



Application for Licence Amendment

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

Licence Number	L6453/1990/12
Licence Holder	BHP Billiton Nickel West Pty Ltd
ACN	004 184 598
File Number	2011/009443-1~4
Premises	Mt Keith Operations WILUNA WA 6646 Legal description – M36/183-185, 246, 286, 288, 294, 399, 422, 467, 658, 677, M53/56-57, 165-167, 208, 215-218, 327-328, 489, General purpose lease G53/11-14 and Miscellaneous licence L36/206
Date of Report	26 August 2022
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 L6453/1990/12 is held by BHP Nickel West Pty Ltd (Licence Holder) for the Mt Keith Operations (the Premises) mine site, located in Wiluna WA 6646.

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 L6453/1990/12 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 13 May 2022, the Licence Holder applied to the department to amend Licence L6453/1990/12 under section 59 and 59B of the *Environmental Protection Act 1986* (EP Act). The following amendments are being sought:

- include Category 12: Screening etc. of material to the licence to allow for the operation of a mobile crushing and screening plant at the Mt Keith Satellite mine (MKS); and
- extend the prescribed premises boundary to allow for the ongoing operation of the mobile crushing and screening plant at MKS.

This amendment is limited only to the addition of Category 12 to the Licence. No changes to the aspects of the existing Licence relating to Category 5, 54, 57, 64 or 73 have been requested by the Licence Holder.

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

Table 1: Proposed design or throughput capacity changes

Category	Current throughput capacity	Proposed design capacity	Description of proposed amendment
5	13,500,000 tonnes per year	N/A	N/A
12	N/A	1,000,000 tonnes per year	Addition of Category 12 activities to the licence, as previously assessed under W6385/2020/1
54	510 m ³ per day	N/A	N/A
57	120 tyres	N/A	N/A
64	3,200 tonnes per year	N/A	N/A
73	13,500 m ³ in aggregate	N/A	N/A

2.3 Category 12: Screening etc. of material infrastructure

Construction of Category 12: Screening etc. of material infrastructure at the Mt Keith satellite mine site, was undertaken under works approval W6385/2020/1 (W6385). Works approval W6385 also included used tyre storage and putrescible landfill site works. An Environmental Compliance Report was submitted to the department on 4 March 2021 and time limited operations (TLO) commenced in accordance with Conditions 5 and 6 of W6385.

A TLO report was submitted to DWER on 22 March 2022 in accordance with condition 14 of works approval W6385.

The Delegated Officer notes that as part of TLO reporting, Category 57: Used tyre storage and Category 89: Putrescible landfill site works have yet to be commenced. The Licence Holder states that these works will be undertaken in the future, within the period of works approval W6385 (to 22 June 2023), subject to operational requirements.

A separate licence amendment to L6453/1990/12 will be submitted for the operation and inclusion of Categories 57 and 89 once these works have been completed and compliance documentation submitted in accordance with W6385.

The mobile crushing plant is anticipated to be located and operated at two locations at ground level within the Waste Rock Landform (WRL) or within the Run of Mine (ROM) area of the Mt Keith Satellite mine site, as denoted by the indicative locations shown in Figure 1. These locations are consistent with the area named 'Mobile Crusher Location 1 & 2' in Figure 2 in Schedule 1 of W6385.

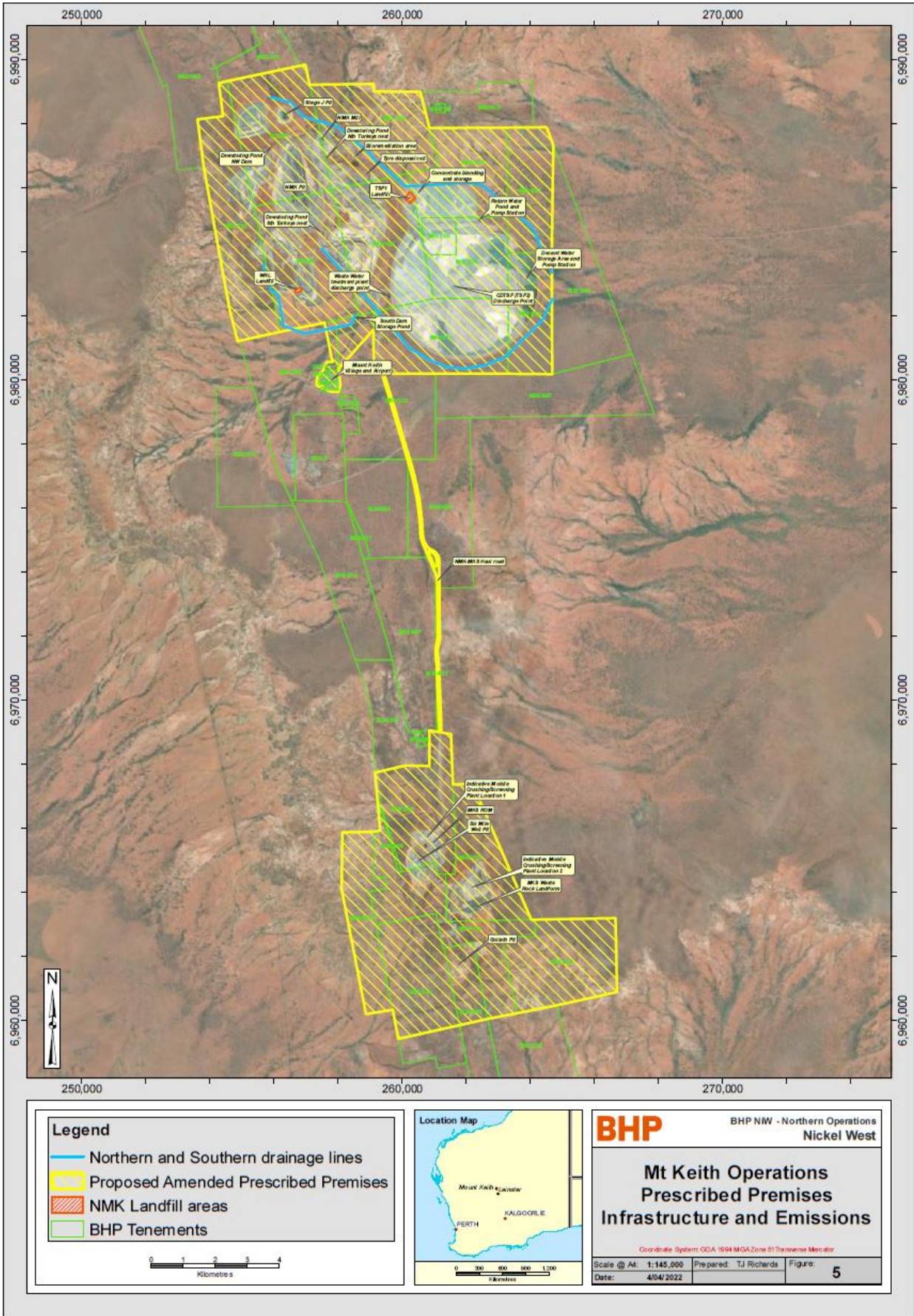


Figure 1: Mt Keith Operations infrastructure and emission points

2.4 Extension of prescribed premises boundary

The Licence Holder's current prescribed premises boundary of L6453/1990/12 will be modified to include the MKS mine as required for this proposed licence amendment. However, in accordance with DWER's *Environmental Siting Guidance Statement* (Department of Environment Regulation 2016), the environmental siting and location of the existing Licence (L6453) prescribed premises has been assessed to identify environmental receptors.

NMK and MKS are located approximately 460 km north of Kalgoorlie in the north-eastern Goldfields region of Western Australia. MKS is located approximately 15 km to the south of NMK.

The nearest populated centres to NMK and MKS are Wiluna (located approximately 75 km to the north) and Leinster (located approximately 70 km to the south).

The prescribed premises boundary for Licence L6453/2020/1 is located on the following tenements:

- Mining tenements M53/56, M53/57, M53/165, M53/166, M53/167, M53/208, M53/215, M53/216, M53/217, M53/218, M53/327, M53/328, M36/294, M36/467, M36/658, M36/677 and M53/489;
- General purpose leases G53/11, G53/12, G53/13, and G53/14; and
- Miscellaneous Licence L36/206

Following tenements, previously assessed under W6385/2020/, are proposed to be added to the prescribed premises boundary as a result of this amendment:

- Mining tenements M36/183, M36/184, M36/185, M36/246, M36/286, M36/288, M36/399 and M36/422.

Proposed change to premises boundary are shown in Figure 2.

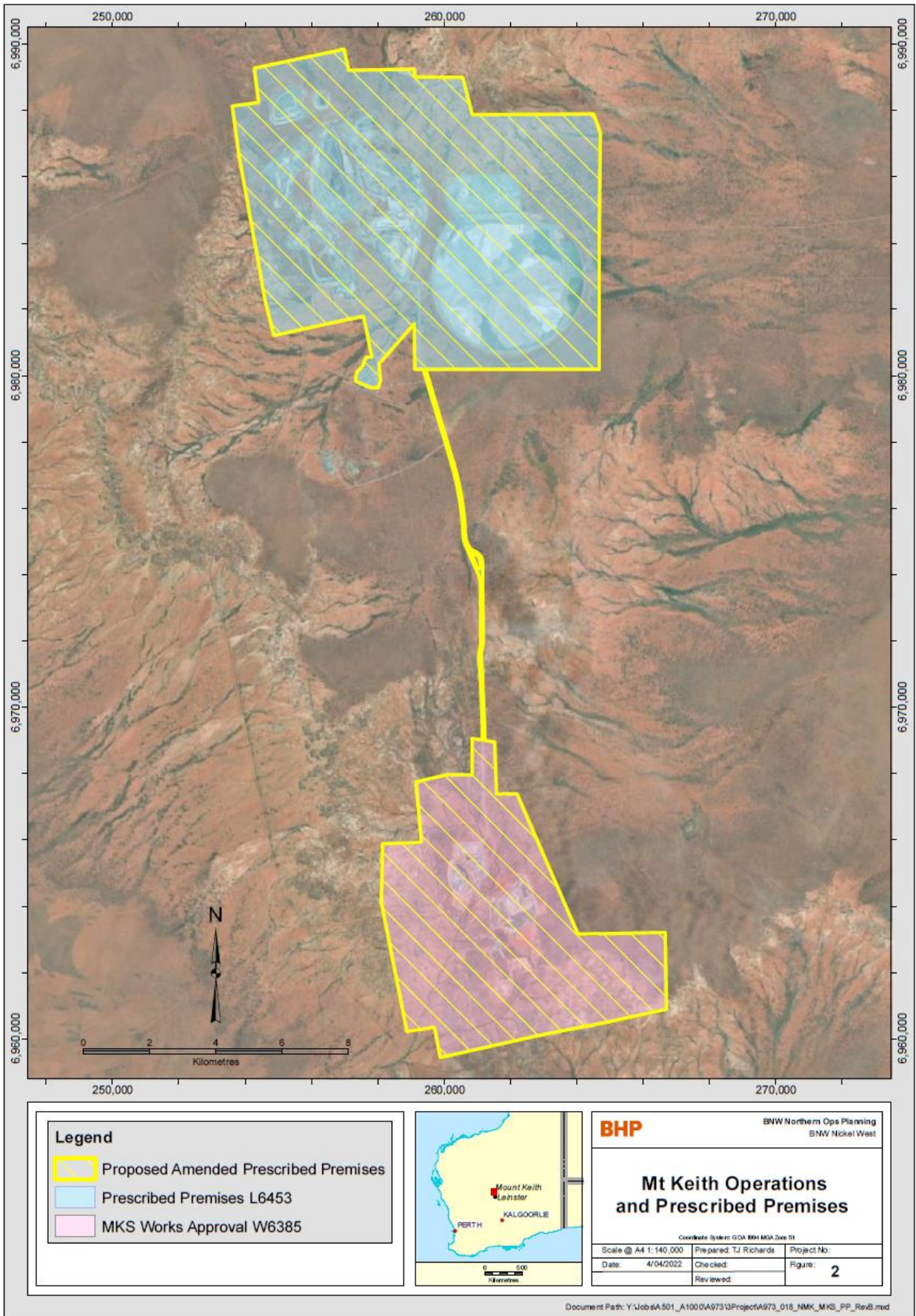


Figure 2: Mt Keith Operations proposed prescribed premises boundary

L6453/1990/12 (Amended 26 August 2022)

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

2.5 Part IV of the EP Act

Ministerial Statement (MS) 415 was issued on 7 May 1996 and approves the design and operation of the Mt Keith Nickel (NMK) central discharge tailings storage facility. A section 45C amendment under the EP Act was approved on 14 October 2019 to increase tailings storage capacity, delineate the development envelope and amend the proposed description and elements.

MKS was referred and assessed under Part IV of the EP Act, with approval granted on 27 December 2018 under MS 1087. A section 45C amendment under the EP Act was approved on 16 September 2020 to revise the development envelope and increase the clearing area.

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 2 below.

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

Table 2: Licence Holder controls

Emission	Sources	Potential pathways	Proposed controls
Dust	Crushing of material, vehicle movements, dust lift-off from stockpiles and/or stored product, additional earthworks etc.	Air/windborne pathway causing impacts to health and amenity	<ul style="list-style-type: none">Plant to be fitted with spray nozzles to minimise dust emissions at the head drum discharge point of the main conveyor and at the feed point.Plant will typically be located at low working areas, either within the waste rock landform (WRL) footprint or the ROM, where water carts actively control dust.Dust will be managed with suppression water sprays as required.Routine maintenance and housekeeping will be undertaken to avoid accumulation of waste materials that could lead to dust generation.Employees and contractors will continue to be inducted regarding importance of minimising dust levels

Emission	Sources	Potential pathways	Proposed controls
Noise	Operation of mobile screening plant Vehicle movements (reversing beepers)	Air/windborne pathway causing impacts to health and amenity	<ul style="list-style-type: none"> Compliance with <i>Environmental Protection (Noise Regulations) 1997</i> Closest sensitive receptor (Wanjarri camp site) is approximately 1 km away.
Sediment laden stormwater	Screening of material Handling and stockpiling of material including loading of material into trucks Vehicle movements	Overland runoff potentially causing ecosystem disturbance or impacting surface water quality	<ul style="list-style-type: none"> Earthen bunds constructed around the crushing and screening plant and stockpiles to prevent stormwater run-off Crushing and screening plant locations are at least 50 m from drainage lines (e.g., Jones Creek) and at least 500 m from the Wanjarri Nature Reserve

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

Table 3: Sensitive receptors and the distance from prescribed activity

Human receptors	Distance from prescribed activity
Wanjarri Nature Reserve Shearing Shed Camping Area	Adjacent to and intersects the southeastern corner of the proposed amended premises boundary. About 1 km from the prescribed activity.
Environmental receptors	Distance from prescribed activity
Flora, vegetation: Violet Range (Perseverance Greenstone Belt) vegetation complexes (banded ironstone formation) Priority 1 Priority Ecological Community (PEC)	The Prescribed Premises is located within the Priority 1 PEC. No threatened flora species as listed under the Biodiversity Conservation Act 2016 have been recorded within the Prescribed Premises. Fourteen Priority Flora have been recorded within the Mount Keith Satellite tenement area.
Conservation Significant Fauna: Priority 4 species: Brush-tailed Mulgara	Brush-tailed Mulgara has the potential to utilise the habitat of the Prescribed Premises. No species of conservation significance have been recorded within the Prescribed Premises. Subterranean fauna surveys have revealed some species that are not well known or well collected within the region, but these were considered within the EPA assessment of the project as

	approved under MS 1087.
Surface water: Ephemeral surface drainage lines, the largest of which is Jones Creek	Ephemeral surface drainage lines, including Jones Creek, lie within the Prescribed Premises
Groundwater	Approximately 15 to 35 metres below the natural ground level of the Prescribed Premises.
Conservation Areas – Wanjarri Nature Reserve (Class A Nature Reserve)	Boundary of the Wanjarri Reserve is approximately 1 km from the Prescribed Premises.
Aboriginal and European Heritage	<p>Registered heritage sites have been identified in the vicinity of and within the Prescribed Premises.</p> <p>The Licence Holder has an agreed 'Cultural Heritage Management Plan' in place with the Tjiwarl people.</p> <p>The results of all heritage surveys and location of Aboriginal heritage sites are recorded in the Licence Holder's database, which is used in the internal Environmental and Heritage Impact Assessment process, prior to land disturbance to ensure heritage sites are not accidentally impacted.</p>

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 considers potential source-pathway and receptor linkages as identified in Section 3.1. Where linkages are incomplete, they have not been considered further in the risk assessment.

Where the Licence Holder has proposed mitigation measures/controls (as detailed in Section 3.1), these have been considered when determining the final risk rating. Where the Delegated Officer considers the Licence Holder's proposed controls to be critical to maintaining an acceptable level of risk, these will be incorporated into the licence as regulatory controls.

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

The Revised Licence L6453/1990/12 that accompanies this Amendment Report authorises emissions associated with the operation of the Premises i.e., Category 12 screening activities.

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 & discharges from Premises 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				
Operation								
Screening, crushing, unloading, loading and storage of material Vehicle movements	Dust	Air/windborne pathway causing impacts to health and amenity	Flora and vegetation Low visitation campsite area within the Wanjarri Nature Reserve	Refer to Section 3.1.1	C = Moderate L = Unlikely Medium Risk	Y	Condition 1	N/A
	Noise	Air/windborne pathway causing impacts to health and amenity	Low visitation campsite area within the Wanjarri Nature Reserve	Refer to Section 3.1.1	C = Slight L = Unlikely Low Risk	N/A	N/A	Licence Holder has not proposed controls related to this licence amendment. Risk assessment as part of W6385/2020/1 has shown that controls are not required to further reduce risk.
	Sediment laden stormwater	Overland runoff potentially causing ecosystem disturbance or impacting surface water quality	Ephemeral drainage lines Flora and vegetation	Refer to Section 3.1.1	C = Moderate L = Possible Medium Risk	Y	Condition 1, and condition 11.	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
Shire of Leonora advised of proposal on 27 June 2022	N/A	N/A
Shire of Wiluna advised of proposal on 27 June 2022	N/A	N/A
Licence Holder was provided with draft amendment on 4 August 2022 and responded on 21 August 2022	<p>The Licence Holder requested that the wording in the draft revised licence that relates to mobile crushing and screen plant location be amended to align with the amendment report.</p> <p>Located at lower working levels ground level either within the Waste Rock Landform or within the Run of Mine area as denoted as Mobile Crusher Location 1 or Mobile Crusher Location 2 in Figure 4 in Schedule 1</p>	<p>The Delegated Officer agrees that this change does not increase risk of emission from crushing and screening activity and will reduce confusion on the definition of 'ground level'.</p> <p>The Delegated Officer has approved this suggested change in the final revised licence.</p>

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 6 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
Cover page	Update mining tenements to include Mt Keith Satellite mine premises, addition of Category 12: Screening etc. of material to the licence.
Licence history	Licence amendment to include Category 12 Screening etc. of material throughput capacity of 1,000,000 tonnes per year, and extension of the premises boundary to allow for the ongoing operation of the mobile crushing and screening plant at Mt Keith Satellite mine (MKS).
Condition 1, Table 1	Inclusion of mobile crushing and screening plant, to site infrastructure and equipment table, also operational requirements, and infrastructure location.
Condition 11, Table 4	Inclusion of bunding for stormwater management controls added to inspection of

	infrastructure table.
Definitions	Add a definition for 'annual exceedance probability'.
Schedule 1: Maps	Replace premises map, to show MKS site, added a figure with location of the crushing and screening activity.
Licence	Typographic corrections throughout

References

1. BHP Nickel West Pty Ltd (BHP NiW) 2022, *BHP Nickel West Mt Keith Mine Licence application form and licence amendment supplementary information*, Perth, Western Australia
2. Department of Environment Regulation (DER) 2015, *Guidance Statement: Setting Conditions*, Perth, Western Australia.
3. Department of Water and Environmental Regulation (DWER) 2020, *Guideline: Environmental Siting*, Joondalup, Western Australia.
4. Department of Water and Environmental Regulation (DWER) 2020, *Guideline: Risk Assessments*, Joondalup, Western Australia.

Appendix 1: Application validation summary

SECTION 1: APPLICATION SUMMARY			
Application type			
Amendment to licence	<input checked="" type="checkbox"/>	Current licence number:	L6453/1990/12
		Relevant works approval number:	N/A
Date application received	16 May 2022		
Applicant and Premises details			
Applicant name/s (full legal name/s)	BHP Nickel West Pty Ltd		
Premises name	Mt Keith Operations		
Premises location	<p>Mining tenements M36/183, M36/184, M36/185, M 36/246, M36/286, M36/288, M36/294, M36/399, M36/422, M36/467, M36/658, M36/677, M53/56, M53/57, M53/165, M53/166, M53/167, M53/208, M53/215, M53/216, M53/217, M53/218, M53/327, M53/328 and M53/489.</p> <p>General purpose leases G53/11, G53/12, G53/13, and G53/14.</p> <p>Miscellaneous licence L36/206.</p>		
Local Government Authority	Northern part of the premises is within the Shire of Wiluna and the southern section is within the Shire of Lenora.		
Application documents			
HPCM file reference number:	2011/009443-1~4		
Key application documents (additional to application form):	Supporting document		
Scope of application/assessment			
Summary of proposed activities or changes to existing operations.	<p>This licence amendment seeks to:</p> <ul style="list-style-type: none"> include 'Category 12: Screening etc. of Material' to allow for the operation of a mobile crushing and screening plant at Mt Keith Satellite mine (MKS); and extend the Mt Keith Nickel mine (NMK) Licence L6453 - Prescribed Premises boundary to allow for the ongoing operation of the above-mentioned mobile crushing and screening plant at MKS. 		
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	
Category 12: Screening etc. of material		1,000,000 tonnes per annual period (tpa)	
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: MS 1087 and 415 EPA Report No: 1625 and bulletin 812
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"/> Multiple Mining Tenements make up the prescribed premises and range in their expiry dates from 09/06/2025 (M53/489) to 5/08/2041 (M36/467) (refer Attachment 1A – Proof of Occupier Status). Leases have all been checked and are active on MINEDEX.
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? There is an existing ministerial statement which supersedes local planning approvals.
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: 8871/1 (existing clearing permit)
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
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: GWL 58596 and GWL 63902.
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
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 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 xxxx</i>)	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	<ul style="list-style-type: none"> • Mining Act 1978 • Ministerial Statements 1087 and 415 • EP Act 1986 and associated regulations • Rights in Water and Irrigation Act 1914 • Aboriginal Heritage Act 1972.
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 checked="" type="checkbox"/> No <input type="checkbox"/>	<p>Classification: Multiple areas within the premises boundary are identified as 'possibly contaminated – investigation required'</p> <p>Date of classification:</p> <p>Apr 11, 2011 (Trim ID 2011/1631)</p> <p>May 20, 2011 (Trim ID DEC5625)</p> <p>Nov 26, 2012 (Trim ID DEC5625)</p>