarify Item 1 – Design and Construction Requirements, dot point 5. Duration has not been specified for a 1 in 20 year rainfall event.</p> <p>Rainfall depths vary for different rainfall duration periods and this will assist with containment management.</p> <p>Amend and rephrase Item 2 – Solid Waste Depot, dot point 3. Delete fencing requirement between each compartment as there will be a perimeter fence constructed to enclose the entire facility.</p>	<p>On agreement from the applicant, the wording has been updated to read “Drainage sump large enough to contain a 5% AEP rainfall event”.</p> <p>The requirement for an earthen windrow and fence to be constructed between each compartment was added to the works approval to reflect information provided in the supporting documentation. The Delegated Officer acknowledges that a fence between each compartment is not required and has removed this from the works approval.</p>
Table 2: Infrastructure and equipment requirements during time limited operations	<p>Delete dot point 3. Remove statement as does not apply to landfill. The AS 3745 standard applies to buildings, structures or workplaces occupied by people.</p> <p>This item is not relevant to the construction phase.</p>	Reference to AS 3745 has been removed, however the requirement to develop a Fire and Emergency Management Plan remains.
Table 3: Authorised waste types	<p>Amend Class II Landfill item, Specifications column. Include additional waste types of;</p> <p>Concrete, treated wood (broken pallets etc), WWTP treated sludge; treated bioremediated soils</p>	<p>Concrete, treated wood and treated bioremediated soils have been added to the Works Approval as inert waste types. The Works Approval holder is reminded that treated timber such as copper chrome arsenate (CCA), high temperature creosote (HTC), pigment emulsified creosote (PEC) and light organic solvent preservative (LSOP) treated timber are to be excluded from the waste as per the <i>Landfill waste classifications and waste definitions (December 2019)</i>.</p> <p>WWTP treated sludge has been added as a putrescible waste type. The word 'spadeable' has also been added to ensure it is a solid waste.</p>
Table 5: Monitoring of ambient concentrations during time limited operations	<p>Amend the Unit of Measurement for Standing Water level parameter. Amend to the unit “mbgl” to remain consistent existing licences with this parameter.</p>	<p>The unit for standing water level has been updated to mbgl as requested and the term has been added to the definitions table.</p> <p>Footnote removed as requested.</p>

Condition	Summary of applicant's comment	Department's response
	<p>Remove the Sampling regime for Standing Water level parameter.</p> <p>Remove this footnote to allow for flexibility to use either regimes to obtain measurements and to remain consistent with existing licenses with this parameter.</p>	

Appendix 2: Application validation summary

SECTION 1: APPLICATION SUMMARY					
Application type					
Works approval	<input checked="" 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 type="checkbox"/>	Current licence number:			
		Relevant works approval number:		N/A	<input type="checkbox"/>
Registration	<input type="checkbox"/>	Current works approval number:		None	<input type="checkbox"/>
Date application received		27/11/2020			
Applicant and Premises details					
Applicant name/s (full legal name/s)		Fortescue Metals Group Ltd			
Premises name		Eliwana Landfill and Waste Transfer Facility			
Premises location		M47/1524			
Local Government Authority		Shire of Ashburton			
Application documents					
HPCM file reference number:		DWERDT381942			
Key application documents (additional to application form):		Supporting Document Figures			
Scope of application/assessment					

Summary of proposed activities or changes to existing operations.	Construction, commissioning and time limited operation of a landfill (Cat 64) and a solid waste depot (Cat 62).	
Category number/s (activities that cause the premises to become prescribed premises)		
Table 1: Prescribed premises categories		
Prescribed premises category and description	Proposed production or design capacity	Proposed changes to the production or design capacity (amendments only)
Category 62: Solid waste depot: premises on which waste is stored, or sorted, pending final disposal or re-use.	6,000 tpa	N/A
Category 64: Class II or III putrescible landfill site: premises on which waste is accepted for burial.	10,000 tpa	N/A
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: 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 type="checkbox"/>	Ministerial statement No:1109 EPA Report No:
Has the proposal been referred and/or assessed under the EPBC Act?	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Reference No: EPBC 2017/8024
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 type="checkbox"/> Expiry: 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 type="checkbox"/>	Approval: Expiry date: If N/A explain why?
Has the applicant applied for, or have an existing EP Act clearing permit in	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	CPS No: N/A Clearing exempt under MS 1109

relation to this proposal?		
Has the applicant applied for, or have an existing CAWS Act clearing licence in relation to this proposal?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Application reference No: N/A Licence/permit No: N/A No clearing is proposed.
Has the applicant applied for, or have an existing RIWI Act licence or permit in relation to this proposal?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Application reference No: Licence/permit No: Licence / permit not required.
Does the proposal involve a discharge of waste into a designated area (as defined in section 57 of the EP Act)?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Name: N/A Type: N/A Has Regulatory Services (Water) been consulted? Yes <input type="checkbox"/> No <input type="checkbox"/> N/A <input type="checkbox"/> Regional office: N/A
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: P1 / P2 / P3 / 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 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 type="checkbox"/> No <input checked="" type="checkbox"/>	N/A
Is the Premises within an Environmental Protection Policy (EPP) Area?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	N/A
Is the Premises subject to any EPP requirements?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	N/A

<p>Is the Premises a known or suspected contaminated site under the <i>Contaminated Sites Act 2003</i>?</p>	<p>Yes <input type="checkbox"/> No <input type="checkbox"/></p>	<p>Classification: N/A Date of classification: N/A</p>
---	---	--