



Application for Licence Amendment

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

Licence Number	L9229/2019/1
Licence Holder	BHP Billiton Nickel West Pty Ltd
ACN	004 184 598
File Number	DER2019/000640
Premises	Cliffs Mine Site Legal description – Mining Tenements M36/9, M36/618, M36/676 and M53/489 SHIRE OF LEONORA SHIRE OF WILUNA WA
Date of Report	27/06/2023
Decision	Revised licence granted

A/MANAGER, RESOURCE INDUSTRIES
REGULATORY SERVICES
an officer delegated under section 20 of the *Environmental Protection Act 1986* (WA)

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1. Decision summary

Licence L9229/2019/1 is held by BHP Billiton Nickel West Pty Ltd (Licence Holder) for the Cliffs Mine Site (the Premises), located at M36/9, M36/618, M36/676 and M53/489.

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 L9229/2019/1 has been granted.

2. Scope of assessment

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>.

Amendment summary

On 9/03/2023, the Licence Holder submitted an application to the department to amend Licence L9229/2019/1 under section 59 and 59B of the *Environmental Protection Act 1986* (EP Act). The following amendments are being sought:

- Inclusion of category 57 – tyre storage facility;
- Inclusion of category 64: class II or III landfill facility.
- Inclusion of a bioremediation facility at the premises

This amendment is limited only to the addition of Category 57 and 64 activities to the existing licence. No changes to the aspects of the existing licence relating to Category 5 and 12 have been requested by the Licence Holder. Figure 1 below shows the premises map including the locations of the landfill, tyre storage and bioremediation facilities. Table 1 below outlines the proposed changes to the existing licence.

Table 1: Proposed design or throughput capacity changes

Category	Current throughput capacity	Proposed throughput capacity	Description of proposed amendment
57	N/A	150 tyres per annual period	The storage of up to 150 tyres per annual period triggers Category 57 under Schedule 1 of the Environmental Protection Regulations 1987 (EP Regulations) (100 tyres or more)
64	N/A	3,200 tonnes per annual period	The disposal of up to 3,200 tonnes of class II or II waste per annual period triggers Category 64 under Schedule 1 of the Environmental Protection Regulations 1987 (EP Regulations) (20 tonnes or more)

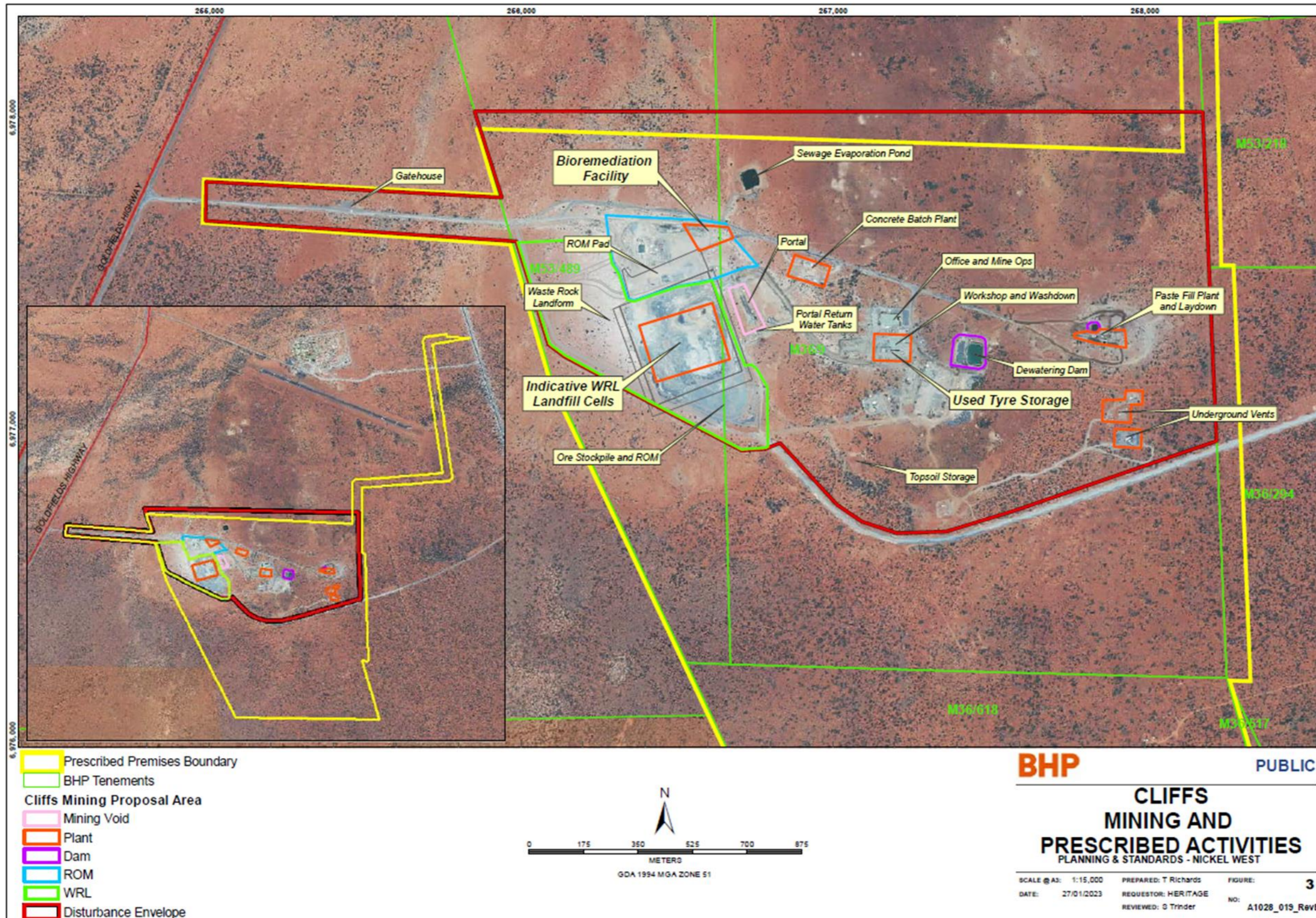


Figure 1: Premises map showing location of landfill, tyre storage and bioremediation facility.

2.1.1 Category 57: Used tyre storage.

The Licence Holder is proposing to store up to 150 tyres prior to disposing them into the proposed landfill cells within the waste rock landform (WRL). These tyres will not all be stored together as they will be distributed between the stores yard, workshop and other laydown yards. No construction of infrastructure is required for this activity.

The tyres will be stored in accordance with the Department of Fire and Emergency Services (DFES) *Guidance Note GN02 Bulk Storage of Rubber Tyres Including Shredded and Crumbed Tyres* (DFES 2020). The intent is to ensure adequate separation distance are provide between used tyres to prevent or minimise tyre fires.

2.1.2 Category 64 Class II Putrescible Landfill

The Licence Holder is proposing to incorporate waste cells within the existing WRLs to accept putrescible waste and inert (type 1 and 2 (tyres) waste (as described in *Landfill Waste Classification and Waste Definitions 1996* (as amended 2019).

The cells will be developed at least one 'lift' from ground level (10 m) and a minimum of 50 m from any edge of the WRL to ensure sufficient encapsulation and distance from groundwater. Large cells will be created with a ramp down to allow waste to be progressively placed and covered. Tyres will also be disposed of via landfilling and will be covered with at least 100 mm of fill immediately following placement to minimise risk of tyre fires.

2.1.3 Bioremediation facility

The Licence Holder is proposing to develop a Bioremediation Facility using existing infrastructure at the Premises. The proposes site is an engineered hardstand previously used to sort and crush ore. The bioremediation area will be further developed to include bunding around 5 x 1047 m² cells. Any hydrocarbon-contaminated soils will be stored on this pad until testing of the soil confirms the material meets the threshold for disposal as set out in the *Landfill Waste Classification and Waste Definitions 1996* (as amended 2019).

Management of the Bioremediation Facility will be in accordance with BHP's *Bioremediation Facility Management Plan* (2022), which covers all BHP sites that have bioremediation facilities. This management plan was developed in reference to the following documentation:

- *Contaminated Sites Management Series Bioremediation of hydrocarbon-contaminated soils in Western Australia*, DER, October 2004;
- Australian Standard AS4482.1 - *Sampling and Analysis of Soils and Biota*, Council of Standards Australia, November 2005; and
- National Environment Protection (Assessment of Site Contamination) Measure 1999, NEPC 2013.

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.

Source-pathways and receptors

3.1.1 Emissions and controls

The key emissions and associated actual or likely pathway during premises construction and operation which have been considered in this Amendment Report are detailed in

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

Table 2: Licence Holder controls

Emission	Sources	Potential pathways	Proposed controls
Dust	Vehicle movements, construction of cells and associated bunding, lift-off from stored product, earthworks etc.	Air/windborne pathway	Dust suppression equipment available on-site including water carts. Roads and stockpiles are regularly watered to manage dust.
Leachate	Disposal of putrescible waste	Seepage to soils and groundwater	Landfill cells will be compacted and bunding will be constructed to minimise stormwater flow into the cells. Cells will be constructed within the WRL a minimum of one lift from ground level (minimum of 10 m from natural ground level) Landfill will be covered on a weekly basis
Windblown waste	Disposal of putrescible waste	Direct discharge to land	Where waste is likely to be wind-blown it will be covered immediately; where waste can be managed with weekly cover there will be backfill compacted over the waste-filled cell weekly.
Firewater / smoke	Tyre fire	Seepage to soils and groundwater, contamination of surface waters	The storage of used tyres will occur in accordance with Department of Fire and Emergency Services (DFES) Guidance Note <i>GN02 Bulk Storage of Rubber Tyres Including Shredded and Crumbed Tyres</i> (DFES 2020). The intent is to ensure adequate separation distance are provide between used tyres to prevent or minimise tyre fires. Used tyres will be stored in accordance with DFES (2020) GN02 as a 'small tyres facility' that includes: <ul style="list-style-type: none"> Used tyre stacks will not exceed 3.7 m in height, 60 m² in area, and 12.5 tonnes in weight; A maximum of four individual stacks (a 'pile') will be grouped with a clear separation distance of not less than 2.5 m from the

Emission	Sources	Potential pathways	Proposed controls
			base of each stack; <ul style="list-style-type: none"> • A clear separation distance of not less than 18 m maintained between each pile; and • Tyre stacks a minimum of 18 m from any building of equal or greater height to the tyre stack (3.7 m).
Hydrocarbons /hydrocarbon contaminated stormwater	Bioremediation facility	Seepage to soils and groundwater, contamination of surface waters	Operations managed under the <i>BHP NiW Bioremediation Facility Management Plan</i> . The Bioremediation facility will be located on a compacted, low permeable base and bunding will be constructed to minimise stormwater flow onto the pad. Following a significant rainfall event (a 20% AEP event over 24 hours), an inspection of the facility will be required to ensure contaminated stormwater is contained within the bunds.

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

Human receptors	Distance from prescribed activity
Albion Station homestead	14 km west from the premises
Environmental receptors	Distance from prescribed activity
Goldfields Groundwater Area	Premises is located within the Goldfields Groundwater Area. The applicant states groundwater beneath the site to occur at approx. 30 – 50 m below ground level (bgl).

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 0. 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 0), these have been considered when determining the final risk rating. Where the Delegated Officer considers the Licence Holder's proposed controls to be critical to maintaining an acceptable level of risk, these will be incorporated into the licence as regulatory controls.

Additional regulatory controls may be imposed where the Licence Holder's controls are not deemed sufficient. Where this is the case the need for additional controls will be documented and justified in Table 4.

The Revised Licence L9229/2019/1 that accompanies this Amendment Report authorises emissions associated with the operation of the Premises i.e. used tyre storage, class II landfill operations and the bioremediation facility.

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

Table 4. Risk assessment of potential emissions and discharges from the Premises during construction and operation

Risk Event					Risk rating ¹ C = consequence L = likelihood	Licence Holder's controls sufficient?	Conditions ² of licence	Justification for additional regulatory controls
Source/Activities	Potential emission	Potential pathways and impact	Receptors	Licence Holder's controls				
Construction								
Construction of landfill cells Construction of stormwater bunding at landfill and bioremediation facility	Dust	Air/windborne pathway causing impacts to health and amenity	Residence 14 km west of the site	Refer to Section 3.1	C = Minor L = Rare Low Risk	Y	N/A	N/A
	Noise			Refer to Section 3.1	C = Slight L = Rare Low Risk	Y	N/A	N/A
Operation								
Tyre storage – tyre fire	Fire water / smoke	Direct discharge to land	Residence 14 km west of the site Localized soils	Refer to Section 3.1	C = Minor L = Rare Low Risk	Y	Condition 1, 3, 4	N/A
Class II putrescible landfill	Dust	Air/windborne pathway causing impacts to health and amenity	Residence 14 km west of the site	Refer to Section 3.1	C = Minor L = Rare Low Risk	Y	Conditions 1, 2, 3, 4	N/A
	Leachate	Seepage to soils and groundwater	Localised groundwater	Refer to Section 3.1	C = Slight L = Unlikely Low Risk	Y	Conditions 1, 2, 3, 4	N/A
	Windblown waste	Direct discharge to land impacting ecosystem health	Fauna and Flora	Refer to Section 3.1	C = Slight L = Unlikely Low Risk	Y	Conditions 3, 4	N/A
Bioremediation facility	Dust	Air/windborne pathway causing impacts to health and amenity	Residence 14 km west of the site	Refer to Section 3.1	C = Slight L = Unlikely Low Risk	Y	Conditions 1, 2, 3	N/A

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Risk Event					Risk rating ¹ C = consequence L = likelihood	Licence Holder's controls sufficient?	Conditions ² of licence	Justification for additional regulatory controls
Source/Activities	Potential emission	Potential pathways and impact	Receptors	Licence Holder's controls				
	Hydrocarbons / hydrocarbon contaminated stormwater	Overland flow	Localised surface water and groundwater	Refer to Section 3.1	C = Minor L = Unlikely Medium Risk	Y	Conditions 1, 2, 3, 5	N/A
	Seepage of leachate	Seepage through base of bioremediation facility	Groundwater and localised soils	Refer to Section 3.1	C = Minor L = Unlikely Medium Risk	Y	Condition 1	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 5 provides a summary of the consultation undertaken by the department.

Table 5: Consultation

Consultation method	Comments received	Department response
Licence Holder was provided with draft amendment on 2/06/2023	Comments received 13/06/2023 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.

Summary of amendments

Table 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 6: Summary of licence amendments

Condition no.	Proposed amendments
Condition 1 Table 1	Inclusion of site infrastructure for the operation of landfill, used tyre facility and bioremediation facility.
Condition 2 Table 2	Include the condition and table to ensure correct management of the landfill, tyre storage and bioremediation facilities.
Condition 3 Table 3	Include the condition and table to ensure waste disposed of at the landfill is covered according to the <i>Environmental Protection (Rural Landfill) Regulations 2002</i> .
Condition 4 Table 4	Included to monitor the landfill and bioremediation facilities following a significant rainfall event (a 20% Annual Exceedance Probability event over 24 hours).
Schedule 1 Figure 1	Replace map to include the locations of the landfill, tyre storage and bioremediation facilities.

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.

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

Condition	Summary of Licence Holder's comment	Department's response
Table 5: Definitions	Request to adjust the annual period from: 1 January to 31 December To 1 July to 30 June To align the reporting period with other licenses held by BHP	Changes accepted.
Table 2: Management of waste	Add special waste type 2 to allow the disposal of clinical, medical and quarantine materials.	Change not accepted. This request requires assessment. It is recommended this is applied for during the next amendment to the licence.
Table 3: Cover requirements	Include the following bolded wording to the requirement to cover waste deposited at the landfill facility: "To be covered weekly if waste is deposited during that week , with sufficient quantities of Type 1 inert waste, clean fill or other appropriate cover material to prevent the spread of windblown waste and harbouring of disease vectors."	Changes accepted.
Table 4: Inspection of infrastructure	Include the following bolded wording to the requirement to undertake inspections at the landfill facility: "Frequency of inspection – Weekly, when waste is deposited during that week. "	Change not accepted. Ensuring windblown waste is not washed or blown outside the landfill boundaries is a requirement under the <i>Environmental Protection (Rural Landfill) Regulations 2002</i> . It is to ensure waste within an active cell is contained until final capping. Containment of waste is required not just when waste has been deposited during the week.
Condition 6	Request to remove the requirement to submit the AACR within 30 days of the annual period and replace it with a set date of 30 September .	Changes accepted.

Appendix 2: Application validation summary

SECTION 1: APPLICATION SUMMARY			
Application type			
Amendment to licence	<input checked="" type="checkbox"/>	Current licence number:	L9229/2019/1
		Relevant works approval number:	N/A <input checked="" type="checkbox"/>
Date application received	9/03/2023		
Applicant and Premises details			
Applicant name/s (full legal name/s)	BHP Billiton Nickel West Pty Ltd		
Premises name	Cliffs Mine Site		
Premises location	M36/9, M36/618, M36/676 and M53/489		
Local Government Authority	Shire of Wiluna and Shire of Leonora		
Application documents			
HPCM file reference number:	DWERDT747622		
Key application documents (additional to application form):	NiWCliffs Part 5 Lic Amendment (A2162697)		
Scope of application/assessment			
Summary of proposed activities or changes to existing operations.	Construction and operation of a used tyre storage facility (category 57), a putrescible landfill facility (category 64) and a bioremediation facility (not prescribed).		
Category number/s (activities that cause the premises to become prescribed premises)			
Table 1: Prescribed premises categories			
Prescribed premises category and description	Proposed production or design capacity	Proposed changes to the production or design capacity (amendments only)	
Category 57: Used tyre storage	150 tyres	N/A	
Category 57: Class II putrescible landfill	3,200 tonnes per annual period	N/A	
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 type="checkbox"/> No <input checked="" type="checkbox"/>	Ministerial statement No: 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"/>	Mining lease / tenement <input checked="" type="checkbox"/>
Has the applicant obtained all relevant planning approvals?	Yes <input type="checkbox"/> No <input type="checkbox"/> N/A <input checked="" type="checkbox"/>	Licensed under <i>Mining Act 1978</i>
Has the applicant applied for, or have an existing EP Act clearing permit in relation to this proposal?	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	CPS No: 8877
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: GWL173900(2) and GWL58596(6)
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: Proclaimed Groundwater Area/Surface Water Area Has Regulatory Services (Water) been consulted? Yes <input type="checkbox"/> No <input type="checkbox"/> N/A <input type="checkbox"/> Regional office:
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 <u>WQPN 25</u>)? Yes <input type="checkbox"/> No <input type="checkbox"/> N/A <input 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 xxxx</i>)	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	
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
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