



## Application for Licence Amendment

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

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<b>Licence Number</b>	L6929/1990/16
<b>Licence Holder</b>	Cockatoo Island Mining Pty Ltd
<b>ACN</b>	107 154 727
<b>File Number</b>	DER2023/000633-1
<b>Premises</b>	Cockatoo Island Iron Ore Mine and Processing Facility  Legal description –  Mining Tenements M04/448, L04/49, G04/33, G04/34, G04/35, G04/36 and G04/37  As defined by the Premises maps attached to the Revised Licence
<b>Date of Report</b>	1 May 2024
<b>Decision</b>	Revised licence granted

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## 1. Decision summary

Licence L6929/1990/16 (the Existing Licence) is held by Cockatoo Island Mining Pty Ltd (the 'Licence Holder') for the Cockatoo Island Iron Ore Mine and Processing Facility (the Premises), located on Cockatoo Island, Western Australia.

This Amendment Report documents the assessment of potential risks to the environment from proposed changes to the emissions during the construction and operation of a radial telescopic conveyor (telestacker) and upgraded barge wharf at the Premises. As a result of this assessment, Amended Licence L6929/1990/16 has been granted.

This Amended Licence supersedes the existing Licence previously granted in relation to the Premises. The Amended Licence has been granted in a new format with existing conditions being transferred, but not reassessed, to the new format.

## 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>.

### 2.1 Overview of premises

The premises is part of the Buccaneer Archipelago in Yampi Sound, 5 km west of the Yampi Peninsula and 140 km north of Derby in the West Kimberley region of Western Australia. The island is approximately 6 km long by 1 km wide and lies at 16°6'S, 123°37'E.

The Premises has operated as an iron ore mine by multiple mining companies since 1951. The former mining operations abandoned mining infrastructure on the island such as crushers, screening plants, roads, conveyor systems, ship loader and wharf at the end of their occupancy. Some of the abandoned infrastructure is not in an operable condition and therefore needs to be replaced.

The Licence Holder acquired the mining tenements and Existing Licence from the former licence holder in 2020 and 2021, respectively. The Existing Licence expires on 19 March 2027. The Licence Holder intends to restart operations on Cockatoo Island as a staged process. The recommencement of operations under the licence will be supported by works currently under assessment by the department via a separate works approval application (W6860/2023/1). The works being assessed under W6860/2023/1 includes the construction of a mobile crushing and screening unit, a new ship loading facility and new (replacement) landfill. It is proposed that during time limited operations of the proposed works approval, stockpiles of ore will be crushed by the new mobile crushing and screening unit to produce direct shipping ore (DSO). These works will support the recommencement of mining at Cockatoo Island.

### 2.2 Application summary

On 8 February 2024, the Licence Holder submitted an application to the department to amend Licence L6929/1990/16 under section 59 and 59B of the *Environmental Protection Act 1986* (EP Act). The following amendments under category 58 are being sought:

- Authorise the construction and operation of the following infrastructure:
  - Open-material loading system radial telescopic conveyor (telestacker); and
  - Upgraded barge wharf.

The upgrades to the existing barge wharf facility will include minor earthworks in the form of pilling to install new barge moorings within the existing Barge Wharf ramp infrastructure. The telestacker will be constructed landside and adjacent to the new barge moorings.

The infrastructure will be used to enable a trans-shipment option of DSO for a period of up to 24 months until the new shiploading facility being assessed under works approval W6860/2023/1 is constructed and operational. The DSO will be loaded onto dumb barges (motorless barges) via the telestacker at the existing Barge Wharf and transferred by tugboat to an Ocean Going Vessel (OGV) anchored offshore where the DSO will be loaded onto the OGV using purpose-built grab cranes. The dumb barges will have hungry boards that are purpose-built sides of the barge that extend above the main deck and serve to contain the loaded material (Figure 1).



**Figure 1: Example of dumb barge fitted with hungry boards.**

As stated above, this amendment application is limited in scope to assessment of the construction and operation associated with the upgraded Barge Wharf ramp and new telestacker under Category 58. No changes to the aspects of the existing Licence relating to Category 5 and 6 have been requested by the Licence Holder.

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

**Table 1: Proposed changes to existing categories**

Category	Current design /throughput capacity	Description of proposed amendment
Category 05: Processing or beneficiation of metallic or non-metallic ore	2,628,000 tonnes per annual period	No changes proposed
Category 06: Mine dewatering	38,000,000 tonnes per annual period	No changes proposed
Category 58: Bulk material loading or unloading	43,200 tonnes per day	No changes proposed

### 2.2.1 Aspects excluded from assessment scope

The transfer of DSO from the barge to the OGV (via grab cranes on the OGV) will be undertaken outside of the premises boundary and is therefore excluded from the scope of this assessment. The licence holder may require additional approvals to undertake this activity.

### 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 2020b).

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 2 also details the proposed control measures the Licence Holder has proposed to assist in controlling these emissions, where necessary.

**Table 2: Proposed controls**

Emission	Sources	Potential pathways	Proposed controls
<b>Construction</b>			
Dust	Earthworks (including up to 7 days of piling activity) to construct the open material loading system for the telestacker and barge moorings	Air/windborne pathway causing dust deposition on marine waters, increased turbidity and deposition on the seabed, impacting the health of benthic communities and species	<ul style="list-style-type: none"> <li>No controls proposed because applicant does not think dust will be generated during piling activities</li> </ul> Existing dust controls on licence.
	Installation of telestacker at existing Barge Wharf		
Noise	Earthworks (including up to 7 days of piling activity) to construct the open material loading system for the telestacker and barge moorings	Underground/ underwater noise impacting marine fauna health and behaviour	<ul style="list-style-type: none"> <li>Piling only to occur during day shift</li> <li>Piling only to occur at low tide when the ground is above the waterline</li> </ul>
<b>Operation</b>			
Sediment laden or iron ore contaminated	Dumb barge loading via telestacker at the	Runoff from wharf causing increased	<ul style="list-style-type: none"> <li>No controls proposed by Licence Holder</li> </ul>

Emission	Sources	Potential pathways	Proposed controls
stormwater / wash water	existing barge wharf	turbidity and deposition on the seabed, impacting the health of benthic communities and species	Existing licence condition 1.3.3 to ensure spillage of ore or concentrate during loading operations is collected and recovered so that this material does not enter the marine environment.
Fugitive dust		Air/windborne pathway causing dust deposition on marine waters, increased turbidity and deposition on the seabed, impacting the health of benthic communities and species	<ul style="list-style-type: none"> <li>• Ore has a natural moisture content of ~4% minimising dust generation potential.</li> <li>• Ore to be deposited into ore bins prior to loading</li> <li>• Wetting of ore and product stockpiles.</li> <li>• Installation of gravity fed sprinkler system (under works approval W6860/2023/1)</li> <li>• Dust monitoring.</li> <li>• Visual monitoring by site personnel.</li> <li>• Dust incidents captured in site incident register.</li> <li>• Maximum telestacker drop height no more than 15 m</li> </ul>
Crushed iron ore (product)		Unplanned spill of DSO into marine waters during loading causing increased turbidity and deposition on the seabed, impacting the health of benthic communities and species	<ul style="list-style-type: none"> <li>• Dumb barge loading point is sited in a disturbed area.</li> <li>• Dumb barge to be securely moored to wharf to prevent drift during loading.</li> <li>• Trained and competent personnel.</li> <li>• No loading during inclement weather. Trigger Action Response Plans (TARP) developed.</li> <li>• Purpose built telestacker compliant to Australian Standards (structural, electrical, guarding).</li> <li>• Facility designed by qualified and competent Australian Structural Marine Engineers.</li> <li>• Hungry boards (purpose built sides of the barge that extend above the main deck) fitted to all dumb barges</li> </ul> <p>Existing licence condition 1.3.3 to ensure spillage of ore or concentrate during loading operations is collected and recovered so that this material does not enter the marine environment.</p>

### 3.1.2 Receptors

In accordance with the *Guideline: Risk assessments* (DWER 2020b), 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 2020a)).

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

Human receptors	Description and Distance from prescribed activity
Tourist accommodation (Cockatoo Island Resort) – not currently operational	About 2 km west-northwest from the proposed barge loading ramp. <i>Screened out of risk assessment due to separation distance.</i>
Environmental receptors	Description and Distance from prescribed activity
Yampi Sound (a Port Area Crown Reserve) tidal marine environment, including benthic primary producer habitat with fringing coral reefs and intertidal mud flat zones	Overlapping southern premises border.
Marine fauna	Several migratory whales, dolphins, dugongs and turtles may be found within Yampi Sound.
Native vegetation, including conservation significant flora: <ul style="list-style-type: none"> <li>• <i>Triodia sp. Hidden Island</i> (P1)</li> <li>• <i>Solanum vansittartense</i> (P2)</li> </ul>	Highly disturbed or cleared within and surrounding activities proposed in the application. <i>Screened out of risk assessment table below due to separation distance of healthy vegetation from proposed activities.</i>

### 3.2 Risk ratings

Risk ratings have been assessed in accordance with the *Guideline: Risk Assessments* (DWER 2020b) for those emission sources which are proposed to change and considers 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 L6929/1990/16 that accompanies this Amendment Report authorises emissions associated with the operation of the Premises.

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 during operation of the premises**

Risk Event					Risk rating <sup>1</sup> C = consequence L = likelihood	Licence Holder's controls sufficient?	Conditions <sup>2</sup> of licence	Justification for additional regulatory controls
Source/Activities	Potential emission	Potential pathways and impact	Receptors	Licence Holder's controls				
Construction								
Earthworks (including up to 7 days of piling activity) to construct the open material loading system for the telestacker and barge moorings	Dust	<b>Pathway:</b> air / windborne pathway <b>Impact:</b> dust deposition on marine waters, increased turbidity and deposition on the seabed, impacting the health of benthic communities and species	Marine waters and benthic communities	Refer to Section 3.1	C = Minor L = Unlikely <b>Medium Risk</b>	Y	Condition 1 – Infrastructure construction requirements Condition 5 – Infrastructure operational requirements (maintain dust sprayers)	N/A
Installation of telestacker at existing Barge Wharf	Noise	<b>Pathway:</b> Underwater noise <b>Impact:</b> Acute health and/or behavioral impacts to marine fauna	Marine fauna, in particular whales	Refer to Section 3.1	C = Slight L = Unlikely <b>Low Risk</b>	Y	Condition 1 – Infrastructure construction requirements	N/A
Operation								
Dumb barge loading at the existing barge wharf	Sediment laden or iron ore contaminated stormwater / wash water	<b>Pathway:</b> Runoff from wharf <b>Impact:</b> increased turbidity and deposition on the seabed, impacting the health of benthic communities and species	Marine waters and benthic communities	N/A	C = Slight L = Unlikely <b>Low Risk</b>	Y	Condition 9 (formerly 1.3.3)	N/A



Risk Event					Risk rating <sup>1</sup> C = consequence L = likelihood	Licence Holder's controls sufficient?	Conditions <sup>2</sup> of licence	Justification for additional regulatory controls
Source/Activities	Potential emission	Potential pathways and impact	Receptors	Licence Holder's controls				
	Fugitive dust	<b>Pathway:</b> air / windborne pathway <b>Impact:</b> dust deposition on marine waters, increased turbidity and deposition on the seabed, impacting the health of benthic communities and species	Marine waters and benthic communities	Refer to Section 3.1	C = Minor L = Unlikely <b>Medium Risk</b>	Y	Condition 5 – Infrastructure operational requirements	N/A
	Crushed iron ore (product)	<b>Pathway:</b> Unplanned spill of DSO into marine waters during loading <b>Impact:</b> increased turbidity and deposition on the seabed, impacting the health of benthic communities and species	Marine waters and benthic communities	Refer to Section 3.1	C = Minor L = Unlikely <b>Medium Risk</b>	Y	Condition 9 (formerly 1.3.3)	N/A

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

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

### 3.2.1 Review of mine dewater point discharge monitoring

During the ongoing assessment of works approval W6860/2023/1, the Delegated Officer received internal advice from the department's Marine Ecosystems Branch (MEB) regarding the existing discharge of mine dewater to marine waters via emission point E2 listed on licence L6929/1990/16. MEB recommended that the existing condition specifying monitoring of point source emissions to surface water (discharge water quality at the ocean outfall locations) be expanded to include additional parameters. Additional parameters proposed included heavy metals and nitrate/nitrites which potentially contaminate mine dewater from the use of explosives in the mining pit and, if discharged at elevated levels to marine waters, may stimulate phytoplankton and algal growth. The Delegated Officer has reviewed the advice from MEB and considers that it is appropriate to revise condition 20 (formerly 3.2.1) to include electrical conductivity, turbidity, heavy metals, orthophosphates and nitrates.

## 4. Consultation

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

**Table 5: Consultation**

Consultation method	Comments received	Department response
Kimberley Ports Authority (KLA) advised of proposal on 15 March 2024	<p>As part of the KPA assessment process for Cockatoo Island Mining Pty Ltd proposed facilities and works, CIM must provide, detailed design plans of facilities, hydrographic surveys, a transshipment methodology plan (including specialist third party review i.e. engineer review), Pilotage and Tug service provider agreements and evidence of simulations of the operation with all service providers.</p> <p>CIM have not yet provided all of the required information and reports for KPA to complete their assessment and therefore lease and licence agreements have not yet been finalised.</p> <p>Once all information is provided and the agreements have been drafted they will require approval by KPA Board of Directors.</p>	Noted
Gary Umbagai, Chairman, Dambimangari Aboriginal Corporation advised of proposal on 15 March 2024	None	N/A
Licence Holder was provided with draft amendment on 26 April 2024	Comments received on 28 April 2024 providing outstanding information.	N/A

## 5. Conclusion

Based on the assessment in this Amendment Report, the Delegated Officer has determined that the Amended 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 incorporating the proposed amendments to the licence, the changes made in transferring licence into the contemporary licence format, includes the removal or consolidation of redundant conditions. This will act as a record of implemented changes.

**Table 6: Consolidation of licence conditions in this amendment**

Existing condition	Condition summary	Revised licence condition	Conversion notes
N/A	Prescribed Premises Category table	N/A	Revised to current licensing format.
1.1.1	Interpretation and definitions	N/A Interpretation section, Definitions and Table 12	Redundant condition. Revised to current licensing format.
1.1.2	Interpretation and definitions	N/A Interpretation section, Definitions and Table 12	Redundant condition. Revised to current licensing format.
1.1.3	Australian or other standard	N/A Interpretation section	Redundant condition. Revised to current licensing format.
1.1.4	Reference to code of practice	N/A Interpretation section	Redundant condition. Revised to current licensing format.
1.1.5	Unauthorised emissions	Removed	Redundant condition. Deleted from Licence
N/A	Infrastructure and equipment construction/installation requirements	1	New condition added
N/A	Environmental Compliance Report requirements	2 - 4	New condition added
N/A	Infrastructure and equipment operational requirements	5	New condition added
N/A	Dust management	6 and 7	New conditions added
1.2.1	Maintenance of pollution control and monitoring equipment	22	New numbering
1.2.2	Waste management	11	New numbering
1.2.3	Emissions	13	New numbering and additional wording
1.3.1 and table 1.3.1	Containment infrastructure	6 and table 3	New numbering Revised to current licensing format.
1.3.2 and table 1.3.2	Inspection of infrastructure	7 and table 4	New numbering Revised to current licensing format.

Existing condition	Condition summary	Revised licence condition	Conversion notes
1.3.3	Waste management during loading	9	New numbering
2.1.1	Record and investigate exceedances of limits or criteria	14	New numbering and adjustment of wording
2.2.1 and table 2.2.1	Emissions to surface water	11 and table 5	New numbering Revised to current licensing format.
2.2.2	Contingency discharge of dewatering effluent	12	New numbering
2.2.3 and table 2.2.2	Point source emissions to surface water	13 and table 6	New numbering Revised to current licensing format.
3.1.1	Monitoring undertaken according to Australian standards	15	New numbering Revised to current licensing format.
3.1.2	Definition of monitoring period	16	New numbering
3.1.3	Calibration of monitoring equipment	17	New numbering
3.1.4	Reporting requirements relating to calibration of equipment	18	New numbering
3.2.1 and table 3.2.1	Monitoring of point source emission to surface water	20 and table 7	New numbering. Added parameters to be measured as per internal advice.
3.3.1 and table 3.3.1	Monitoring of inputs and outputs	21 and table 8	New numbering Revised to current licensing format.
4.1.1	Definition of books	25	New numbering Revised to current licensing format
4.1.2	Responsibility of the Licence Holder	Removed	Redundant condition. Deleted from Licence
4.1.3	Submission requirement of AACR	23	New numbering Revised to current licensing format.
4.1.4	Recording information	22	New numbering Revised to current licensing format.
4.2.1 and table 4.2.1	Annual Environmental Report	26 and table 9	New numbering
4.2.2	Contents of Annual Environmental Report	27	New numbering

Existing condition	Condition summary	Revised licence condition	Conversion notes
4.2.3 and table 5.2.2	Non-annual reporting requirements	28 and table 10	New numbering
4.3.1 and table 4.3.1	Notification requirements	29 and table 11	New numbering

## References

1. Department of Environment Regulation (DER) 2015, *Guidance Statement: Setting Conditions*, Perth, Western Australia.
2. Department of Water and Environmental Regulation (DWER) 2020a, *Guideline: Environmental Siting*, Perth, Western Australia.
3. Department of Water and Environmental Regulation (DWER) 2020b, *Guideline: Risk Assessments*, Perth, Western Australia.