



## Application for Licence Amendment

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

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<b>Licence Number</b>	L8621/2011/1
<b>Licence Holder</b>	Roy Hill Iron Ore Pty Ltd
<b>ACN</b>	123 722 038
<b>File Number</b>	2011/009784-1
<b>Premises</b>	Roy Hill Iron Ore Mine  M46/518, M46/519, L47/772, L47/851 and Part of L47/346 and L47/642  NEWMAN WA 6753  As defined by the Premises maps attached to the Revised Licence
<b>Date of Report</b>	06 December 2023
<b>Decision</b>	Revised licence granted

#### **A/MANAGER, RESOURCE INDUSTRIES**

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

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# 1. Decision summary

Licence L8621/2011/1 is held by Roy Hill Iron Ore Pty Ltd (Licence Holder) for the Roy Hill Iron Ore Mine (the Premises), located approximately 60 km south of Nullagine within mining tenements M46/518 and M46/519.

This Amendment Report documents the assessment of potential risks to the environment and public health from proposed changes to the emissions and discharges during the operation of the Premises. As a result of this assessment, Revised Licence L8621/2011/1 has been granted.

## 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 09 May 2023, the Licence Holder submitted an application (Roy Hill 2023b) to the department to amend Licence L8621/2011/1 (Licence) under section 59 and 59B of the *Environmental Protection Act 1986* (EP Act). The following amendments are being sought:

- Inclusion of the Zulu 6 (Z6) In-Pit (IP) Tailings Storage Facility (TSF), which was constructed under works approval W6595/2021/1 (refer to section 2.2.1);
- Amend inspection frequency for the evaporators (refer to section 2.2.2);
- Removal of monitoring requirements for SWIB pipelines SWIBP1, SWIBPL2, SWIBPL3 and SWIBPL4 (refer to section 2.2.3);
- Removal of historical used tyre storage area Run of Mine (ROM) pad 3 (refer to section 2.2.4); and
- Amend conditions relating to Category 64 – Class II putrescible landfill site (refer to section 2.2.5).

#### 2.2.1 Z6 IPTSF

The Licence Holder currently operates a conventional above ground TSF (AGTSF) and the Zulu 5 (Z5) IPTSF, both of which have limited capacity. Z6 IPTSF is required as a component of the long-term strategy for tailings management. Z6 IPTSF has an estimated life of approximately three years with the maximum capacity expected to be reached in early quarter 4 of 2025.

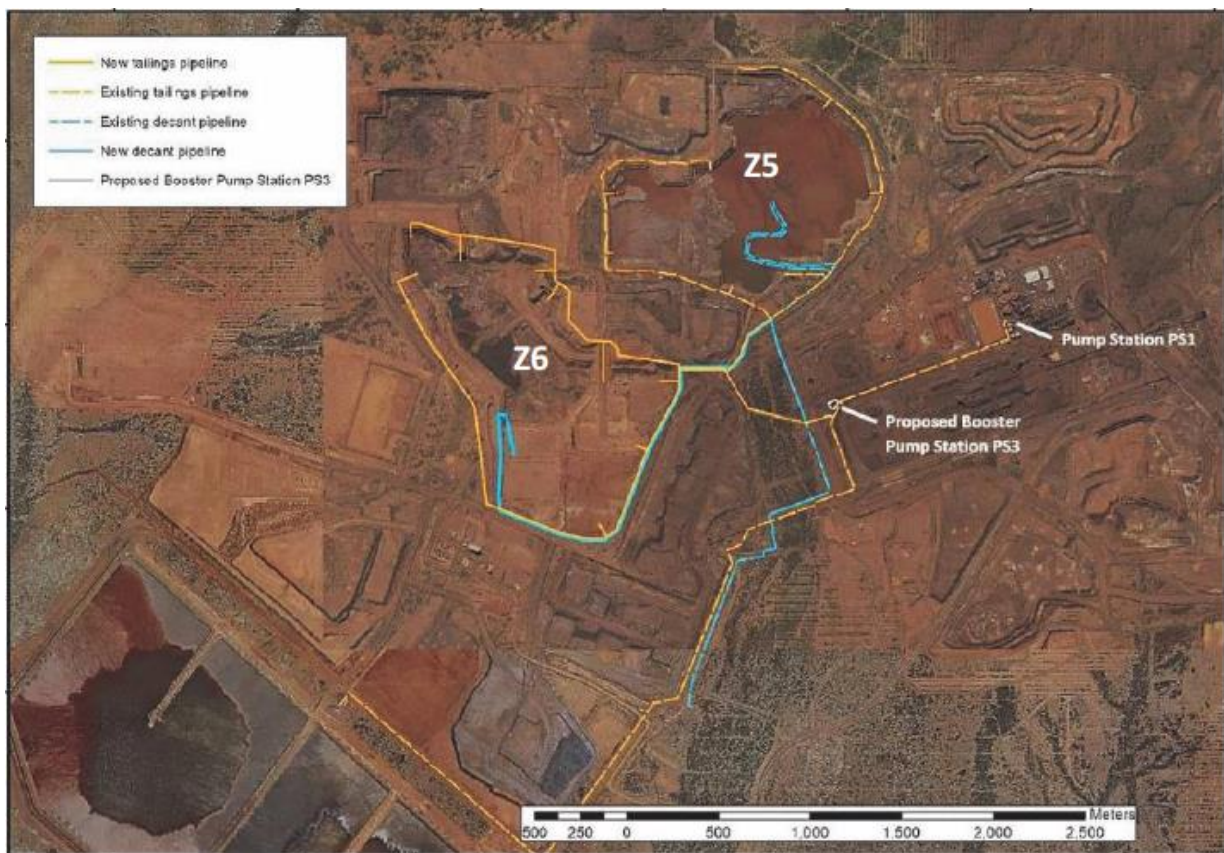
Z6 IPTSF was constructed and commissioned under works approval W6595/2021/1 with two separate Environmental Construction Reports provided on 7 November 2022 (Roy Hill 2022b) and 16 December 2022 (Roy Hill 2022c). A commissioning report was provided on 05 January 2023 (Roy Hill 2023a).

Following commissioning of the infrastructure and the submission of the commissioning report, the Licence Holder commenced Time Limited Operations (TLO) as authorised under W6595/2021/1.

The Licence Holder is seeking approval to dispose of tailings material to Z6 IPTSF through this licence amendment application.

The tailings delivery system installed to service the Z6 IPTSF utilises existing infrastructure for a majority of the route. The deposition ring main is installed in two branches around the perimeter of the Z6 IPTSF. The ring mains are installed with a 10 m setback from the edge and are protected by a windrow. The decant return water system for the Z6 IPTSF discharges to the process water pond at the plant, the AGTSF and a central transfer pond. Several decant pumps are installed in a duty/assist arrangement within the pit. As Z6 IPTSF fills and the decant level encroaches on the platform the pumps are located on, they are moved further up the ramp to the next platform.

Under this amendment, the Licence Holder is also proposing to include the operation of the existing Tailings Booster Pump Station 3 (PS3). The PS3 is installed along the existing tailings pipeline route to provide additional capability and pressure to allow higher solid concentrated tailings (42% to 58%) to be pumped to the AGTSF, Z5 IPTSF and the new Z6 IPTSF. Higher solid content of the tailings will reduce the amount of water discharged to the tailings facilities. Refer to Figure 1.



**Figure 1: Z6 IPTSF including pipelines and new pump station PS3**

Three groundwater monitoring bores (RHPZ0598, RHPZ0599 and RHPZ0600) were installed downstream of the Z6 IPTSF in 2022 to monitor for potential groundwater impacts. These groundwater monitoring bores were all sampled prior to tailings deposition commencing and are currently being routinely sampled during TLO as required under W6595/2021/1. In addition, a shallow bore (RHPZ0507s) and a medium depth bore (RHPZ0507m) which were originally installed in 2021 by the Licence Holder to investigate the hydrogeological response to dewatering, will now also be monitored for standing water levels. See Figure 2 below which provides a summary of the drilling details for the monitoring bores.

Hole ID	Easting	Northing	TOC (mRL)	DR Drilling Depth From-To (m)	DR Drilling Diameter (mm)	Open Hole Drilling From-To (m)	Open Hole Drilling Diameter (mm)	Max Airlift Yield Drilling (L/s)	Max EC Drilling (µS/cm)	SWL (m bgl)
RHPZ0598	797677.778	7514244.426	437.623	0-58	203	58-72	178	4	2,605	49.61
RHPZ0599	797802.796	7513597.334	438.22	0-67	203	N/A	N/A	5.5	5,841	44.1
RHPZ0600	798128.051	7513275.019	437.357	0-58	203	58-62	178	3	3,947	41.71
RHPZ0507S	799331.507	7512732.141	435.859	N/A	N/A	0-60	140	No water samples	No water samples	22.82
RHPZ0507M			435.744					No water samples	No water samples	35.62

**Figure 2: Z6 IPTSF monitoring bore drilling details**

Refer to section 3 for the department's risk assessment of this activity.

## 2.2.2 TSF evaporators

A total of 14 evaporators were installed at the AGTSF during 2017 and 2018 to assist in reducing water stored at the facility. The Licence Holder has now discontinued using the evaporators and placed the units into storage. The Licence Holder plans to retain the evaporators at the Premises for potential use in the future, and therefore is proposing to amend the frequency of inspections in the Licence to reflect that change.

During this amendment the requested change to the inspection frequency has been updated and the TSF evaporators have been removed from Table 6 (design and construction / installation requirements) and added to Table 4 for operational requirements.

## 2.2.3 SWIB Pipelines

The Licence Holder proposes the removal of the requirement to monitor the water quality in the SWIB Pipeline locations SWIBPL1, SWIBPL2, SWIBPL3 and SWIBPL4. The SWIB pipeline sample points were associated with a trial to match water quality measurements at pipeline branching locations with individual injection bores in order to propose a reduction to the routine sampling effort of individual injection bores at the Premises.

The department notes that monitoring water quality in these pipelines is regulated through conditions of the revised Ministerial Statement (MS) 1189. Refer to section 2.3.

## 2.2.4 Used tyre storage area

The Licence Holder proposes the removal of the former tyre storage area ROM 3. ROM 3 is an operational crushing area and will no longer be used for the storage of used tyres.

The department has removed ROM 3 as a used tyre storage area under this amendment.

## 2.2.5 Class II putrescible landfill sites

The Licence Holder has requested that the conditions relating to the Class II putrescible landfill site/s be amended to:

- Clarify listing of in-pit disposal/landfill locations.
- Update current licence wording regarding Type 2 inert waste types to remove concrete and bitumen waste.
- Remove the specification of high density polyethylene (HDPE) pipe only to permit disposal of all HDPE type 2 inert waste.
- Add in-pit disposal of Type 1 inert wastes: clean fill and inert waste type 1 (concrete and bitumen) in mine landfill pit locations.
- Clarification to previous amendment application regarding additional inert type 2 waste disposal volumes.
- Add wording for disposal of Conveyor (Type 2 inert waste type) to include unavoidable steel supports.

- Update landfill location maps.

The Licence Holder states that “*previous licence amendment application (OP-APP-00087) included the request to dispose of concrete (no steel) and bitumen into existing pits: Delta 1, 2, 3, 5, Zulu 1, 7, and additional pits: Bravo, Delta, Echo, Golf, Sierra, Tango and Zulu*”.

As changes have been made to the licence under this amendment regarding these waste disposal locations and waste types, the department has included the risk assessment of this activity in section 3.

## 2.2.6 Premises boundary expansion

The Licence Holder also requested to expand the premises boundary to include L47/772, L47/851, L47/346 and L47/642 to incorporate the location of the Remote MAR pipeline and reinjection borefield.

*Roy Hill 2023c* also states that with the exception of the southern extent of the Revised Development Envelopment being omitted, the proposed premises boundary aligns with MS 1189 Revised Development Envelopment.

During this amendment, the premises boundary has been expanded as requested.

## 2.2.7 Other amendments

- Magnetic Separation Plant (MSP) extension, construction compliant document received 08 September 2022 (*Roy Hill 2022a*). Operational requirements for the MSP have been included into the Licence.
- Transfer Ponds, compliance documentation received 13 November 2020 (*Roy Hill 2020a*). Operational requirements for the Transfer Ponds have been included into the Licence.
- Pipelines from Transfer Ponds to the SWIB MAR system and dust suppression storage. Compliance documentation received 11 December 2020 (*Roy Hill 2020b*).
- 25 Mtpa capacity crushing plant (gyratory crusher and ROM bin) at ROM 3. Compliance documentation received 14 April 2021 (*Roy Hill 2021a*).
- Overland Conveyor (ROM 3 to ROM 2). Compliance documentation received 14 April 2021 (*Roy Hill 2021a*). Operational requirements for the Overland conveyor have been included into the Licence.
- 4.5Mtpa DSO Crushing and screening plant and associated work area within the existing and future Mine Pit areas. The Environmental Compliance Report was submitted 11 January 2023 (DWERDT710070). Operational requirements for the 4.5Mtpa DSO Crushing and screening plant have been included into the Licence.
- 50Mtpa capacity crushing plant at ROM 4 and overland conveyor ROM 3 to ROM 4 (ROM4 Crusher and Conveyor). Compliance documentation received 11 April 2023. Operational requirements for the ROM 4 Crusher and Conveyor have been included into the Licence.
- MAR System – reinjection/monitoring bores – managed under Part IV (see Section 2.3.1 below).
- Remote MAR borefield. Partial compliance documentation was submitted on 28 March 2023 for the installation of 4 injection bores. The installation of an additional 61 injection bores is still outstanding. The Licence Holder is required to submit subsequent compliance reports in accordance with L8621/2011/1 following the installation of the outstanding injection bores.

## 2.3 Part IV of the EP Act

### 2.3.1 MS 1189

The Roy Hill Iron Ore Mine revised proposal was assessed by the Environmental Protection Authority (EPA) and approved under MS 1189 on 19 May 2022.

Relevant to Part V of the EP Act are the following physical elements and limitation or maximum extent under Condition 1-1 of MS 1189:

- Mine pit dewatering water volume of no more than 626 GL;
- Excess water disposal (no more than 508 GL) by aquifer injection and recharge basins at:
  - South-West Injection borefield
  - Remote MAR borefield
  - Southern borefield
  - Stage 1 borefield
  - Mine borefield
- Excess water used for dust suppression of no more than 7.4 GL in total up to 50,000 mg/L total dissolved solids (TDS);
- Disposal of excess water to evaporation ponds of no more than 540 ha.

#### Condition 2

Condition 2 relates to Inland Water and Subterranean Fauna, with Condition 2-1 requiring the proponent to avoid impacts to the Fortescue Marsh and to vegetation outside the disturbance footprint; and ensuring the following outcomes are met:

- (1) no indirect disturbance to vegetation outside the disturbance footprint regardless of whether the outcomes of conditions 2-1(2), 2-1(3), 2-1(4), 2-1(5), 2-1(6) and 2-1(7) are met;
- (2) groundwater levels in the superficial aquifer at individual injection bores within the South-West injection borefield remain more than 5 m below ground level (mbgl) as measured in monitoring bores adjacent to injection bores;
- (3) no increase in groundwater levels in the superficial aquifer at monitoring bores RHPZ0292S and RHPZ0293S caused by aquifer injection in the South-West Injection borefield;
- (4) no change to groundwater quality in the superficial aquifer at monitoring bores RHPZ0292S and RHPZ0293S or other monitoring bore locations caused by aquifer injection in the South-West Injection borefield;
- (5) relating to the extent of groundwater drawdown caused by mine pit dewatering;
- (6) any increased drawdown effect caused by overlap of the revised proposal groundwater drawdown extent with the Christmas Creek Iron Ore Mine drawdown extent is contained to meet the outcome of condition 2-1(5); and
- (7) taking into account background levels the quality of groundwater and surface water downgradient and downstream of tailings storage facilities and waste rock dumps does not exceed the site specific water quality values as determined by Water Quality Guidelines or its revisions as a result of the revised proposal.

Condition 2-4 relates to the Water Management Plan (required under Condition 2-2) which needs to:



- (2) specify trigger criteria that will trigger the implementation of response actions to prevent non-compliance with the outcomes in condition 2-1;
- (3) specify threshold criteria to demonstrate compliance with the outcomes in condition 2-1;
- (4) specify the methodology of a monitoring program to determine if trigger criteria and threshold criteria have been met;
- (5) specify response actions to be implemented if the trigger criteria and/or threshold criteria have not been met; which shall include but will not be limited to:
  - (a) cessation of aquifer injection at any borefield where aquifer injection has caused the threshold criteria aligned with the outcome in condition 2-1(1) to be exceeded;
  - (b) within 24 hours cessation of aquifer injection in individual injection bores in the South-West Injection borefield if the threshold criteria in condition 2-1(2) has not been met;
  - (c) cessation of aquifer injection in individual injection bores in the South-West Injection borefield if the threshold criteria aligned with meeting the outcome in condition 2-1(3) or condition 2-1(4) has not been met;
  - (d) redirection of excess water to alternative borefield(s) able to receive excess water within 24 hours in the event any threshold criteria aligned with meeting the outcomes in conditions 2-1(1), 2-1(3) and 2-1(4) have been exceeded.

### **Condition 3**

Condition 3 relates to Inland Waters – Evaporation Pond, with Condition 3-1 requiring the proponent to ensure that the following outcomes are met:

- (1) the evaporation pond avoids drainage lines;
- (2) overtopping and seepage of the evaporation pond is avoided; and
- (3) taking into account background levels the quality of groundwater and surface water downgradient and downstream of evaporation pond does not exceed the site specific water quality values as determined by Water Quality Guidelines or its revisions as a result of the revised proposal.

Note under MS 1189: Evaporation pond is defined as “*artificial pond used for the disposal of excess water by evaporation*”.

### **Condition 7**

Condition relates to Terrestrial Fauna – Ghost Bat, with Condition 7-1 requiring no adverse impact to the structural integrity or viability of the ghost bat cave.

### **Condition 8**

Condition 8 relates to Subterranean Fauna in particular, troglofaunal impact area and stygofauna impact area.

### **Condition 11**

Condition 11 relates to Social Surroundings – Cultural Heritage Management Plan, with Condition 11-1 requiring the revised proposal to meet the following objectives:

- (1) avoid, where possible, and minimise direct and project attributable indirect impacts to social, cultural, heritage, and archaeological values within and surrounding the development envelope; and
- (2) enable traditional owner access to the development envelope following

decommissioning of the revised proposal.

Condition 11-3 requires a Cultural Heritage Management Plan to be implemented which was developed in consultation with the Nyiyaparli People registered native title body corporate.

Requirements of MS 1189 are not re-assessed in this Amendment Report and will not be duplicated as conditions in the existing licence.

## **2.4 Environmental Protection and Biodiversity Conservation Act 1999 (EPBC Act) (Cth)**

Under sections 130(1) and 133(1) of the EPBC Act the Licence Holder was given approval by the Department of Climate Change, Energy, the Environment and Water (CCEEW) to expand the Roy Hill Iron Ore Mine (EPBC 2018/8330, 5 August 2022). The EPBC approval included amending mine pit boundaries, additional waste rock landforms and stockpiles, borefields for dewatering and water supply as well as re-injection bores, evaporation ponds, additional surface water structures, and additional supporting infrastructure.

Key environmental values identified are the Fortescue Marsh, Fortescue River and its tributaries; Sheet-flow dependent vegetation; Surface water dependent (riparian) vegetation; and Groundwater Dependant Vegetation (GDV) including Priority Ecological Communities, Terrestrial Fauna Habitats, Stygofauna; Troglifauna.

The EPBC approval is subject to conditions under the EPBC Act with the following conditions shown below being relevant to this amendment under Part V of the EP Act.

### **Condition 6**

To minimise impacts to protected matters, the Fortescue March, Fortescue River and Kulkinbah Creek from the use of TSF decant water for dust suppression within and surrounding the development envelope, the EPBC approval holder must:

- (a) Use no more than 7.4 gigalitres in total with up to 50,000 mg/L Total Dissolved Solids (TDS) for dust suppression for the life of the EPBC approval; and
- (b) Ensure no TSF decant water and dust suppression water is applied outside the mine area.

### **Condition 7**

To minimise impacts to protected matter habitats within and outside the development envelope from changes to groundwater and surface water, the EPBC approval holder must not commence the action until the Roy Hill Iron Ore Water Management Plan (WMP) is approved by the Minister in writing. The approved WMP must be implemented to meet the following objectives:

- (a) Not allow changes to groundwater recharge, surface water flows and water quality from action undertaken within the development envelope to result in impacts to the Fortescue Marsh and the habitats outside the development envelope.
- (b) Not allow changes to groundwater flows and quality to impact the protected matter habitats outside the conceptual disturbance footprint which includes the sheet flow area and development envelopes of the Southwest Injection Borefield (SWIB), Stage 1 Borefield and the Remote MAR and Southern Borefield.
- (c) Ensure the surface water diversions do not impact protected matter habitats outside the conceptual disturbance footprint including the sheet flow buffer area within the development envelope.
- (d) Not impact the groundwater and surface water quality and/or protected matter habitats outside the conceptual disturbance footprint as a result of seepage, spill or overtopping from the evaporative ponds.

## **Condition 8**

To meet the requirements of condition 7 of the EPBC approval, the approval holder must comply with the limits of dewatering and excess water disposal in Condition 1 of MS 1189, meet the objects of Condition 2-1 of MS 1189 and ensure the following:

- (a) Groundwater mounding in the Southwest Injection Borefield and Southern Borefield does not exceed the areas as predicted;
- (b) Groundwater levels at injection bores within the Southwest Injection Borefield, Stage 1 Borefield and Southern Borefield remain more than 5 metres below ground level (mbgl) when measured in the monitoring bores adjacent to injection bores;
- (c) The Remote MAR reinjection must not cause mounding and groundwater changes that exceed the limits of impacts to protected matter habitats in Condition 2 of the EPBC approval and not cause impacts to the Fortescue River and Kulkinbah Creek;
- (d) Groundwater drawdown and mounding do not cause impacts to claypans, water bodies, ephemeral wetland areas and semi-permanent water bodies;
- (e) Changes to groundwater or surface water quality do not impact the protected matters and habitats beyond the conceptual disturbance footprint as a result of the re-injection program, surface water diversions and mining. Surface water quality must not exceed ANZECC trigger values/AMCANZ trigger values, after taking into consideration baseline conditions as outlined in the WMP;
- (f) Surface water diversions must maintain surface water regimes into perpetuity, which includes maintaining flows to the Fortescue Marsh up to the 1% Annual Exceedance Probability (AEP).

## **Condition 11**

The approval holder must revise the WMP prior to the commencement of aquifer injection within the Remote MAR and Southern Borefield and submit to the Minister for approval. The WMP must be revised with new modelling, predicted extents of groundwater mounding, triggers, thresholds, and management actions to ensure that conditions 7 and 8 are met.

The approval holder must within five years of the EPBC approval date, have the WMP reviewed by an independent suitably qualified hydrologist.

The approval holder must then implement the revised and approved WMP.

## **Condition 13**

If the approval holder exceeds any threshold criterion specified within the WMP and/or VMP, the approval holder must:

- (a) Cease re-injection at the injection bore/s within 24 hours;
- (b) Notify CCEEW when reporting on any exceedance event in the same timeframes as required by Condition 2-7 of MS1189. The reporting must include an assessment of any impact(s) to protected matters and habitats arising from the exceedance event, including evidence that the objectives in Condition 7 of this EPBC approval continue to be met;
- (c) Within 6 months of any exceedance of a threshold criterion, submit to CCEEW for the Federal Minister's approval, a Remediation Plan reviewed by an independent suitably qualified person for any impact(s) to protected matters arising from the exceedance as detailed in the report required by Condition 2-7(5) of MS1189.
- (d) If the Federal Minister determines that it's not possible to remediate the impact(s) on protected matter(s) as a result of the exceedance, then the approval holder must

submit within 10 months an Offset Strategy which specifies how the impact(s) will be offset in accordance with the relevant offset policy.

The requirements of EPBC 2018/8330 are not re-assessed in this Amendment Report and will not be duplicated as conditions in the existing licence.

### 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 operation which have been considered in this Amendment Report are detailed in Table 1 below. Table 1 also details the proposed control measures the Licence Holder has proposed to assist in controlling these emissions, where necessary.

**Table 1: Licence Holder controls**

Emission	Sources	Potential pathways	Proposed controls
<b>Z6 IPTSF</b>			
Seepage	Tailings	Seepage through gravels	<p>Recovery of tailings water from the Zulu 6 IPTSF.</p> <p>Although not considered a control, the following monitoring is undertaken:</p> <ul style="list-style-type: none"> <li>• Groundwater monitoring bores are installed around the Zulu 6 IPTSF, including a shallow bore at the downstream nearby creek, and are monitored in accordance with the Roy Hill Iron Ore Water Management Plan as required by MS 1189.</li> <li>• Vegetation health is also monitored across the Mine in accordance RHIO Vegetation Management Plan (OP-REP-00344) as required by MS 1189.</li> </ul>
Tailings spills	Tailings pipeline	Direct discharge	<ul style="list-style-type: none"> <li>• Magnetic flowmeters installed at the pit perimeter.</li> <li>• Automated fast-shutdown sequence to prevent any leak from propagating.</li> </ul>

Emission	Sources	Potential pathways	Proposed controls
			<ul style="list-style-type: none"> <li>Where HDPE piping is installed and a burst disc is required, a pressure transmitter directly upstream of the burst disc will signal an alarm if pressure approaches the burst disc limit.</li> </ul>
Tailings deposition	Surface water inflow causing overtopping	Direct discharge	<ul style="list-style-type: none"> <li>Flood protection is currently in place in the form of the Zulu West Levee and will remain during the operation and closure of the Zulu 6 IPTSF. The levee diverts runoff from the upstream catchment and has been designed for a 1% Annual Exceedance Procedure (AEP).</li> <li>The Z6 IPTSF is developed with safety bunds along the pit perimeter that will prevent any surface water runoff from adjacent areas entering the pit. The contributing catchment will therefore be limited to the pit extent.</li> <li>Daily inspections undertaken at the Z6 IPTSF to determine if a minimum freeboard is being maintained.</li> </ul>
<b>Inert Waste Type 1 &amp; 2 Landfills</b>			
Contaminated water Contaminated stormwater Waste and by-products	Disposal of Inert Waste Type 1 and 2 into Bravo, Echo, Golf, Sierra and Tango mined pits	Direct discharge / run-off to land, surface water and vegetation	<ul style="list-style-type: none"> <li>Inert Waste Type 1 and 2 placed on a levelled surface.</li> <li>Base of the disposal area at least 3 m above the pre-mining groundwater level.</li> <li>Tyres stacked on their side walls and filled with backfill waste material.</li> <li>Other wastes disposed of in rolls or batches. Where it is not practicable to remove support frames (e.g., steel conveyor belt reels) these will be disposed with the waste.</li> <li>If the overlying surface is to be flat a minimum of 5 m of suitable inert waste backfill cover is to be placed on the top of the Inert Waste Type 1 and 2.</li> <li>If the overlying surface is sloping a minimum 8 m backfill cover is to be placed on the top of the Inert Waste Type 1 and 2.</li> <li>Tyres landfilled in batches separated from each other by at least 100 mm</li> </ul>

Emission	Sources	Potential pathways	Proposed controls
			<p>of soil and each consisting of not more than 1,000 whole tyres.</p> <ul style="list-style-type: none"> <li>Inert Waste Type 1 and 2 will not be placed under any drainage lines or major proposed post mine infrastructure (roads etc.).</li> </ul>

### 3.1.2 Receptors

In accordance with the *Guideline: Risk assessments* (DWER 2020), 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 2 and Figure 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 2: Sensitive human and environmental receptors and distance from prescribed activity**

Human receptors	Distance from prescribed activity
Nyiyaparli People – Traditional owners.	<p><b>Screened out.</b></p> <p><b>Managed under MS 1189:</b></p> <p><b>Refer to section 2.3 under Condition 11.</b></p>
Environmental receptors	Distance from prescribed activity
<p>Riparian vegetation is recorded in the adjacent creek line (No Name Creek).</p> <p>Species include <i>Eucalyptus victrix</i> and <i>E. camaldulensis</i>. The Premises is also known to support a range of other large woody species that commonly occur with <i>Eucalyptus victrix</i> and <i>E. camaldulensis</i> within the riparian zones with Acacia shrubland being the dominant vegetation unit.</p>	Approximately 400 - 500 m east to south east of Z6 IPTSF.
Native vegetation and riparian vegetation outside the disturbance footprint (Premises boundary).	<p><b>Screened out.</b></p> <p><b>Managed under MS 1189.</b></p> <p><b>Refer to section 2.3 under Condition 2.</b></p>
Fortescue River and Marsh (Fortescue River Valley) - listed as a Priority 1 Ecological Community (PEC), a wetland of national significance and proposed Ramsar Area.	<p><b>and</b></p> <p><b>Managed under EPBC 2018/8330.</b></p> <p><b>Refer to section 2.4 under Condition 7.</b></p>

<p>Premises is drained by several ephemeral creeks containing that generally flow in a south to south-westerly direction towards the Fortescue River and Fortescue Marsh.</p>	
<p>Two underlying aquifers are present, the superficial (shallow) aquifer and the deep aquifer.</p> <p>The superficial aquifer is generally fresh to marginally saline with a natural depth at the location of the Z6 IPTSF of 40 – 50 mbgl. The deep aquifer is hyper saline.</p> <p>Groundwater flow is naturally towards the Fortescue Marsh except during dewatering of the Zulu and Bravo pits.</p>	

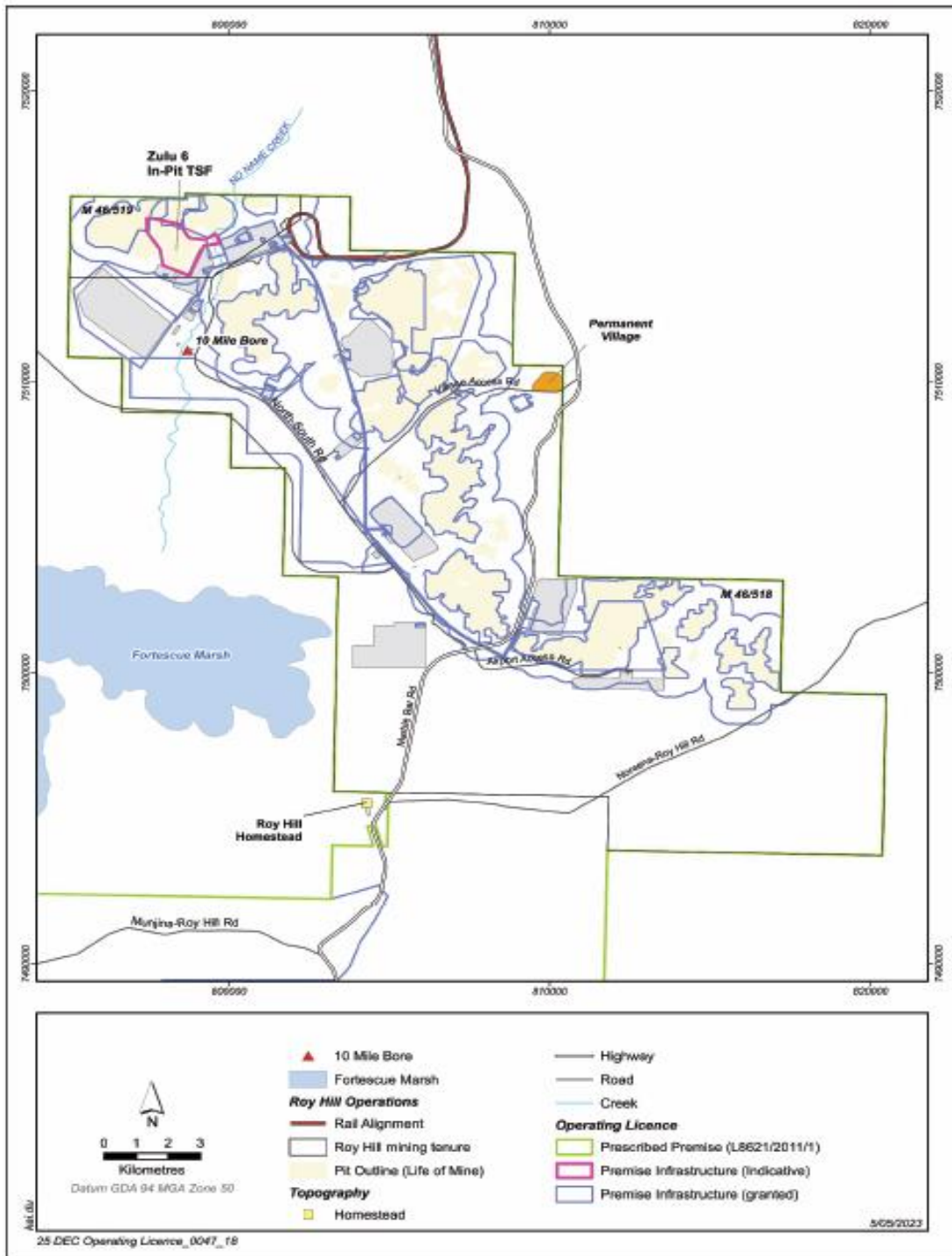


Figure 3: Distance to sensitive receptors



## 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 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 3.

The Revised Licence L8621/2011/1 that accompanies this Amendment Report authorises emissions associated with the operation of the Premises i.e. Category 5, 6, 12, 52, 54, 57, 64, 73 and 85B activities.

The conditions in the Revised Licence have been determined in accordance with *Guidance Statement: Setting Conditions* (DER 2015).

**Table 3. Risk assessment of potential emissions and discharges from the Premises during operation**

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				
<b>Operation</b>								
Disposal of Inert Waste Type 1 and 2 into Bravo, Echo, Golf, Sierra and Tango mined pits	Contaminated stormwater	Overland flow potentially causing detrimental impacts on the surrounding ephemeral creeks and riparian vegetation due to poor water quality.  Potential for detrimental downstream impacts to the Fortescue River and Fortescue Marsh.	On-site ephemeral creeks containing riparian vegetation.  On-site creeks that flow in a south-westerly direction towards the Fortescue River and Fortescue Marsh.	Refer to Section 3.1.1	C = Slight L = Unlikely <b>Low Risk</b>	Y	Conditions 1, <b>2</b> , 3, <b>4</b> , 5, 6, 25, 32, 33, 34, 35, 37, 38, and 40	Inert Waste Type 1 included as an additional waste type permitted for disposal in disused mined pits along with Inert Waste Type 2.  Standard waste processing condition amended to include the disposal of Inert Waste Type 1 and 2 at the additional mined pits.  Cover requirements updated to include no cover required for Inert Waste Type 1 wastes.  Standard monitoring, recording and reporting conditions already apply in the Licence.  General provisions in the EP Act apply regarding Pollution and Environmental Harm.

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				
	Fire wash water from a used tyre fire				C = Moderate L = Unlikely <b>Medium Risk</b>			<p>Standard waste processing condition amended to include the disposal of Inert Waste Type 1 and 2 at the additional mined pits.</p> <p>Any potential firefighting water from a used tyre fire is likely to remain within the mined pit.</p> <p>Standard waste processing condition amended to include additional methods for the disposal used tyres to mitigate potential used tyre fires.</p> <p>Standard cover requirements for used tyres already apply in the licence.</p> <p>Schedule 1 Maps updated to include the new additional in-pit used tyre disposal areas.</p> <p>General provisions in the EP Act apply regarding Pollution and Environmental Harm.</p>

Discharge of tailings into the Zulu 6 IPTSF	Tailings from overtopping	Direct discharge potentially causing detrimental impacts on the surrounding riparian vegetation due to water logging, smothering and poor water quality	Riparian vegetation at the No Name Creek located within 400 - 500 m	Refer to Section 3.1.1	C = Moderate L = Unlikely <b>Medium Risk</b>	Y	Conditions <b>10, 12, 15, 26, 34, 35, 36, 37, 38, 39</b> and 40	<p>Condition 10 amended to include operational requirements for the Z6 IPTSF. These include ensuring a minimum freeboard is maintained and the supernatant pond is minimised as far as practicable.</p> <p>Condition 12 amended to include the requirement to undertake daily inspections at the Z6 IPTSF to confirm the required freeboard is being maintained.</p> <p>Condition 27 requires water balance monitoring is undertaken for all existing TSF's at the premises. This condition has been amended to also include the requirement to monitor for a water balance at the new Z6 IPTSF.</p> <p>Standard recording and reporting conditions already apply in the Licence.</p> <p>General provisions in the EP Act apply regarding Pollution and Environmental Harm.</p>
	Tailings from	Direct discharge potentially causing	Riparian vegetation at	Refer to	C = Moderate	Y	Conditions 11, <b>12, 34, 35, 37</b>	Conditions relating to tailings pipeline

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				
	pipeline failure	detrimental impacts on the surrounding vegetation due to water logging, smothering and poor water quality	the No Name Creek located within 400-500 m	Section 3.1.1	L = Possible <b>Medium Risk</b>		and 38	design, inspections, and maintenance are already applied to the licence for the existing TSF's at the Premises. Condition 12 amended to also include these requirements for the new Z6 IPTSF.  Standard recording and reporting conditions already apply in the Licence.  General provisions in the EP Act apply regarding Pollution and Environmental Harm.

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

Note 2: Proposed Licence Holder's 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
Request for comment from Department of Mines, Industry Regulation and Safety (DMIRS) 5 July 2023.	No comments received.	N/A
Phone meeting with Leo Boynton, Senior Environmental Advisor at Roy Hill Iron Ore on 27 October 2023	Preliminary draft was provided for discussion at the meeting. Mr Boynton was generally supportive of the proposed changes with only few minor changes/clarifications required.	Department to prepare a final draft amendment for Licence Holder comments.
Licence Holder was provided with draft amendment on 2 November 2023	Comments received 14 November 2023. See Appendix 1	See Appendix 1
Licence Holder was provided with second draft amendment on 28 November 2023	<p>The Licence Holder provided the following comments on 1 December 2023:</p> <ul style="list-style-type: none"> <li>The operation of the 25 Mtpa capacity crushing plant at ROM 3 was not carried over from the original Licence and should be re-added to Table 4;</li> <li>The operation of the overland conveyor between ROM 2 and ROM 3 was not carried over from the original Licence and should be re-added to Table 4; and</li> <li>An updated figure which has the proposed No Name Creek vegetation monitoring points removed. These will be assessed at the next amendment.</li> </ul>	Supported. Licence updated with the changes.

## 5. Conclusion

Based on the assessment in this Amendment Report, the Delegated Officer has determined that a Revised 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 5 provides a summary of the proposed amendments and will act as record of

implemented changes. All proposed changes have been incorporated into the Revised Licence as part of the amendment process.

**Note:** Refer to Appendix 1 for additional updates to the licence following the initial proposed draft licence being provided to the Licence Holder on the 2 November 2023.

**Table 5: Summary of licence amendments**

Condition no.	Proposed amendments
N/A	<p>The following updates to the Licence page:</p> <ul style="list-style-type: none"> <li>• New registered business address;</li> <li>• Inclusion of date of issue;</li> <li>• Include additional mining tenements to the Premises details;</li> <li>• Remove design capacity for Category 6 mine dewatering. The design capacity is regulated under MS 1189.</li> </ul>
All relevant conditions	<p>Licence conditions updated to the latest licensing format by replacing 'shall' with 'must'. Condition and table numbering updated to reflect changes made in the licence.</p>
2, Table 1	<p>Inert Waste Type 1 included as an additional waste type permitted for burial at the new mined pit Inert Waste Type 2 burial locations.</p>
4, Table 2	<p>Update table to include waste type 'Inert Waste Type 1' and mined pits Bravo, Echo, Golf, Sierra and Tango as new disposal locations as assessed under this amendment. Additional process limits included for the disposal of used tyres.</p>
6, Table 3	<p>Cover requirements table updated to include 'Inert Waste Type 1' as a separate waste type and remove the reference to 'Concrete (no steel), bitumen, tyres, conveyor and HDPE pipe only' under Inert Waste Type 2.  Inert Waste Type 1 and Inert Waste Type 2 are already defined in the document titled "<i>Landfill Waste Classification and Waste Definitions 1996</i>" which is referenced in the definitions section of the licence and therefore are not required to also be described within the conditions of the Licence.</p>
10, Table 4	<p>Existing Infrastructure and equipment condition updated into the latest licensing format and also reformatted.  New operational requirements included for the use of evaporators at the Cell 1 (approved under W5067/2011/1) and Cell 2 (approved under L8621/2011/1). The evaporators are currently not in use, however, the Licence Holder may potentially use them at a later date. Therefore a new operational requirement has been included to allow flexibility in the use of the evaporators. The hours of operation as described in the original application have also been included as part of the operational requirements.  Use of the Z6 IPTSF for the storage of tailings materials was authorised under 'time limited operation' conditions in works approval W6595/2021/1. The operational requirements under W6595/2021/1 have now been included as new operational requirements in the licence.  Include operational requirements for the recently completed Process Water Dam 2.  L8621/2011/1 authorised the installation of 56 diesel generators, diesel storage tanks and an OWS system. To date only the diesel storage and OWS have been completed with the installation of the diesel generators expected later. Operational requirements for use of the installed diesel storage facilities and OWS have been included as well as operational requirements for the diesel generator once they are installed. The requirements of previous condition 17 of L8621/2011/1 that restricted the number of diesel generators operating at one time to 50 has been transferred to this table.  New standard operational requirements included for the completed 4.5 Mtpa DSO Crushing and Screening Plant.</p>

Condition no.	Proposed amendments
	<p>New standard operational requirements included for the completed MSP facility.</p> <p>New standard operational requirements included for the completed 50Mtpa crushing plant.</p> <p>New standard operational requirements included for the completed ROM 3 to ROM 4 conveyor system.</p>
12, Table 5	<p>Table updated to include the routine inspection of the freeboard at the recently completed Z6 IPTSF. The frequency of the inspections for the Z6 IPTSF reflect the current requirements of the licence for existing tailings facilities at the Premises.</p> <p>The frequency of inspections for the evaporators and the control system has been amended to include the wording 'when in use'. The evaporators previously located at the TSF are currently not in use and are in storage at the Premises however the Licence Holder may use them at a later date.</p>
13, Table 6	Table updated by removing the infrastructure that has been constructed. See Section 2.2.7 for further details.
New condition 14	New condition authorising the operation of constructed/installed infrastructure following the submission of compliance documentation in accordance with the requirement of the licence.
Previous condition 14 and 15 deleted. Replaced with new conditions 30 and 31.	Redundant compliance reporting conditions removed from the Licence and replaced with new updated conditions on auditing and reporting on compliance of recently constructed/installed infrastructure.
15 (previous condition 16), Table 7	<p>Design capacity for Category 5 amended to show the quantity of mined ore processed at the Premises.</p> <p>Table updated for Category 6 by removing discharge quantity limits previous regulated under Part V and include new discharge quantity limits regulated under MS 1189.</p>
Previous condition 17	The requirements of condition 17 have been transferred to the Infrastructure and Equipment Requirements table under condition 10.
New condition 17, Table 8 Previous conditions 19, 21 and 24	<p>A new standard condition combining all previous conditions authorising discharge points to groundwater (previous condition 19), land (previous condition 21) and surface water (previous condition 24) into one authorised discharge points table. Previous requirements of the condition remain the same.</p> <p>The authorised discharge point table has also been updated to authorise point source emissions to air following the installation of the diesel generators.</p>
New condition 18, Table 9	New standard condition combining all previous emission and discharge limits for discharges to land (previous condition 22) and surface water (previous condition 26) into one emissions and discharge limits table.
Previous conditions 19 and 20 deleted	Previous conditions that relate to point source emissions to groundwater and point source emission limits to groundwater have been removed as they are regulated under MS 1189.
Condition 19 (previously 25)	<p>All tables referenced in this condition have been updated to reflect the changes made in the Licence.</p> <p>All information to be provided within the report required under this condition has now been transferred to new condition 40 under 'Notification requirements'.</p>
Previous condition 26	This condition has been deleted with the requirements now under new condition 18 'Emission and discharge limits'.
Previous	These conditions has been removed as the monitoring of emissions to groundwater and



<b>Condition no.</b>	<b>Proposed amendments</b>
conditions 31 and 32	any required management actions are regulated under MS 1189.
Condition 26 (previous condition 35)	Water balance monitoring requirements under this condition has been updated to include the new Z6 IPTSF.
Condition 27 (previous condition 36), Table 12 (previously 18)	Condition updated to include the requirement to monitor standing water levels at the new Z6 IPTSF groundwater monitoring bores.  Table 12 has also been updated by removing the requirement to monitor groundwater monitoring bores associated with the disposal of excess mine water to groundwater. The disposal and monitoring of excess mine water to groundwater is regulated under MS 1189.
New conditions 30 and 31	Replacement standard auditing and reporting conditions for infrastructure constructed under condition 13.
Condition 35 (previous condition 44)	Administrative changes made to the Annual Environmental Report requirements table to reflect changes made to conditions in the Licence through this licence amendment.
Condition 40 (previous condition 47)	Table updated to reflect changes made to condition numbering.  The requirement to provide reinjection bore logs to the CEO has been removed as this is regulated through MS 1189.  The requirement under condition 19 to provide a report to the CEO on the discharge of water to No Name Creek has been transferred to the Notification Requirements table under condition 40.
Definitions	Definitions section updated as required.
Premises map – Figure 1	New Premises map detailing all tenements associated with the Licence, including the MAR discharge points.
Figures 2 and 3	These figures no longer describe the Premises boundary and instead are used to identify the location of infrastructure at the Premises.
Previous Maps - Figure 4	Previous Figure 4 for the Zulu 6 IPTSF has been updated with a new figure.
New Map – Figure 7	Previous Maps – Figure 6, 7, 8 and 9 have been deleted and replaced with a combined in-pit landfill locations map.
Schedule 2 Figures 14, 15 and 16	Any reference to monitoring points and monitoring bores has been removed as groundwater monitoring of the MAR program is regulated under MS 1189.
New Figure 28	New figure to show the location of the groundwater monitoring bores at the Z6 IPTSF.
Appendix 1	Any reference to groundwater monitoring bores at the MAR injection bore field have been removed as monitoring is regulated under MS 1189.
Appendix 2	MAR Groundwater Monitoring is regulated under MS 1189 therefore Appendix 2 has been deleted.

## 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.
4. GHD 2021b, *Zulu 6 In-Pit Tailings Storage Facility - Groundwater Change Assessment Report*, 2720-HY-REP-0001. Report prepared for Roy Hill Iron Ore by GHD.
5. MWM 2021, *Zulu 6 In-Pit Tailings Disposal – Geochemical Risk Review*. Memorandum prepared for Roy Hill Iron Ore by Mine Waste Management Greenroad Group.
6. Roy Hill 2020a, *L8621/2011/1 Construction Compliance Documentation – Transfer Ponds*, received 13 November 2020 (DWERDT366614).
7. Roy Hill 2020b, *L8621/2011/1 Construction Compliance Documentation – Pipelines from Transfer Ponds to SWIB*, received 11 December 2020 (DWERDT390373).
8. Roy Hill 2021a, *L8621/2011/1 Construction Compliance Documentation – ROM3 Crusher and Conveyor*, received 14 April 2021 (DWERDT439209).
9. Roy Hill 2022a, *RE: L8621/2011/1 Construction Compliance Documentation – Magnetic Separation Plant Extension*, received 08 September 2022 (DWERDT655946).
10. Roy Hill 2022b, *Environmental Compliance Report – Zulu 6 In-Pit Tailings Storage Facility* (2720-EN-REP-0001), received 07 November 2022 (DWERDT683864).
11. Roy Hill 2022c, *Environmental Compliance Report – Zulu 6 In-Pit Tailings Storage Facility Decant System* (2720-EN-REP-0002), received 16 December 2022 (DWERDT701573).
12. Roy Hill 2023a, *Environmental Commissioning Report – Zulu 6 In-Pit Tailings Storage Facility* (EP-REP-3480), received 05 January 2023 (DWERDT707813).
13. Roy Hill 2023b, *Supporting Information - L8621 Amendment Application - Zulu 6 In-Pit Tailings Storage Facility* (OP-APP-00086), received 09 May 2023 (DWERDT776227).
14. Roy Hill 2023c, *RE: L8621 Licence Amendment – prescribed premises boundary*, received 15 September 2023 (A2204558).
15. *Environmental Protection Act 1986*, Works Approval W6595/2021/1, date of issue 27 July 2022.
16. Department of Water and Environmental Regulation, *Decision Report for W6595/2021/1*, date of report 27 July 2022.

## Appendix 1: Summary of Licence Holder's comments on risk assessment and draft conditions

Condition	Summary of Licence Holder's comment	Department's response
Licence History Section	Amend "Removal of conditions duplicated monitoring in MS 1189" to "Removal of duplicated conditions and monitoring under MS 1189 and Water Management Plan".	Supported.
Condition 2, Table 1	Licence Holder wishes to retain the ability to dispose of small quantities of steel with HDPE waste.	Supported. Condition amended to allow all Inert Waste Type 1 and 2 to be buried at the Premises.
Condition 4, Table 2	Request split cells under Inert Waste Type 1 and Inert Waste Type 2 for separate rows with Landfill 2 and 3 (Figure 6), and in-pit disposal (including tyres) locations (Figure 7).	Supported. Table updated to clearly define the types of waste that can be buried at each landfill location.
Condition 4, Table 2	Amend the Pit Names (Delta, Zulu etc.) to use no corresponding number reference. The spatial extent in Figure 7 should be the primary descriptor.	Supported.
Condition 10, Table 4	Request name change "Process Water Dam 1".	Supported.
Condition 10, Table 4	Confirming Process Water Dam 2 is being commissioned (this is also located in Table 6).	The department notes this. Following the commissioning period and submission of compliance documentation required by the licence, this conditions regulates the operation of the infrastructure.
Condition 10, Table 4	Request name change "Central Transfer Ponds".	Supported.
Condition 10, Table 4 and Condition 13, Table 6	Confirming the power station is not yet constructed and the operational requirements will only apply following that construction.	Noted. Condition 14 authorises the operation of the power station following the submission of the construction compliance documentation.
Condition 10, Table 4	Confirming these have not been constructed and are also in Table 6 – assuming will be a requirement when/if constructed.	Noted. Licence allows for the construction of the Stage 1 and 2 recharge basins, and then allows for the use in accordance with the requirements of condition 14.

Condition	Summary of Licence Holder's comment	Department's response
Condition 13, Table 6	Should construction/installation requirements for the reinjection bores be retained in the licence or are these requirements being removed because they are already regulated through conditions of MS1189.	These requirements have been removed from the Licence as they are duplicated through conditions of MS 1189. The Licence however still identifies the locations of the reinjection bores as they are a discharge point.
Condition 13, Table 6	Pipelines from the Transfer Ponds to the SWIB MAR system and dust suppression storage are not included in the operational requirements in Table 4.	Supported. Operational requirements for the pipelines are included into Table 4 of the Licence.
Condition 18, Table 9	Previous Tables 8 and 11 removed from the Licence. Suggest retaining the point source emission limits for the recharge basins as they are not regulated through conditions of MS1189.	Supported. Point source emission limits for the recharge basins have been carried over into new Table 9 of the Licence.
Condition 25, Table 11	Licence requires all quantities of all waste types to be recorded. Does this only apply to Landfill 2 and 3 or does this also apply to in-pit disposal i.e., Bravo, Delta pits? Suggest specifying locations.	Not supported. The licence has set limits for the amount of waste that can be deposited for each waste type. Therefore, in order to ensure compliance with the Licence, the Licence Holder needs to record the waste inputs for all waste types.
Condition 27, Table 12	Correct bore name to "RHPZ0091".	Supported. Licence updated.
Schedule 2	Remove "Trial Area" and "two" regarding maps below as they are no longer trials.	Supported. Licence updated.
Condition 28, Table 13	Request to amend No Name Creek monitoring points as per provided updated figure and removal of 150 m and 300 m vegetation monitoring locations. Also suggest vegetation monitoring photo point 20 m from after the end of the diversion structure.	Not supported under this Licence amendment. This can be assessed at the next licence amendment application proposed for late December 2023.
Schedule 2	Spelling error for groundwater monitoring bore 'IPTTSF'.	Updated.
Appendix 1	Suggest maintaining Appendix 1 as a list of current injection bores that can be updated periodically with licence amendments. Add RMAR North Borefield to SWIB and Stage 1 Injection Borefield. Remove EC from future tables due to progressive water quality changes at site.	Supported. Licence updated.
Schedule 1 and 2	New updated Premises map provided.	Supported. Licence updated with new figure 1.

Condition	Summary of Licence Holder's comment	Department's response
	Updated figures provided.	Supported. Licence figures 2, 3, 5, 6, 7, 8, 15, 17, 18, 21, 22, 23, 24, 25, 26 and 27 are updated figures.
	New Figure included to indicate the location of the Remote MAR North Borefield discharge location.	Supported. Licence updated with new figure 4.
	New Figure included to indicate the location of the tyre storage areas.	Supported. Licence updated with new figure 9.
	New Figure for the location of the Z6 IPTSF groundwater monitoring bores.	Supported. Licence updated with new figure 30.
	Updated Map of surface water emission points provided. Map also includes the new Process Water Dams 1 and 2 and the proposed amended No Name Creek discharge locations.	Partially supported. New Figure 31 to indicate the locations of the Process Water Dams 1 and 2, the existing No Name Creek discharge point and current approved No Name Creek photo monitoring points (150m and 300m).  Proposed new photo monitoring points and the removal of existing photo monitoring points requires the Licence Holder to provide supporting information to justify these changes. It is suggested this could occur at the next licence amendment application stage.
Appendix 1	Suggest maintaining Appendix 1 as a list of current injection bores that can be updated periodically with licence amendments.  Add RMAR North Borefield to SWIB and Stage 1 Injection Borefield.  Remove EC from future tables due to progressive water quality changes at site.	Supported. Table updated. Note: MAR injection groundwater quality is regulated through MS 1189 and therefore identifying the Electrical Conductivity of each bore is not required.
Appendix 2	Licence Holder provided the Prescribed Premises boundary coordinates.	Coordinates provided as new Appendix 2.

## Appendix 2: Application validation summary

SECTION 1: APPLICATION SUMMARY					
<b>Application type</b>					
Amendment to licence	<input checked="" type="checkbox"/>	Current licence number:	L8621/2011/1		
		Relevant works approval number:	W6595/2021/1	N/A	<input type="checkbox"/>
Registration	<input type="checkbox"/>	Current works approval number:		None	<input type="checkbox"/>
Date application received		09 May 2023			
<b>Applicant and Premises details</b>					
Applicant name/s (full legal name/s)		Roy Hill Iron Ore Pty Ltd			
Premises name		Roy Hill Iron Ore Mine			
Premises location		Mining tenements M46/518 and M46/519			
Local Government Authority		Shire of East Pilbara			
<b>Application documents</b>					
HPCM file reference number:		DWERT776229			
Key application documents (additional to application form):		Roy Hill, <i>Supporting Information, L8621 Amendment Application, Zulu 6 in-pit Tailings Storage Facility, 9/05/2023</i>			
<b>Scope of application/assessment</b>					
Summary of proposed activities or changes to existing operations.		<ul style="list-style-type: none"> <li>• Operation of the Zulu 6 In-Pit Tailings Storage Facility (Z6 IPTSF) recently completed under W6595/2021/1.</li> <li>• Amend the required Evaporator inspection frequency.</li> <li>• Removal of monitoring requirements for SWIB pipelines SWIBP1, SWIBPL2, SWIBPL3 and SWIBPL4.</li> <li>• Removal of historical used tyre storage area ROM 3.</li> <li>• Amend conditions relevant to Category 64 by:               <ul style="list-style-type: none"> <li>- Clarifying listing of in-pit disposal/landfill locations.</li> <li>- Updating current licence wording regarding Type 2 inert waste types to remove concrete and bitumen waste.</li> <li>- Removing the specification of HDPE pipe only to permit disposal of all HDPE type 2 inert waste.</li> <li>- Adding in-pit disposal of Type 1 inert wastes: clean fill and inert waste type 1 (concrete and bitumen) in mine landfill pit locations.</li> <li>- Clarification to previous amendment application regarding additional inert type 2 waste disposal volumes.</li> <li>- Add wording for disposal of Conveyor (Type 2 inert waste type) to include unavoidable steel supports.</li> <li>- Replacement of Figures.</li> </ul> </li> </ul>			

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

**Table 1: Prescribed premises categories**

<b>Prescribed premises category and description</b>	<b>Assessed production or design capacity</b>	<b>Proposed changes to the production or design capacity (amendments only)</b>
Category: 5 Processing or beneficiation of metallic or non-metallic ore	86,000,000 (wet) tonnes per annual period (to produce 65,000,000 [wet] tonnes of ore per annual period for export)	No change
Category: 6 Mine dewatering	67,000,000 tonnes per annual period	No change
Category: 12 Screening, etc. of material	6,570,000 tonnes per annual period	No change
Category: 52 Electric power generation	80 MW	No change
Category: 54 Sewage facility	633 cubic metres per day	No change
Category: 57 Used tyre storage (general)	No more than 6,000 tyres	No change
Category: 64 Class II putrescible landfill site	17,300 tonnes per annual period	No change
Category: 73 Bulk storage of chemicals, etc	5,530 cubic metres in aggregate	No change
Category: 85B Water Desalination Plant	30 GL per year	No change

**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 type="checkbox"/> No <input checked="" type="checkbox"/>	Referral decision No: Managed under Part V <input 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 checked="" type="checkbox"/> No <input type="checkbox"/>	Ministerial statement No: MS1189 EPA Report No: 1716
Has the proposal been referred and/or assessed under the EPBC Act?	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Reference No: EPBC 2018/8330

Has the applicant demonstrated occupancy (proof of occupier status)?	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Mining lease / tenement <input checked="" type="checkbox"/> Expiry: 2031 Appendix 1 of supporting documentation.
Has the applicant obtained all relevant planning approvals?	Yes <input type="checkbox"/> No <input type="checkbox"/> N/A <input checked="" type="checkbox"/>	If N/A explain why? Mining tenement
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: N/A No clearing is proposed.
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 checked="" type="checkbox"/> No <input type="checkbox"/>	Licence/permit No: 172642
Does the proposal involve a discharge of waste into a designated area (as defined in section 57 of the EP Act)?	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Name: Pilbara Type: Proclaimed Groundwater Area/Surface Water Area Has Regulatory Services (Water) been consulted? Yes <input type="checkbox"/> No <input type="checkbox"/> N/A <input checked="" type="checkbox"/> Regional office: North West
Is the Premises situated in a Public Drinking Water Source Area (PDWSA)?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Name: N/A
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 xxxx</i> )	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	<i>Mining Act 1978</i>
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
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"/>	Classification: N/A