



Licence Holder: CITIC Pacific Mining Management Pty Ltd

ACN: 119 578 371

Licence Number: L8659/2012/2

Licence Expiry Date: 25 November 2025

File Number: DER2015/000677

Premises: Sino Iron Project Transhipment Facility

Within the following coordinates:

Point 1: 20° 39' 50.39" S, 116° 4' 59.88" E

Point 2: 20° 35' 52.55" S, 116° 15' 0.00" E

Point 3: 20° 45' 0.00" S, 116° 15' 0.00" E

Point 4: 20° 45' 0.00" S, 116° 14' 0.00" E

Point 5: 20° 45' 41.37" S, 116° 14' 0.00" E

Point 6: 20° 47' 44.48" S, 116° 9' 31.34" E

Point 7: 20° 42' 56.89" S, 116° 9' 32.93" E

Point 8: 20° 44' 30.00" S, 116° 5' 34.95" E

Point 9: 20° 42' 56.89" S, 116° 4' 59.88" E

MARDIE, WA 6714

Date of Amendment: Friday, 31 March 2017

Amendment:

The Chief Executive Officer (CEO) of the Department of Environment Regulation (DER) has amended the above licence in accordance with section 59 of the *Environmental Protection Act 1986* as set out in this Amendment Notice. This Amendment Notice constitutes written notice of the amendment in accordance with section 59B(9) of the EP Act and follows.

31 March 2017

Belinda Walker
Senior Manager, Strategy & Reform

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

Amendment Notice

The Sino Iron Project Transshipment Facility (the Premises) is operated by CITIC Pacific Mining Management Pty Ltd (the Licence Holder). The Premises is regulated by the Department of Environment Regulation (DER) under the Existing Licence L8659/2012/2.

This is a Licence Holder-requested amendment to L8659/2012/2 that has been made in accordance with section 59 of the *Environmental Protection Act 1986* (the EP Act). This document is a notice of amendment, given under section 59B(9) of the EP Act.

This notice is limited only to an amendment to Category 58: Bulk material loading or unloading. No changes relating to Category 73 have been requested by the Licence Holder.

The following DER Guidance Statements have informed the decision made on this amendment:

- *Guidance Statement: Regulatory Principles* (July 2015)
- *Guidance Statement: Setting Conditions* (October 2015)
- *Guidance Statement: Decision Making* (November 2016)
- *Guidance Statement: Environmental Siting* (November 2016)
- *Guidance Statement: Risk Assessment* (November 2016)

Amendment Description

On 11 January 2017, DER received an application from the Licence Holder, requesting an amendment be made to L8659/2012/2 to authorise direct discharges to the marine environment from proposed cleaning operations of the ore concentrate barges used in the loading of the ocean-going cargo vessels (CPMM, 2017a). The proposed wash down process involves the washing of the deck and other working areas (not the ore concentrate storage areas) with sea water applied by a tug mounted water cannon.

The purpose of these operations would be to remove accumulated concentrate residue on the deck and working areas of the barges that existing procedures have not been able to remove. This accumulation has been identified by the Licence Holder as a risk to operational/worker health and safety, and as having the potential to cause premature failures of mooring and towing ropes when under tension.

Under the current cleaning procedures, vacuum trucks are used to recover product still present on the barge deck, followed by manual sweeping to capture any remaining concentrate. All recovered concentrate is then bagged and returned to shore.

In addition to the existing cleaning procedures, the Licence Holder has proposed the controls to mitigate any risks associated with the proposed wash water cleaning procedures. These controls will involve:

- one barge only being cleaned per week;
- the rotation of cleaning operations through the 12 outer anchorage locations; and
- the use of seawater pumped through tug-mounted firefighting water cannons (which have a maximum flow rate of 1,200m³/hr) for cleaning.

During the process of barge cleaning the Licence Holder will additionally ensure that:

- cleaning operations are restricted to the deck areas, and the adjacent walkways and working areas of the concentrate barges only;
- the cleaning operations only take place during the day shift hours; and
- no chemicals will be used during the cleaning process.

Condition 1.3.3 on the Existing Licence only captures operational discharges relating to loading and unloading activities and so would not conflict with these proposed procedures.

Other approvals

The Licence Holder has the following other active approvals outlined in Table 1.

Table 1: Active approvals and tenure

Legislation	Number	Approval
<i>Maritime Transport and Offshore Facilities Security Act 2003</i> (Cth)	Gazette Notice – C2013G00243 (13 February 2013)	Classifies the Cape Preston port facility as a Security Regulated Port, and defines the boundaries thereof; the Premises falls entirely within these boundaries (Gazette, 2013).

The Delegated Officer notes that the Transshipment Facility is not referenced in either Ministerial Statement relating to the Sino Iron Project (MS 635 and MS 822). As such, these do not apply to the Transshipment Facility and there is no potential for duplication with Part IV of the EP Act.

The Delegated Officer is aware that the Licence Holder has submitted an expansion proposal to the Environmental Protection Authority (EPA) in relation to the Sino Iron Project under section 38 of the EP Act. This 'Mine Continuation Proposal' relates to an expansion of the mine site and associated infrastructure, including an extension of the existing stockpiles at the onshore port facility.

The EPA has advised DER (EPA, 2017) that neither the existing Ministerial Statements nor the section 38 proposal currently under assessment relate to the Transshipment Facility. Consequently, there is no potential for Part IV/Part V duplication and DER is not constrained by section 41(2) from issuing an amendment.

Amendment History

The Existing Licence for the Transshipment Facility has had a total of four minor amendments since it was initially issued on 22 November 2012. The first three amendments were to:

- authorise the temporary loading of ocean-going vessels (OGVs) directly from the concentrate barges, utilising the self-loading equipment on the OGVs (7 February 2013);
- extend the Premises boundary to permit operations at anchorage points closer to the Cape Preston Port Facility (the inner anchorage points) (11 July 2013);
- reissue the Licence and convert it to a new licence format (12 November 2015).

The fourth and most recent amendment, dated 29 April 2016, was a DER-initiated amendment extending the expiry date of the licence from 25 November 2020 to 25 November 2024 through section 59(1)(k) of the EP Act (DER, 2016b).

Location, Environmental Siting, and Potential Receptors

The Premises is comprised of six inner anchorages (approximately 7kms offshore, from the Sino Iron Project onshore port facility at Cape Preston) and twelve outer anchorages (approximately 20kms offshore). The Delegated Officer has therefore determined that there are no human receptors that would be impacted by the activities proposed in the amendment application.

Table 2 below lists the relevant environmental receptors in the vicinity of the prescribed premises which may be receptors relevant to the proposed amendment.

Table 2: Environmental receptors and distance from prescribed premises

Environmental receptors	Distance from Prescribed Premises
Proposed Regnard Marine Management Area	<p>The Department of Parks and Wildlife (DPaW) have proposed a Marine Management Area over the area surrounding Cape Preston and the Regnard Islands. The classification <i>“provides an integrated management structure over areas that have high conservation value and intensive multiple-use”</i> (DPaW, 2013).</p> <p>Based on existing activities, the Delegated Officer has determined localised areas surrounding each of the Transhipment Facility’s anchorage points to be moderately disturbed ecosystems in accordance with ANZECC Guideline (2000) definitions.</p>

Risk Assessment

The key potential emissions, pathways, receptors, and confirmation of potential impacts are set out in Table 3 below. Potential emissions where a potential receptor and pathway are identified, and that are identified as not duplicated by other regulatory instruments, will be progressed to a full risk assessment, in accordance with DER's *Guidance Statement: Risk Assessment* (DER, 2016a).

Table 3: Risk assessment for proposed amendments

Risk Events					Continue to detailed Risk Assessment	Reasoning	
Sources / Activities	Potential Emissions	Potential Receptors	Potential Pathway	Potential Adverse Impacts			
<p><u>Category 58:</u> <i>Bulk loading and unloading of granular materials</i></p>	Cleaning of the ore concentrate barges	Waste: Wash water contaminated with iron concentrate/ sediment	Sensitive marine receptors and ecosystems near the outer Transhipment anchorage locations	Direct discharge to the marine environment	Health impacts to marine fauna and flora the result of increased sediment in the water column.	Yes	N/A

Risk Assessment – Discharges to the marine environment

Description of Risk Event

Risk Event: *Iron ore concentrate from the ore barges being discharged to the marine environment during cleaning operations of the barge deck areas and adjacent walkways and work areas, causing adverse health impacts for nearby marine flora and fauna.*

Identification and general characterisation of emission

Wash water discharged directly from the barge during cleaning operations is likely to contain concentrations of iron. A compositional analysis of the iron ore concentrate exported via the Premises (ToxConsult, 2013) found that the vast majority of the concentrate (approximately 96.8% of the total) is comprised of some form of iron oxide. Iron is an essential element in the biological function of most organisms and is relatively inert. Contaminants such as arsenic, cadmium, copper, lead, and zinc were below detectable levels (i.e. <0.01% of the tested samples).

The Licence Holder has stated that no chemicals would be utilised at any point during the cleaning operations (CPMM, 2017a). Vacuuming and sweeping of the deck will also occur prior to the wash water phase of the cleaning operations. Consequently, the Licence Holder estimates that the quantities to be discharged into the marine environment during the operations will be limited to approximately 6m³ of iron ore concentrate (CPMM, 2017b).

Description of potential adverse impact from the emission

The Delegated Officer has determined that the primary adverse impact from the emission would be an increase in the turbidity of the waters surrounding the emission point. The potential consequences of increased turbidity levels include the blocking of fish gills by sedimentation and reduced light availability for photosynthetic processes.

Owing to the anticipated low concentrations of iron concentrate within the wash water, the Delegated Officer considers that any localised turbidity will quickly dissipate. Turbidity is likely to be further reduced by the rotation of cleaning operations through each of the twelve outer anchorage locations, and low frequency of cleaning operations (only one barge per week).

Key findings

The Delegated Officer has reviewed the information regarding potential impacts from discharges of contaminated wash water to surface marine waters from the Premises and has found:

1. Large tidal movements and wave action are expected to result in rapid dispersion of iron sediment in waters surrounding the Transshipment Facility, significantly reducing the potential exposure times required for lethal concentrations.
2. No chemicals will be used during the cleaning procedures.

Consequence

The Delegated Officer has determined that the impact of direct discharges to the marine environment will be of a low level only. Therefore, the Delegated Officer considers the consequence to be **minor**.

Likelihood of consequence

Based upon the relatively small quantities of contaminated materials expected to enter the marine environment following the implementation of proposed and existing Licence Holder controls, the Delegated Officer has determined that the Risk Event will probably not occur under most circumstances. Therefore, the Delegated Officer considers the likelihood of the consequence to be **rare**.

Overall rating

The Delegated Officer has compared the consequence and likelihood ratings described above for the Risk Criteria and determined that the overall rating for the risk of discharges to the marine environment causing harm to sensitive receptors during the barge cleaning operations is **Low**, subject to current and proposed Licence Holder controls.

Summary of Risk Assessment and Acceptability

A summary of the risk assessment and the acceptability of the risks with treatments are set out in Table 4 below.

Table 4: Risk assessment summary

	Emission		Pathway and Receptor	Proponent controls	Impact	Risk Rating	Acceptability with treatment (conditions on instrument)
	Type	Source					
1.	Discharge of contaminated wash water to the marine environment	Wash water contaminated with iron concentrate	Direct discharge to the marine environment	Procedural controls for cleaning operations (see section: "Amendment Description")	Impacts on marine water quality and visibility	Minor consequence Rare likelihood Low risk	Acceptable, subject to proposed Licence Holder controls being conditioned.

Decision

The Delegated Officer has determined that the risk posed to the environment by the proposed barge cleaning operations is low.

The controls proposed by the Licence Holder which were material considerations in the risk assessment will be added as conditions on the Licence through this Amendment Notice. This is consistent with the approach in DER's *Guidance Statement: Risk Assessments* (DER, 2016a) relating to the conditioning of applicant controls.

Licence Holder's Comments

The Licence Holder was provided with the draft Amendment Notice on 28 March 2017. The Licence Holder responded on 31 March 2017, waiving the remaining comment period.

Amendment

Based on the determination of the Delegated Officer, the Existing Licence has been amended by the insertion of conditions 1.3.5 to 1.3.10:

- 1.3.5** *The Licence Holder must:*
- (a) *remove loose ore concentrate from the barges prior to the wash water phase of the barge cleaning operations; and*
 - (b) *ensure that any matter recovered by vacuum trucks is returned to the ship's hold or otherwise collected and returned to the Port Facility.*
- 1.3.6** *The Licence Holder must only wash down the deck area, adjacent walkways and working areas of the barges and not the ore concentrate storage areas.*
- 1.3.7** *The Licence Holder must only carry out the wash water phase of the barge cleaning operations at the twelve outer anchorage locations of the Transshipment Facility.*
- 1.3.8** *The Licence Holder must not perform wash water barge cleaning operations at the same anchorage point on consecutive occasions.*
- 1.3.9** *The Licence Holder is permitted to carry out wash water barge cleaning operations on a maximum of one barge per week.*
- 1.3.10** *The Licence Holder is authorised to only use seawater that is free of detergents and other additives in the washing down of ore concentrate barges.*

Appendix 1: Key Documents

	Document Title	In text ref	Availability
1.	ANZECC and ARMCANZ (2000), <i>Australian Water Quality Criteria Guidelines for Fresh and Marine Water Quality, Volume 1: The Guidelines</i> , National Water Quality Management Strategy	ANZECC Vol. 1, 2000	https://www.environment.gov.au/system/files/resources/53cda9ea-7ec2-49d4-af29-d1dde09e96ef/files/nwqms-guidelines-4-vol1.pdf
2.	CITIC Pacific Mining Management Pty Ltd (2017), <i>Concentrate Residue Barge Cleaning Operations – Amendment L8659/2012/2 Sino Iron Project Transshipment Facility</i>	CPMM, 2017a	DER Records (A1356128)
3.	CITIC Pacific Mining Management Pty Ltd (2017), <i>CPM to DER Response to L8659/2012/2 Amendment Request For Information</i>	CPMM, 2017b	DER Records (A1380225)
4.	Commonwealth of Australia Gazette (2013), <i>Notice of Declaration of Security Regulated Port – Port of Cape Preston</i>	Gazette, 2013	accessed 28 February 2017, https://www.legislation.gov.au/Details/C2013G00243
5.	Department of Environment Regulation (2016), <i>Guidance Statement: Risk Assessments</i>	DER, 2016a	accessed via: http://www.der.wa.gov.au
6.	Department of Environment Regulation (2016), <i>Notice of amendment and schedule of licences with amended expiry dates</i>	DER, 2016b	
7.	Department of Environment Regulation (2016), <i>Licence L8659/2012/2 – Sino Iron Project Transshipment Facility</i>	L8659/2012/2; “the Existing Licence”	accessed via: http://www.der.wa.gov.au
8.	Department of Parks and Wildlife (2013), <i>Marine parks and reserves</i>	DPaW, 2013	https://www.dpaw.wa.gov.au/management/marine/marine-parks-and-reserves
9.	Environmental Protection Authority (2017), <i>EPA to DER – re: Sino Iron Licence L8569-2012 (CMS17033)</i>	EPA, 2017	DER Records (A1401923)
10.	Environmental Protection Authority (2016), <i>Ministerial Statement 635</i>	MS 635	accessed via: http://www.epa.wa.gov.au/
11.	Environmental Protection Authority (2009), <i>Ministerial Statement 822</i>	MS 822	
12.	ToxConsult Pty Ltd (2013), <i>Dangerous goods and transport classification for CITIC Pacific Mining magnetite concentrate with respect to MARPOL Annex V criteria</i>	ToxConsult, 2013	Attachment to CPMM, 2017a (see above)