



## Application for Licence Amendment

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

---

<b>Choose an item.</b>	L7276/1996/12
<b>Licence Holder</b>	Murrin Murrin Operations Pty Ltd
<b>ACN</b>	076 717 505
<b>File Number</b>	2011/011705-1
<b>Premises</b>	<p>Murrin Murrin Nickel Cobalt Project</p> <p>Mining tenements, L39/81, L39/62, L39/83, L39/136, L39/168, M39/314, M39/322, M39/562, M39/637, M39/686, M39/692, M39/714, M39/715, M39/716, M39/737, M39/299, M39/651, M39/300, M39/301, M39/435, M39/436, M39/421, M39/422, M39/423, M39/424, M39/342, M39/343, M39/446, M39/820</p> <p>LAVERTON WA 6440</p> <p>As defined by the Premises maps attached to the Revised Licence</p>
<b>Date of Report</b>	2 December 2021
<b>Decision</b>	Revised licence granted

**Lauren Edmands**  
**Manager, Resource Industries**  
**REGULATORY SERVICES**

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

# Table of Contents

<b>1. Decision summary</b>	<b>1</b>
<b>2. Scope of assessment</b>	<b>1</b>
2.1 Regulatory framework	1
2.2 Application summary	1
2.3 Part IV of the EP Act	2
2.4 Licence renewal	2
<b>3. Risk assessment</b>	<b>2</b>
3.1 Special Waste Type 1	3
3.2 Category 57 Used Tyre Storage	3
3.3 Category 63 Inert landfill	3
3.3.1 Inert Waste Type 2 Tyre Disposal	3
3.4 Change to premises monitoring bores	4
3.5 Change the location of the chemical waste disposal site to the 2/3 in-pit Tailings Storage Facility (TSF)	7
3.6 Change to Air Emission Monitoring	9
3.6.1 Change to acid stack testing method to USEPA Method 6C	9
3.6.2 Change NO <sub>x</sub> averaging period to 30 minutes	9
3.7 Source-pathways and receptors	9
3.7.1 Emissions and controls	9
3.7.2 Receptors	10
3.8 Risk ratings	12
<b>4. Consultation</b>	<b>15</b>
<b>5. Conclusion</b>	<b>15</b>
5.1 Summary of amendments	15
<b>References</b>	<b>16</b>
<b>Appendix 1: Summary of Licence Holder's comments on risk assessment and draft conditions</b>	<b>17</b>
<b>Appendix 2: Application validation summary</b>	<b>18</b>
Table 1: Proposed design capacity changes	1
Table 2: Licences consolidated in this amendment	2
Table 3: Licence Holder controls	9
Table 4: Sensitive environmental receptors and distance from prescribed activity	10
Table 5. Risk assessment of potential emissions and discharges from the Premises during construction, commissioning, and operation	13
Table 6: Consultation	15

Table 7: Summary of licence amendments .....	15
Figure 1: Plant site monitoring bores.....	5
Figure 2: 8/4 in-pit TSF and related monitoring bores.....	6
Figure 3: 2/3 in-pit TSF and related monitoring bores.....	8

## 1. Decision summary

Licence L7276 is held by Murrin Murrin Operations Pty Ltd (Licence Holder) for the Murrin Murrin Nickel Cobalt Project (the Premises), within multiple mining tenements in Laverton. The Premises relates to the categories and the assessed production capacity under Schedule 1 of the *Environmental Protection Regulation 1987* (EP Regulations) which are defined in the existing Licence L7276/1996/12.

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 L7276 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 8 April 2021, the Licence Holder applied to the department to amend Licence L7276/1996/12 under section 59 and 59B of the *Environmental Protection Act 1986* (EP Act). The following amendments are being sought:

- Add prescribed premises category 57 (used tyre storage) for up to 500 used tyres.
- Dispose of used tyres (inert waste type 2) into pit series at Murrin Murrin North and increase the cumulative annual amount of landfill to be disposed of under the licence.
- Dispose of Special Waste Type 1 (asbestos) to the putrescible landfill.
- Change the location of the chemical waste disposal site to the 2/3 in-pit Tailings Storage Facility (TSF).
- Change the sulfuric acid stack sampling method to USEPA method 6C and remove sulfuric acid mist (H<sub>2</sub>SO<sub>4</sub>) from the monitoring requirements specified within section 2.2.2 of the Licence.
- Change NO<sub>x</sub> averaging period to 30 minutes
- Remove plant site monitoring bore (PSMB17D) and in-pit monitoring bore (IP804-4) from water monitoring requirements specified within section 3.5.1 of the Licence.

This amendment assesses changes to Category 31, 57, 63 and 64 activities from the Existing Licence. No changes to the aspects of the existing Licence relating to Category 5, 6, 12, 44, 52 and 54 have been requested by the Licence Holder.

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

**Table 1: Proposed design capacity changes**

Category	Current design capacity	Proposed design capacity	Description of proposed amendment
57: Used tyre storage (general)	N/A	500 tyres	The Licence Holder is proposing to store a maximum of 500 used tyres in designated storage areas.

Category	Current design capacity	Proposed design capacity	Description of proposed amendment
63: Class I inert landfill site	Combined maximum limit of 5,000 tonnes with existing category 64 (putrescible landfill site).	Combined maximum limit of 7,000 tonnes.	Tyres will be stored at the Scrap Tyre Storage Yard and Bis Workshop at Murrin Murrin.  These tyres will then be disposed of at the premises.

## 2.3 Part IV of the EP Act

Murrin Murrin has been assessed by the Environmental Protection Authority (EPA) through a Consultative Environmental Review (CER) and a Public Environmental Review (PER). Ministerial Statements 444, 445, and 506 contain conditions and commitments related to these statements. The requirements of these Ministerial Statements have not been duplicated in this assessment.

## 2.4 Licence renewal

On 4 March 2021, the Licence Holder applied for a licence renewal that was granted on 4 June 2021. As part of their response to the draft instrument, the Licence Holder made several suggested changes to groundwater monitoring locations that were not able to be captured as part of the licence renewal assessment.

As part of this licence amendment the department has taken note of the comments made during the licence renewal assessment and consolidated those comments into this assessment. Changes made under the Amendment Notices as summarised in Table 2.

**Table 2: Licences consolidated in this amendment**

Instrument	Issued	Summary of approval
L7276/1996/12	04/05/2021	Licence renewal (old format) with a 20-year licence term
L7276/1996/12	xx/12/2021	Licence amendment to enable changes to waste acceptance requirements – this amendment

The obligations of the Licence Holder have not changed in consolidating the licence. The department has not undertaken any additional risk assessment of the Premises related to previous Amendment Notices.

The full consolidation of licence conditions as they relate to this Revised Licence are detailed in Section 5.1. Previously issued Amendment Notices will remain on the department's website for future reference and will act as a record of the department's decision making.

## 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 Special Waste Type 1

The Licence Holder request the addition of Special Waste Type 1 to the Licence to enable the disposal of personal protective equipment (PPE) and filters potentially contaminated with fibrous asbestos material to the landfill facility.

Murrin Murrin Operations Pty Ltd is proposing to conduct mining operations in orebodies which may contain fibrous asbestos minerals. As a precaution personnel will be required to wear appropriate PPE when working in such areas. In addition, appropriate filters will be installed on heavy earth moving machinery working in potentially fibrous asbestos orebodies. This will therefore generate waste which may be contaminated with fibrous asbestos material. Murrin Murrin Operations Pty Ltd is proposing to dispose of this waste within the Murrin Murrin Class II putrescible landfill.

Emissions and controls associated with this activity are detailed in Table 3.

### 3.2 Category 57 Used Tyre Storage

The Licence Holder requests the addition of prescribed premises category 57 (used tyre storage) to the Licence. Murrin Murrin Operations Pty Ltd are proposing to store a maximum of 500 used tyres in designated storage areas. Tyres will be stored at the Scrap Tyre Storage Yard and Bis Workshop at Murrin Murrin Nickel Cobalt Project.

Used Tyres stored on the premises for disposal will be predominantly truck (road-train) tyres, with some light and heavy vehicle tyres. Off-the-road (OTR) tyres will include a mix of Moxy, Dump truck, Grader and Loader tyres.

### 3.3 Category 63 Inert landfill

#### 3.3.1 Inert Waste Type 2 Tyre Disposal

The Licence Holder is proposing to dispose of tyres into pit voids at Murrin Murrin Nickel Cobalt Project, within the following pit series:

- 1 Series.
- 4 Series.
- 7 Series.
- 8 Series.
- 9 Series.
- 11 Series.
- 17 Series.
- 18 Series
- 19 Series.

Of the pit series listed above, pits 905, 1803 and 1806 are active in-pit TSF's (9/5, 18/3, and 18/6). DWER has previously received advice from the Department of Mines and Industry Regulations and Safety (DMIRS) which does not recommend the disposal of non-mining wastes into the same facility as tailings. The Delegated Officer considers that tyres are not wastes associated with the mining (category 5) activities. As a result, this amendment does not authorise disposal of tyres to TSFs.

To account for the addition of tyres into landfill the Licence Holder requested that an increase be made to the combined Category 63 and Category 64 capacity on the licence, from 5,000 tonnes per annual period to 7,000 tonnes in the same period. Landfill has been assessed

previously and the Delegated Officer does not expect the increase in annual disposal to change the risk to the environment, and agrees to this change in the Licence.

Tyres will be transported to the allocated pit and deposited into the pit voids. Tyre batches will be covered as part of backfill operations and buried above the groundwater level of each pit. The licence currently specifies a minimum separation distance of 2 m between the base of the landfill and highest groundwater level. This will also apply to the tyre disposal areas.

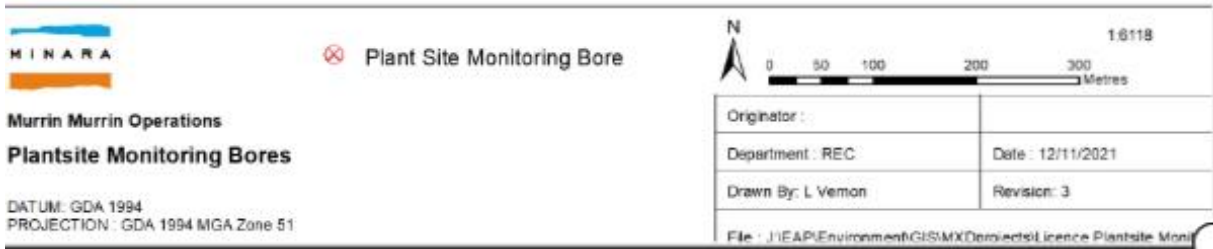
Emission and controls associated with this activity are detailed in Table 3.

### **3.4 Change to premises monitoring bores.**

The Licence Holder proposes, as part of this amendment, to remove a plant site monitoring bore (PSMB17D) and in-pit monitoring bore (IP804-4) from the groundwater monitoring schedule detailed in Table 3.5.1 of L7276/1996/12.

PSMB17D was destroyed when there was a recent increase in sulfur storage on the premises. Mining operations at Murrin Murrin will soon advance to the 806 pit, within which IP804-4 is located. Once operations in this area reach blasting stage, IP804-4 will be destroyed.

With the destruction of PSMB17D the plant site monitoring network is maintained through PSMB7D, PSMB9D and PSMB11D to the north, east and south (plant site network) (see Figure 1), and in-pit monitoring bores to the west (IP902-3, IP902-4, and IP902-5). The Delegated Officer notes that the in-pit monitoring bores have the same reporting parameters (standing water level, pH, total dissolved solids (TDS)) as the plant site bores, but don't have a nickel target <1 mg/L set.



**Figure 1: Plant site monitoring bores**



With the future destruction of IP804-4, IP804-1 - IP804-3 will continue to be used to generate quarterly ambient groundwater quality results. The Delegated Officer referred to the latest Annual Environmental Report – May 2020 to April 2021 and noted groundwater monitoring at the 8/4 in-pit TFS have remained relatively stable over the reporting period. The location of the monitoring bores in relation to in-pit 8/4 can be seen in Figure 2.



**Figure 2: 8/4 in-pit TFS and related monitoring bores.**

TDS concentrations in IP804-1 and IP804-3 remain above background levels though the results from IP804-4 have remained low through the entire reporting period. All other groundwater quality parameters analysed during the reporting period did not show any significant change. In addition, pH remained in compliance with the licence limit of >3.5, so the Delegated Officer does not expect the destruction of the IP804-4 to impact the Licence Holder's ability to report on ambient groundwater quality results.

### **3.5 Change the location of the chemical waste disposal site to the 2/3 in-pit Tailings Storage Facility (TSF).**

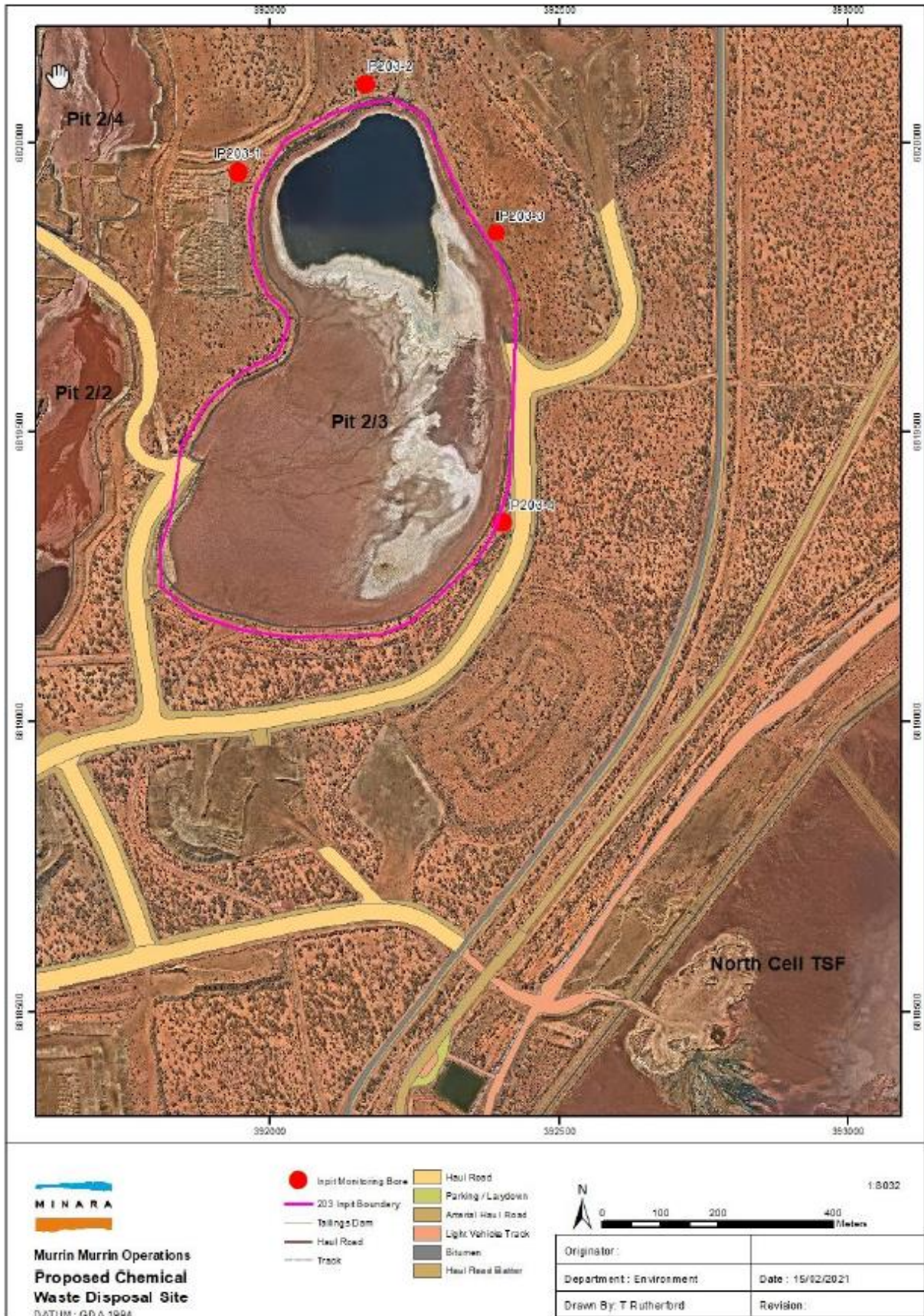
Murrin Murrin Operations Pty Ltd propose to change the location of the chemical waste disposal site, which is located on the northern cell of the paddock TSF and receives contaminated waste materials generated on site, which are not suitable for disposal into the Class II landfill on the premises. With progress towards decommissioning the paddock TSF, an alternative location for the chemical waste disposal site is required. The Licence Holder propose using 2/3 In-pit TSF as an alternative location for the chemical waste disposal site.

The 2/3 in-pit TSF, located approximately 1.5 km from the processing plant, is a completed in-pit TSF and no tailings has been discharged to the facility for approximately 2.5 years. The chemical waste disposal site will initially be located on the southwest corner of the 2/3 in-pit TSF, furthest away from where tailings were last discharged to the facility.

To allow heavy vehicles and loaders to deposit and manage chemical waste, minor earthmoving will be required to form a small access ramp and causeway onto the tailings surface. No emissions outside of normal mining operations are expected from the works. The Licence Holder committed to conducting geotechnical stability studies of the 2/3 In-pit TSF prior to any work commencing.

There are four in-pit monitoring bores located around the 2/3 in-pit TSF, refer to Figure 3. The in-pit monitoring bores will continue to be monitored quarterly, in accordance with section 3.5.1 of the Licence. Water sampling is conducted quarterly in accordance with Australian Standard 5667 and analysed by a NATA accredited laboratory.

The original chemical waste disposal site will be capped as part of the rehabilitation and closure of the TSF.



**Figure 3: 2/3 in-pit TSF and related monitoring bores.**

## 3.6 Change to Air Emission Monitoring

### 3.6.1 Change to acid stack testing method to USEPA Method 6C

The Licence Holder proposes to change the current sulfuric acid stack sampling methodology from USEPA Method 8 to USEPA Method 6C. Method 6C is a method for measuring sulfur dioxide (SO<sub>2</sub>) in stationary source emissions using a continuous instrument analyser. The Licence Holder suggests this is a simpler method than Method 8, which measures acid mist, sulfur trioxide and sulfur dioxide. For the Licence Holder this change will present less safety concerns than the current methodology in transporting equipment up the sulfuric acid stack. This update will result in sulfuric acid mist being removed from the monitoring requirements within the Licence.

Licence L7276/1996/12 currently sets atmospheric discharge limits for several point sources, including the sulfuric acid plant stack. The Licence stipulates sulfuric acid mist (H<sub>2</sub>SO<sub>4</sub>) is to be monitored quarterly, and these quarterly stack test monitoring results indicate the average concentration of sulfuric acid mist H<sub>2</sub>SO<sub>4</sub> emitted over the last ten years is 0.0141 kg (expressed as SO<sub>3</sub>)/tonne of 100% acid or equivalent, well below the licence limit of 0.075 kg (expressed as SO<sub>3</sub>)/tonne of 100% acid or equivalent.

The Delegated Officer notes that other nickel refineries in Western Australia and more specifically the Goldfields region employ USEPA 6C methodology for acid stack sampling. In addition, over the last ten years, the Licence Holder has not exceeded the current licence limit for sulfuric acid mist.

### 3.6.2 Change NO<sub>x</sub> averaging period to 30 minutes

The Licence Holder is proposing a change to the averaging period for the measurement of NO<sub>x</sub> from 60 minutes to 30 minutes. Unlike USEPA Method 6C which is an isokinetic sampling method requiring a certain volume of sample, USEPA Methods 7E or 7D are not and the averaging period is able to be reduced to 30 minutes whilst remaining compliant with the USEPA sampling method. The Delegated Officer notes that this lower averaging period is also consistent with other licence requirements for NO<sub>x</sub> monitoring in Western Australia.

## 3.7 Source-pathways and receptors

### 3.7.1 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 3 below. Table 3 also details the proposed control measures the Licence Holder has proposed to assist in controlling these emissions, where necessary.

**Table 3: Licence Holder controls**

Emission	Sources	Potential pathways	Proposed controls
Leachate	Waste disposal into in-pit TSF	Infiltration / seepage to groundwater.	2/3 In-pit TSF chosen due to tailings low saturated hydraulic conductivity and high clay content.  Four in-pit monitoring bores will continue to be monitored quarterly, as per Licence conditions.
Fibrous landfill material,	Special waste type 1 into putrescible	Air and wind dispersion.	Disposal of all Special Waste Type 1 to a designated cell within the landfill facility  Wrapping of potentially contaminated PPE

Emission	Sources	Potential pathways	Proposed controls
dust	landfill.		<p>and filters with thick plastic and sealed with tape</p> <p>Covering of the waste immediately with 300 mm of clean fill or Inert Waste Type 1</p> <p>Covering of the waste with 1000 mm of clean fill or Inert Waste Type 1 by the end of the working day.</p> <p>Recording the location of the designated Special Waste Type 1 cell within the Licence Holder's geographic information system (GIS).</p>
Fire wash water and smoke (containing particulates and noxious gases) generated in the event of a fire	Storage and disposal of tyres in pits	Direct discharge and infiltration / seepage to groundwater.	<p>Designated tyre storage locations.</p> <p>Maximum of 500 tyres stored onsite at any one time.</p> <p>Tyre spacing, tyres stacked leaning against themselves in rows of 20. Rows spaced 1 m apart.</p> <p>OTR tyres stacked horizontally on top of each other, 3 tyres high, in rows spaced 3 m apart.</p> <p>Batches of tyres disposed into pit voids will be separated by at least 100 mm of cover material, which will be placed by the end of the working day in which the waste was deposited.</p> <p>Final batch of tyres disposed in any pit will have a minimum of 500 mm of cover material placed on top.</p>

### 3.7.2 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 4 below provides a summary of potential environmental receptors that may be impacted because of activities upon, or emission and discharges from, the prescribed premises (*Guideline: Environmental siting* (DWER 2020)).

**Table 4: Sensitive environmental receptors and distance from prescribed activity**

Environmental receptors	Distance from prescribed activity
Major watercourses / surface water receptors	<p>Katata Creek catchment drains in a south westerly direction, towards Raeside Lake System. The creek system is nonperennial and about 5,500 m from the Murrin Murrin plant site, on the south-west edge of the mine operations.</p> <p>Lake Care and Lake Raeside are located approximately 25 km southeast and 40 km southwest of MMO respectively. These two lakes are the major receiving bodies for surface water in the area.</p>

Environmental receptors	Distance from prescribed activity
	Both lakes also receive dewatering discharge from surrounding mining operations. MMO deposits straddle the drainage between the catchment of these two lakes.
Groundwater	<p>P1 Leonora Water Reserve, A Public Drinking Water Source Area, is 36 km west of the Murrin Murrin North.</p> <p>The main beneficial users of groundwater in the general area of Murrin Murrin area are associated with the pastoral industry for stock watering purposes. The in-pit TSF 2/3 are within the Glenorn pastoral lease, which is managed by Minara Pastoral Holdings Pty Ltd, which is an entity associated with the Licence Holder.</p> <p>There is currently no stock located in the vicinity of the project area as it is a high traffic mining area.</p> <p>Water levels around the North Cell TSF and evaporations ponds (EP) have risen since tailing deposition commenced in 1998, leading to mounding of the groundwater table below and adjacent to the TSF, dropping away as the distance from the TSF increases.</p> <p>At the western fringe of the processing facility, groundwater levels are 10 – 20 metres below ground level (mbgl) and this depth to groundwater increases to 35 – 50 mbgl 1,000 m to the west of the processing facility.</p> <p>Groundwater monitoring at the 2/3 in-pit TSF indicated groundwater levels have generally fallen in the last year as 2/3 in-pit TSF has almost reached capacity and a minimal amount of tailing will be deposited to this facility in the future.</p> <p>Average depth of groundwater at the 2/3 in-pit TSF is 12 mbgl. Groundwater quality in the 2/3 in-pit TSF monitoring bores has not changed significantly but TDS in the 203-1 monitoring bore remains high due to suspected seepage from 2/2 and 2/4 in-pit TSFs to the west. Total dissolved solids in three of the 2/3 in-pit TSF bores are stable at 1,200 mg/L while 203-1 bore increased over the reporting period to 4,000 mg/L.</p>

### 3.8 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 considers potential source-pathway and receptor linkages as identified in Section 3.7. Where linkages are in-complete they have not been considered further in the risk assessment.

Where the Licence Holder has proposed mitigation measures/controls (as detailed in Section 3.7), 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 5.

The Revised Licence L7276 that accompanies this Amendment Report authorises emissions associated with the operation of the premises i.e. Category 57: Used tyre storage activities.

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

**Table 5. Risk assessment of potential emissions and discharges from the Premises during construction, commissioning, and 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>								
Waste disposal into inpit TSF	Leachate	Infiltration / seepage to groundwater.	Groundwater - pastoral bores (livestock)	Refer to section 3.5	C = Minor L = Rare <b>Low Risk</b>	Y	Condition 1.3.8, condition 3.5.1	N/A
Removal of sulfuric acid mist from monitoring requirements	Sulfuric acid mist	Air and wind dispersion.	N/A	Refer to section 3.6.1	C = Minor L = Rare <b>Low Risk</b>	Y	Condition 2.2.1, conditions 3.2.1,	N/A
Special waste type 1 into putrescible landfill.	Fibrous asbestos landfill material, dust	Air and wind dispersion.	N/A	Refer to section 3.1	C = Slight L = Unlikely <b>Low Risk</b>	Y	Condition 1.3.9	N/A
Event of fire resulting from storage and disposal of tyres in pits	Fire wash water which may contain: Solids (soot, burnt plastic, burnt rubber, asbestos); Volatile Organic Compounds (VOC's); Poly Aromatic Hydrocarbons (PAH's); benzene; dioxins, furans, Heavy Metals; Oxides of Nitrogen (NOx); Sulphur Oxides (Sox), Pyrolytic Oil; Fuel Oils (Diesel, petrol)	Direct discharges and infiltration / seepage to groundwater	Contamination of soil or groundwater - pastoral bores (livestock)	Refer to section 3.3.1	C = Minor L = Unlikely <b>Medium Risk</b>	Y	Condition 1.3.2, condition 1.3.8, condition 1.3.9.	N/A

Licence: L7276/1996/12 November 2021

IR-T15 Amendment report template v3.0 (May 2021)



Risk Event					Risk rating <sup>1</sup>	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	C = consequence L = likelihood			
	Particulates and noxious gases from fire / tyre combustion, including: VOC's, Benzene, Toluene, Xylene (BTEX), PAH's, dioxins, furans, heavy metals; NOx; SOx	Air and wind dispersion.	N/A	Refer to section 3.2	C = Minor L = Unlikely <b>Medium Risk</b>	Y	Condition 1.3.2	N/A

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 6 provides a summary of the consultation undertaken by the department.

**Table 6: Consultation**

Consultation method	Comments received	Department response
Local Government Authority advised of proposal (31 May 2021)	No comment received.	N/A
Department of Mines, Industry Regulation and Safety (DMIRS) advised of proposal (31 May 2021)	No comment received.	N/A
Licence Holder was provided with draft amendment on 9 November 2021. Comment received 12 November 2021 and Licence Holder waived the remainder of the consultation period.	Refer to Appendix 1	Refer to Appendix 1

## 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 7 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.

**Table 7: Summary of licence amendments**

Condition no.	Proposed amendments
Cover page	Assessed production / design capacity for Category 63 / Category 64 has been increased to 7,000 tonnes.
Introduction	Inclusion of Category 57: Used tyre storage (general), and category 63 (class I inert landfill) and description of activity into the licence.
Log table	Updated to include this amendment.
Table 1.3.1	Inclusion of Scrap Tyre Storage Yard and Bis Workshop, and infrastructure requirements.
Table 1.3.3	Amount of cumulative landfill has been increased from 5,000 tonnes to 7,000 tonnes per annual period.
Table 1.3.3	Inclusion of Special Waste Type 1 and requirements to Inert Waste Type 2 Tyre Disposal requirements.
Table 1.3.3	Location of contaminated solid waste updated to 2/3 in-pit TSF as per licence amendment.
Table 1.3.4	Inclusion of Special Waste Type 1 cover requirement, and typographic changes.
Table 2.2.2	Removal of sulfuric acid mist (H <sub>2</sub> SO <sub>4</sub> ) and sulfur trioxide (SO <sub>3</sub> ) from point source emission to air table. Change to NO <sub>x</sub> stack test averaging period.

Condition no.	Proposed amendments
Table 3.2.1	Change of monitoring point source emissions to air, and averaging period.
Table 3.5.1	Removal of PSMB17D and IP804-4 as monitoring point from the table.
Schedule 1: Maps	Inclusion of Figure 2: Murrin Murrin Project Overview. Renumbered Figures in Schedule 1 and updated references.
Schedule 1: Maps	Updated Figure 7 (PSMB17 has been removed).
Schedule 1: Maps	Updated Figure 11: Location of contaminated solid waste disposal area
Schedule 1: Maps	Updated Figure 17 (IP804-4) has been removed).

## References

1. Murrin Murrin Operations Pty Ltd 2021, *Application for a licence amendment for Murrin Murrin Nickel Cobalt Project*, Laverton Western Australia.
2. Minara Resources 2021, *Licence Amendment Application Murrin Murrin Nickel Cobalt Project, version 2*, Perth Western Australia
3. Murrin Murrin Nickel Cobalt Project 2021, *Annual Environmental Report – May 2020 to April 2021*, Perth Western Australia
4. Department of Environment Regulation (DER) 2015, *Guidance Statement: Setting Conditions*, Perth, Western Australia.
5. Department of Water and Environmental Regulation (DWER) 2020, *Guideline: Environmental Siting*, Perth, Western Australia.
6. DWER 2020, *Guideline: Risk Assessments*, Perth, Western Australia.

## 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 Introduction (pg. 4)	In the second paragraph the licence states that Murrin Murrin has five inpit TSFs. There are now 8 inpit TSFs at Murrin Murrin.	The Delegated Officer has made this change to the Licence.
Licence Condition 1.3.2 (Table 1.3.1)	In Table 1.3.1 on page 13 tyre is spelt incorrectly under the column heading 'Containment point reference'.	The typographic error has been corrected.
Licence Condition 1.3.8 (Table 1.3.3)	In Table 1.3.3 on page 14 it is proposed to remove the TSF North disposal area from the licence. However, a transition period is required as MMO still requires the use of this area as the 2/3 inpit TSF disposal area has not been prepared for disposal as yet.	The Delegated Officer agrees to allow the Licence Holder to continue to dispose contaminated solid waste into TSF North while the 2/3 inpit TSF is prepared.  The Delegated Officer notes that this licence condition will be re-visited during the next amendment to Licence L7276.
Licence Condition 3.5.1 (Table 3.5.1)	PSMB19 has been removed from the table instead of PSMB17.	The Delegated Officer has made this change to the Licence.
Licence Figure 7	Please see the attached map for an updated Figure 7 (PSMB17 has been removed).	The Delegated Officer has updated Figure 7 in the Licence.
Licence Figure 17	Please see the attached map for an updated Figure 17 (IP804-4) has been removed).	The Delegated Officer has updated Figure 17 in the Licence.
Decision Report Throughout document	The licence number is now L7276/1996/12. The decision report lists the licence as the previous version (11) on page i, in the footer throughout the document, section 2.2, section 3.4, section 3.6.1 and Appendix 2.	The typographic error has been corrected.
Decision Report Section 3.8	In Table 5 in the first row, 'input TSF' should be 'inpit TSF'.	The typographic error has been corrected.
Decision Report Section 5.1	Table 7 states that PSMB19 will be removed from Table 3.5.1 of the licence. This should be PSMB17.	The correct monitoring bore is now listed in Table 7.

## Appendix 2: Application validation summary

SECTION 1: APPLICATION SUMMARY				
Application type				
Amendment to licence	<input checked="" type="checkbox"/>	Current licence number:	L7276/1996/1	
		Relevant works approval number:	N/A	<input checked="" type="checkbox"/>
Date application received	8 April 2021			
Applicant and Premises details				
Applicant name/s (full legal name/s)	Murrin Murrin Operations Pty Ltd			
Premises name	Murrin Murrin Nickel Cobalt Project			
Premises location	M39/446, M39/820, L39/81, L39/62, L39/83, M39/299, M39/651, M39/300, M39/301, M39/435, M39/436, M39/421, M39/422, M39/423, M39/424, M39/342, M39/343, L39/136, L39/168, M39/314, M39/322, M39/562, M39/637, M39/686, M39/692, M39/714, M39/715, M39/716 and M39/737 Laverton WA 6440			
Local Government Authority	Shire of Laverton			
Application documents				
HPCM file reference number:	2011/011705-1			
Key application documents (additional to application form):	MMO Licence Amendment supporting documentation			
Scope of application/assessment				
Summary of proposed activities or changes to existing operations.	<p>Licence amendment</p> <p>MMO is applying for an amendment to Environmental Protection Act 1986 (EP Act) Licence L7276/1996/12 (the Licence) to:</p> <ul style="list-style-type: none"> <li>• Add prescribed premises category 57 used tyre storage for up to 500 used tyres.</li> <li>• Dispose of used tyres (inert waste type 2) into pit series at Murrin Murrin North.</li> <li>• Dispose of Special Waste Type 1 to the putrescible landfill.</li> <li>• Change the location of the chemical waste disposal site to the 2/3 in-pit Tailings Storage Facility (TSF).</li> <li>• Change the sulfuric acid stack sampling method to USEPA method 6C and remove sulfuric acid mist (H<sub>2</sub>SO<sub>4</sub>) from the monitoring requirements specified within section 2.2.2 of the Licence.</li> <li>• Remove plant site monitoring bore (PSMB17D) and in-pit monitoring bore (IP804-4) from water monitoring requirements specified within section 3.5.1 of the Licence.</li> </ul>			

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

**Table 1: Prescribed premises categories**

Prescribed premises category and description	Assessed production or design capacity	Proposed changes to the production or design capacity
Category 5: Processing or beneficiation of metallic or non-metallic ore	5,000,000 tonnes per year	
Category 6: Mine dewatering	700,000 tonnes per year	
Category 12: Screening etc. of material	1,500,000 tonnes per year	
Category 31: Chemical manufacturing	1,718,100 tonnes per year	
Category 44: Metal smelting or refining	55,000 tonnes per year	
Category 52: Electric power generation	87.5 MW in aggregate	
Category 54: Sewage facility	300 m <sup>3</sup> per day	
Category 57: Used tyre storage (general)	N/A	500 tyres
Category 64: Class II or III putrescible landfill site	5,000 tonnes per year	

**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: 418, 444, 445 and 506. EPA Report No:
Has the proposal been referred and/or assessed under the EPBC Act?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Reference No:
Has the applicant demonstrated occupancy (proof of occupier status)?	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Certificate of title <input type="checkbox"/> General lease <input type="checkbox"/> Expiry: Mining lease / tenement <input checked="" type="checkbox"/> Expiry: Other evidence <input type="checkbox"/> Expiry:
Has the applicant obtained all relevant planning approvals?	Yes <input type="checkbox"/> No <input type="checkbox"/> N/A <input checked="" type="checkbox"/>	Approval: Expiry date: If N/A explain why? Mining purposes
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 type="checkbox"/> No <input checked="" type="checkbox"/>	Application reference No: N/A Licence/permit No: N/A Licence / permit not required.
Does the proposal involve a discharge of waste into a designated area (as defined in section 57 of the EP Act)?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Name: N/A Type: N/A Has Regulatory Services (Water) been consulted? Yes <input type="checkbox"/> No <input type="checkbox"/> N/A <input checked="" type="checkbox"/> Regional office: N/A
Is the Premises situated in a Public Drinking Water Source Area (PDWSA)?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Name: N/A Priority: N/A Are the proposed activities/ landuse compatible with the PDWSA (refer to <a href="#">WQPN 25</a> )? N/A Yes <input type="checkbox"/> No <input type="checkbox"/> N/A <input checked="" type="checkbox"/>
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 xxx</i> )	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	<i>Mining Act 1978 MP5795</i>
Is the Premises within an Environmental Protection Policy (EPP) Area?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	
Is the Premises subject to any EPP requirements?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	
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 Date of classification: N/A