



Partial Decision Document

Environmental Protection Act 1986, Part V

Proponent: Cliffs Asia Pacific Iron Ore Pty Ltd

Licence: L8667/2012/1

Registered office: Level 11, The Quadrant
1 William Street
PERTH, WA 6000

ACN: 001 892 995

Premises address: Windarling Range Mine Operations
Part Mining Lease M77/1038 and M77/1000
MOUNT JACKSON, 6426 as depicted in Schedule 1.

Issue date: Thursday, 29 November 2012

Commencement date: Monday, 3 December 2012

Expiry date: Saturday, 2 December 2017

Decision

Based on the assessment detailed in this document the Department of Environment Regulation (DER) has decided to issue an amended licence. DER considers that in reaching this decision, it has taken into account all relevant considerations and legal requirements and that the Licence and its conditions will ensure that an appropriate level of environmental protection is provided.

Decision Document prepared by: Clarrie Green
Licensing Officer

Decision Document authorised by: Tim Gentle
Manager Licensing



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1 Purpose of this Document

This decision document explains how DER has assessed and determined the application and provides a record of DER's decision-making process and how relevant factors have been taken into account. Stakeholders should note that this document is limited to DER's assessment and decision making under Part V of the *Environmental Protection Act 1986*. Other approvals may be required for the proposal, and it is the proponent's responsibility to ensure they have all relevant approvals for their Premises.

2 Administrative summary

Administrative details		
Application type	Works Approval <input type="checkbox"/> New Licence <input type="checkbox"/> Licence amendment <input checked="" type="checkbox"/> Works Approval amendment <input type="checkbox"/>	
Activities that cause the premises to become prescribed premises	Category number(s)	Assessed design capacity
	12	500,000 tonnes per year
	6	3,420,000 tonnes per year
	54	210 cubic metres per day
64	500 tonnes	
Application verified	Date: N/A	
Application fee paid	Date:	
Works Approval has been complied with	Yes <input type="checkbox"/> No <input type="checkbox"/> N/A <input checked="" type="checkbox"/>	
Compliance Certificate received	Yes <input type="checkbox"/> No <input type="checkbox"/> N/A <input checked="" type="checkbox"/>	
Commercial-in-confidence claim	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	
Commercial-in-confidence claim outcome		
Is the proposal a Major Resource Project?	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	
Was the proposal referred to the Environmental Protection Authority (EPA) under Part IV of the <i>Environmental Protection Act 1986</i> ?	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Referral decision No: Managed under Part V <input type="checkbox"/> Assessed under Part IV <input checked="" type="checkbox"/>
Is the proposal subject to Ministerial Conditions?	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Ministerial statement No: MS982



		EPA Report No: 1521
Does the proposal involve a discharge of waste into a designated area (as defined in section 57 of the <i>Environmental Protection Act 1986</i>)?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Department of Water consulted Yes <input type="checkbox"/> No <input type="checkbox"/>
Is the Premises within an Environmental Protection Policy (EPP) Area	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	
If Yes include details of which EPP(s) here.		
Is the Premises subject to any EPP requirements?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	
If Yes, include details here, eg Site is subject to SO ₂ requirements of Kwinana EPP.		

3 Executive summary of proposal and assessment

Cliffs Asia Pacific Iron Ore Pty Ltd.'s (Cliffs) currently operate dewatering infrastructure, a wastewater treatment Plant (WWTP) and a mobile crushing and screening plant at Windarling Range Mine Operations (Windarling). Waste rock is crushed on site for use in explosive stemming and road base construction. Mined ore is taken to the Koolyanobbing Range Mine Operations for processing with no ore being processed at Windarling. Current dewatering operations have not been licenced under the *Environmental Protection Act 1986* (the Act).

Cliffs were issued a licence amendment in January 2015 to allow the dewatering of open pits W1 and W3 with a final discharge to W2 Pit. The maximum dewatering rate from Windarling following the latest amendment was conservatively predicted to be 2.72 gicalitres (GL) per annum. Cliffs now propose to develop the Windarling Range W7 Deposit, with the additional groundwater dewatering commencing Q1 2016 estimated at 0.7 GL/year over a 3-year period to W2 Pit.

During the dewatering program W2 Pit will be backfilled simultaneously. The remaining capacity of W2 Pit to 10 metres below the crest level is 19.8 GL so that there will be ample capacity within the pit to store the additional dewatering volumes proposed. Contingency dewatering pipelines have also been installed to allow a discharge to dewater to W4 West Pit in the unlikely event of limited capacity at W2 Pit. The existing pipeline network from W1, W2 and W3 Pits to turkey's nests will be expanded as part of this amendment to incorporate dewatering from W7 Pit. On 27 November 2015 the Environmental Protection Authority gave approval under Part IV of the Act for mining of the W7 pit. The approval includes mining below the groundwater table.

Tyres are disposed at W2, W3 and W4 waste dumps along with W2 and W3 Pits, which also accept putrescible wastes. Along with increases to dewatering volumes this amendment allows for an increase in throughput from 250 to 500 tonnes per annual period. Further amendments have been made to the Licence to convert conditions that align with the new template. No further assessment of emissions and discharges has been made as a part of this Licence amendment.



4 Decision table

All applications are assessed in line with the *Environmental Protection Act 1986*, the *Environmental Protection Regulations 1987* and DER's Operational Procedure on Assessing Emissions and Discharges from Prescribed Premises. Where other references have been used in making the decision they are detailed in the decision document.

DECISION TABLE			
Works Approval / Licence section	Condition number W = Works Approval L= Licence	Justification (including risk description & decision methodology where relevant)	Reference documents
Premises operation	N/A	Former conditions 1.1.5 and 1.2.1 – 1.2.5 have been removed as they are not considered enforceable nor clear in their intent.	General provisions of the <i>Environmental Protection Act 1986</i> .
	L1.2.1 (formerly 1.3.1)	Table 1.2.1 has been amended to allow an increase in throughput at the landfill areas from 250 to 500 tonnes per annual period. Any waste that does not meet the specification requirements under that condition will need to be disposed at an appropriate landfill facility offsite.	<i>Environmental Protection (Rural Landfill) Regulations 2002</i>
	L1.2.7 and 1.2.10	Condition L1.2.10 has been placed on the Licence to allow Cliffs to construct additional dewatering infrastructure. Cliffs will also be required to construct pipelines in accordance with L1.2.7, which is designed to ensure environmentally hazardous materials are contained in the event of a pipeline breach.	Landfill Waste Classification and Waste Definitions 1996 (as amended December 2009).
Point source emissions to groundwater including monitoring	L2.2.1 L3.2.2 and 3.2.3	DER's assessment and decision making is detailed in Appendix A.	General provisions of the <i>Environmental Protection Act 1986</i> .



<p>Emissions to land including monitoring</p>	<p>L2.3.1 L3.3.1</p>	<p><u>Emission Description</u> <i>Emission:</i> Discharge of nutrient-rich wastewater to land via irrigation.</p> <p><i>Impact:</i> Excessive nutrient application to land may promote the growth of invasive species. These impacts are likely to be localised to the irrigation field and are assessed as minor.</p> <p>Nutrients that are not taken up by vegetation within the irrigation field are likely to seep past the root zone toward groundwater. Regional depth to groundwater is approximately 40 metres below ground level and is saline. Therefore impacts to groundwater are assessed as insignificant.</p> <p><i>Controls:</i> Cliffs' 2014 Annual Environmental Report indicates that the WWTP is currently being operated in accordance with the <i>Australian Guidelines for Sewerage Systems</i> for a secondary treatment plant. Nitrogen loading at the irrigation field has been managed by limiting the amount of treated effluent being discharged to the irrigation area with a proportion discharged to a lined water storage dam. In the 2014 period however, repairs and servicing to the WWTP resulted in more effluent being discharged to the irrigation field and nutrient loading limits for nitrogen (420 kg/ha/year) were exceeded by 30 kg/ha/year. However, the WWTP now is operating effectively and further limit exceedances are unlikely.</p> <p><u>Risk Assessment</u> <i>Consequence:</i> Minor <i>Likelihood:</i> Unlikely <i>Risk Rating:</i> Moderate</p> <p><u>Regulatory Controls</u> Emission to land targets relating to the operation of the WWTP have been removed from the Licence as they are not considered enforceable. Existing monitoring requirements (L4.2.1) will allow DER to continue to monitor the performance of the WWTP while limits for nutrient loading at the irrigation field under condition 2.3.2 will protect soils from contamination with excessive nutrients. The residual risk does not change with the removal of targets and monitoring is still required to verify compliance with nutrient loading limits.</p>	<p><i>Environmental Protection (Unauthorised Discharges) Regulations 2004.</i></p> <p>National Water Quality Management Strategy (1997) Australian Guidelines for Sewerage Systems – Effluent Management.</p>
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Fugitive emissions	N/A	<p>Generic fugitive emission conditions have been removed from the Licence as they are not considered enforceable. Cliffs have requested that category 12 (Screening etc. of material) be removed from the Licence as crushing of rock for road base and blast stemming is no longer required at prescribed throughput volumes under the <i>Environmental Protection Regulations 1987</i>.</p> <p>Dust generation from the WWTP is not expected to be significant whereas there will be some dust generation from the burial of landfill waste in disused pits with overburden. However, there are no nearby sensitive receptors as adjacent vegetation is expected to be relatively tolerant to dust. Therefore the consequence of dust is expected to be insignificant and generic conditions have not been replaced.</p>	
Information	L4.5.2	L4.5.2 has been adjusted to require the notification of standing water levels within W2 Pit rising above 10 m below the crest level. This will assist DER in ensuring that the root zone of native vegetation is not intercepted by saline groundwater.	N/A
Licence Duration	N/A	There has been no extension to the Licence expiry as part of this amendment.	N/A

5 Advertisement and consultation table

Date	Event	Comments received/Notes	How comments were taken into consideration
22/12/2016	Proponent sent a copy of draft instrument	Minor comments received.	Minor comments accepted.



6 Risk Assessment

Note: This matrix is taken from the DER Corporate Policy Statement No. 07 - Operational Risk Management

Table 1: Emissions Risk Matrix

Likelihood	Consequence				
	Insignificant	Minor	Moderate	Major	Severe
Almost Certain	Moderate	High	High	Extreme	Extreme
Likely	Moderate	Moderate	High	High	Extreme
Possible	Low	Moderate	Moderate	High	Extreme
Unlikely	Low	Moderate	Moderate	Moderate	High
Rare	Low	Low	Moderate	Moderate	High



Appendix A

Dewatering discharges to W2 and W4 Pit have previously been assessed as discharges to land. As groundwater is present at the base of each receiving pit, this discharge is more accurately assessed as a point source discharge to groundwater. To allow for the discharge of dewater into W2 and W7, Table 2.2.1 has been amended.

The capacity of W2 to accept mine dewater and landfill wastes as at October 2015, was estimated at 19.8 GL to a level 10 metres below the lowest point of the pit crest. This is significantly greater than the approximate 17.9 GL (equivalent) of mine dewater proposed for discharge to W2 Pit. Discharge volumes have been conservatively estimated while waste compaction, water evaporation and infiltration have not been used in calculations.

Operation

Emission Description

Emission: Brackish dewatering effluent discharged from W1 and W3 Pits into W2 Pit and (potentially) W4 West Pit.

Impact: The salinity of groundwater at the Windarling Range is estimated at ranging between 20,000 and 30,000 mg/L Total Dissolved Solids (TDS) with higher salinities recorded at depth. Mine dewater is expected to raise the standing water level which may reach the root zone of the undisturbed natural vegetation to the west of W2 resulting in reduced plant growth or death. Groundwater beneath W2 is brackish (29,000 mg/L TDS) and displays similar characteristics to W7 Pit. Current depth to groundwater has been recorded at 40 metres below ground level.

Controls: Cliffs propose to maintain a 10 metre freeboard from the lowest point of the pit crest. This is expected to provide adequate protection to nearby natural vegetation as mounding of groundwater will decrease to lower than 10 m below ground level beyond the pits. As there will be an additional 2.1 GL discharged to W2 Pit over a period of 3 years the likelihood of an overtopping increases although it remains "Unlikely".

Risk Assessment

Consequence: Moderate

Likelihood: Unlikely

Risk Rating: Moderate

Regulatory Controls

Freeboard limits will be retained under condition 3.2.1 whereas targets have been replaced by condition 3.2.2. Cliffs will still be required to report exceedances of standing water levels rising above 10 m from the Pit crest level (L4.5.1).

To ensure that Cliffs respond to standing water level rises that present a risk to native vegetation, condition 3.2.3 has been added to the Licence requiring the development and implementation of a groundwater recovery plan in the event of standing water levels rising above 10 m below the Pit crest. This is expected to significantly reduce the likelihood of groundwater intercepting the root zone of native vegetation.

Residual Risk

Consequence: Moderate

Likelihood: Rare

Risk Rating: Moderate