



Application for Works Approval

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

Works Approval Number	W6571/2021/1
Applicant	Australian Nickel Investments Pty Ltd
ACN	119 599 323
File number	DER2021/000365
Premises	Cosmos Nickel Operations – Power station Mining tenement M36/371 As defined by the premises map attached to the issued licence works approval.
Date of report	27 August 2021
Decision	Works approval granted

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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

This decision report documents the assessment of potential risks to the environment and public health from emissions and discharges during the construction and operation of the premises. As a result of this assessment, works approval W6571/2021/1 has been granted.

2. Scope of assessment

2.1 Regulatory framework

In completing the assessment documented in this decision report, the Department of Water and Environmental Regulation (the department; DWER) 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 and overview of premises

On 22 June 2021, the applicant submitted an application for a works approval to the department under section 54 of the *Environmental Protection Act 1986* (EP Act).

The application is to undertake construction works relating to the installation of new power generators (Category 52) at the Cosmos Nickel Operations (operating under licence L7404/1999/9). The premises is located approximately 41 km south east of Leinster.

The applicant is proposing to install a combination of diesel and gas-fired power generators to upgrade the existing 8.9 MW Cosmos power plant to a combined capacity of 12.5 MW of operational power supply.

The current Cosmos power plant consists of 8 x reciprocating dual fuel (diesel/natural gas) engine generators with maximum generating capacity of 8.9 MW. The upgrade will involve the instalment of 3 x reciprocating dual fuel (diesel/natural gas) engine generators each being a Cummins 11kV KTA 50-G3 850 kW and 1 x 2 MW continuous diesel fuel engine generator being a Cummins QSK78, bringing the total maximum generating capacity to 12.5 MW.

The generators will run on a mixture of up to 80% Gas and 20% diesel. Natural gas will be sourced from the Cosmos lateral gas pipeline while diesel will be sourced through regular deliveries at the Cosmos diesel storage facility. The additional engine generators will be installed within the current Cosmos powerhouse building which includes cooling, exhaust and mechanical supplementary systems.

The works approval premises relates to the category and assessed design capacity under Schedule 1 of the *Environmental Protection Regulations 1987* (EP Regulations) which are defined in works approval W6571/2021/1. The infrastructure and equipment relating to the premises category and any associated activities which the department has considered in line with *Guideline: Risk Assessments* (DWER 2020) are outlined in works approval W6571/2021/1.

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 construction and operation which have been considered in this decision report are detailed in Table 1 below. Table 1 also details the control measures the applicant has proposed to assist in controlling these emissions, where necessary.

Table 1: Proposed applicant controls

Emission	Sources	Potential pathways	Proposed controls
Construction			
Dust	Installation of power generators and vehicle movements	Air / windborne pathway	None proposed due to separation distance to nearest human receptor and minimal dust emissions expected.
Noise	Heavy machinery, construction noise and vehicle movements.	Air / windborne pathway	None proposed due to separation distance to nearest human receptor.
Commissioning			
Air Emissions	Power station generator stacks	Air / windborne pathway	Air emissions to be stack tested to ensure compliance with manufacturers specifications.
Operation			
Noise	Heavy machinery, construction noise and vehicle movements.	Air / windborne pathway	None proposed due to separation distance to nearest human receptor.
Air emissions	Power station generator stacks	Air / windborne pathway	Power generators to be maintained as per manufacturers requirements.
Hydrocarbon leaks and spills	Maintenance activities. Oil / fuel leaks	Infiltration Overland flow via stormwater	<ul style="list-style-type: none"> Power generators will be installed within an expanded powerhouse that has a services trench which drains into an oily water separator. The power station will be installed on concrete hardstand that is fully bunded.

3.1.2 Receptors

In accordance with the *Guideline: Risk Assessment* (DWER 2020), the Delegated Officer has excluded the applicant's employees, visitors, and contractors 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 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
Yakabindie Pastoral Station (Homestead)	Approximately 4.5km northwest of power station
Town of Leinster	41 km southeast of the Premises. Not considered a receptor.
Environmental receptors	Distance from prescribed activity
Threatened and Priority Ecological Communities (TES/PEC)	Edge of 500m buffer for a Priority 1 Ecological Community - Violet Range (Perseverance Greenstone Belt) vegetation complexes (banded ironstone formation) is located approximately 330m west of the power station.
Threatened and/or priority flora	<i>Grevillea inconspicuous</i> (priority flora) located approximately 2km west of power station.
Surface water	A non-perennial watercourse (likely to flow only during high rain fall events) is located approximately 150m south of the power station.
Lake Miranda	4.5m southwest of power station (not considered a receptor).

3.2 Risk ratings

Risk ratings have been assessed in accordance with the *Guideline: Risk Assessments* (DWER 2020) for each identified emission source and takes into account potential source-pathway and receptor linkages as identified in Section 3.1. Where linkages are in-complete they have not been considered further in the risk assessment.

Where the applicant 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 applicant's proposed controls to be critical to maintaining an acceptable level of risk, these will be incorporated into the works approval as regulatory controls.

Additional regulatory controls may be imposed where the applicant's controls are not deemed sufficient. Where this is the case the need for additional controls will be documented and justified in Table 3.

Works approval W6571/2021/1 that accompanies this decision report authorises construction and time-limited operations. The conditions in the issued works approval, as outlined in Table 3 have been determined in accordance with *Guidance Statement: Setting Conditions* (DER 2015).

An amendment to licence L7404/1999/9 is required following the environmental commissioning and time-limited operational phase authorised under the works approval to authorise emissions associated with the ongoing operation of the Cosmos power station (Category 52). A risk assessment for the operational phase has been included in this decision report, however licence conditions will not be finalised until the department assesses the licence amendment application.

Table 3: Risk assessment of potential emissions and discharges from the premises during construction, commissioning and operation

Risk events					Risk rating ¹ C = consequence L = likelihood	Applicant controls sufficient?	Conditions ² of works approval	Justification for additional regulatory controls
Sources / activities	Potential emission	Potential pathways and impact	Receptors	Applicant controls				
Construction								
Installation of new power generators	Dust	Air / windborne pathway causing impacts to health and amenity	Closest human receptor is 43.5km away.	Refer to Section 3.1	C = Slight L = Rare Low Risk	Y	N/A	N/A – Regulatory controls are not required.
	Noise			Refer to Section 3.1	C = Slight L = Rare Low Risk	Y	N/A	N/A – Regulatory controls are not required.
Commissioning								
Commissioning of new power generators	Air Emissions	Air / windborne pathway causing impacts to health and amenity	Closest human receptor is 43.5km away	Refer to Section 3.1	C = Minor L = Rare Low Risk	Y	Conditions 4 -10 (commissioning requirements, including stack testing)	N/A – applicant has proposed a commissioning period which includes stack testing to confirm emission concentrations. This has been conditioned in the works approval to ensure compliance with manufacturers specifications.
Operation (including time-limited-operations operations)								
Operation of new power generators	Noise	Air / windborne pathway causing impacts to health and amenity	Closest human receptor is 43.5km away	Refer to Section 3.1	C = Slight L = Rare Low Risk	Y	N/A	N/A – Regulatory controls are not required.

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Risk events					Risk rating ¹ C = consequence L = likelihood	Applicant controls sufficient?	Conditions ² of works approval	Justification for additional regulatory controls
Sources / activities	Potential emission	Potential pathways and impact	Receptors	Applicant controls				
	Air emissions	Air / windborne pathway causing impacts to health and amenity	Closest human receptor is 43.5km away	Refer to Section 3.1	C = Minor L = Rare Low Risk	Y	N/A	N/A – Regulatory controls are not required.
	Hydrocarbon spills / leaks	Infiltration Overland runoff via stormwater flow causing ecosystem disturbance.	Soil Native vegetation - Priority ecological community – edge of buffer 330m west of power station	Refer to Section 3.1	C = Slight L = Unlikely Low Risk	Y	Condition 1	N/A – applicant infrastructure controls have been conditioned in works approval.

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

Note 2: Proposed applicant 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
Application advertised on the department's website on 26 July 2021.	None received.	N/A.
Local Government Authority advised of proposal on 30 July 2021.	None received.	N/A.
Applicant was provided with draft documents on 17/08/2021.	Correspondence was received on 26/8/2021 from the applicant stating they have no comments on the draft and wish to waive the 21-day consultation period.	Noted.

5. Conclusion

Based on the assessment in this decision report, the delegated officer has determined that a works approval will be granted, subject to conditions commensurate with the determined controls and necessary for administration and reporting requirements.

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 2: Application validation summary

SECTION 1: APPLICATION SUMMARY (as updated from validation checklist)					
Application type					
Works approval	<input checked="" type="checkbox"/>				
Licence	<input type="checkbox"/>	Relevant works approval number:		None	<input type="checkbox"/>
		Has the works approval been complied with?	Yes <input type="checkbox"/> No <input type="checkbox"/>		
		Has time limited operations under the works approval demonstrated acceptable operations?	Yes <input type="checkbox"/> No <input type="checkbox"/> N/A <input type="checkbox"/>		
		Environmental Compliance Report / Critical Containment Infrastructure Report submitted?	Yes <input type="checkbox"/> No <input type="checkbox"/>		
		Date Report received:			
Renewal	<input type="checkbox"/>	Current licence number:			
Amendment to works approval	<input type="checkbox"/>	Current works approval number:			
Amendment to licence	<input type="checkbox"/>	Current licence number:			
		Relevant works approval number:		N/A	<input type="checkbox"/>
Registration	<input type="checkbox"/>	Current works approval number:		None	<input type="checkbox"/>
Date application received	22/06/2021				
Applicant and Premises details					
Applicant name/s (full legal name/s)	Australian Nickel Investments Pty Ltd				
Premises name	Cosmos Nickel Operation				
Premises location	Mining leases and tenements : L 3600118 L 3600159 L 3600171 L 3600172 M 3600127 M 3600180 M 3600212 M 3600349 M 3600365 M 3600371 M 3600375 M 3600376 M 3600377 M 3600441 M 3600659				
Local Government Authority	Shire of Leonora				
Application documents					
HPCM file reference number:	DER2021/000365				
Key application documents (additional to application form):	Application form Supporting document Cover letter				
Scope of application/assessment					

SECTION 1: APPLICATION SUMMARY (as updated from validation checklist)

<p>Summary of proposed activities or changes to existing operations.</p>	<p><u>Works approval</u></p> <p>Australian Nickel Investments Pty Ltd (ANI) is seeking a works approval for Category 52 (Power Generation) at the Cosmos Nickel Operation (Cosmos) L7404/1999/9 to:</p> <ul style="list-style-type: none"> • Install a combination of diesel and gas-fired power generators • Upgrade the existing 8.9MW Cosmos power plant to a combined capacity of 12.5MW for operational power supply <p>The current Cosmos power plant consists of 8 x reciprocating dual fuel (diesel/natural gas) engine generators with maximum generating capacity of 8.9MW. The upgrade will involve the instalment of 3 x reciprocating dual fuel (diesel/natural gas) engine generators each being a Cummins 11kV KTA 50-G3 850 kW and 1 x 2MW continuous diesel fuel engine generator being a Cummins QSK78, bringing the total maximum generating capacity to 12.5MW. The generators will run on a mixture of up to 80% Gas 20% diesel. Natural gas will be sourced from the Cosmos lateral gas pipeline while diesel will be sourced through regular deliveries at the Cosmos diesel storage facility. The additional engine generators will be installed within the current Cosmos power house building which includes cooling, exhaust and mechanical supplementary systems.</p>
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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 52: Power Generation	12.5MW design capacity 8.9MW expected production capacity

Legislative context and other approvals

<p>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?</p>	<p>Yes <input type="checkbox"/> No <input checked="" type="checkbox"/></p>	<p>Referral decision No: Managed under Part V <input type="checkbox"/> Assessed under Part IV <input type="checkbox"/></p>
<p>Does the applicant hold any existing Part IV Ministerial Statements relevant to the application?</p>	<p>Yes <input type="checkbox"/> No <input checked="" type="checkbox"/></p>	<p>Ministerial statement No: EPA Report No:</p>

SECTION 1: APPLICATION SUMMARY (as updated from validation checklist)

<p>Has the proposal been referred and/or assessed under the EPBC Act?</p>	<p>Yes <input type="checkbox"/> No <input checked="" type="checkbox"/></p>	<p>Reference No:</p>
<p>Has the applicant demonstrated occupancy (proof of occupier status)?</p>	<p>Yes <input checked="" type="checkbox"/> No <input type="checkbox"/></p>	<p>Certificate of title <input type="checkbox"/> General lease <input type="checkbox"/> Expiry: Mining lease / tenement <input checked="" type="checkbox"/> Expiry: L 3600118 10/03/2024, L 3600159 19/07/2022 , L 3600171 23/03/2024 , L 3600172 23/03/2024 , M 3600127 19/04/2031 , M 3600180 3/07/2032 , M 3600212 1/07/2033 , M 3600349 3/03/2041 , M 3600365 3/05/2041 , M 3600371 3/03/2041 , M 3600375 3/03/2041 , M 3600376 3/05/2041 , M 3600377 3/03/2041 , M 3600441 3/05/2041 , M 3600659 22/02/2028. Other evidence <input type="checkbox"/> Expiry:</p>
<p>Has the applicant obtained all relevant planning approvals?</p>	<p>Yes <input type="checkbox"/> No <input type="checkbox"/> N/A <input checked="" type="checkbox"/></p>	<p>Approval: Expiry date: If N/A explain why?</p>
<p>Has the applicant applied for, or have an existing EP Act clearing permit in relation to this proposal?</p>	<p>Yes <input type="checkbox"/> No <input checked="" type="checkbox"/></p>	<p>CPS No: N/A No clearing is proposed.</p>
<p>Has the applicant applied for, or have an existing CAWS Act clearing licence in relation to this proposal?</p>	<p>Yes <input type="checkbox"/> No <input checked="" type="checkbox"/></p>	<p>Application reference No: N/A Licence/permit No: N/A No clearing is proposed.</p>
<p>Has the applicant applied for, or have an existing RIWI Act licence or permit in relation to this proposal?</p>	<p>Yes <input type="checkbox"/> No <input checked="" type="checkbox"/></p>	<p>Application reference No: Licence/permit No: Licence / permit not required.</p>
<p>Does the proposal involve a discharge of waste into a designated area (as defined in section 57 of the EP Act)?</p>	<p>Yes <input type="checkbox"/> No <input checked="" type="checkbox"/></p>	<p>Name: N/A Type: Has Regulatory Services (Water) been consulted? Yes <input type="checkbox"/> No <input type="checkbox"/> N/A <input checked="" type="checkbox"/> Regional office:</p>

SECTION 1: APPLICATION SUMMARY (as updated from validation checklist)

<p>Is the Premises situated in a Public Drinking Water Source Area (PDWSA)?</p>	<p>Yes <input type="checkbox"/> No <input checked="" type="checkbox"/></p>	<p>Name: N/A Priority: N/A Are the proposed activities/ landuse compatible with the PDWSA (refer to WQPN 25)? Yes <input type="checkbox"/> No <input type="checkbox"/> N/A <input checked="" type="checkbox"/></p>
<p>Is the Premises subject to any other Acts or subsidiary regulations (e.g. <i>Dangerous Goods Safety Act 2004</i>, <i>Environmental Protection (Controlled Waste) Regulations 2004</i>, <i>State Agreement Act xxxx</i>)</p>	<p>Yes <input checked="" type="checkbox"/> No <input type="checkbox"/></p>	<p><i>Dangerous Goods Safety Act 2004</i> <i>Mining Act 1976</i></p>
<p>Is the Premises within an Environmental Protection Policy (EPP) Area?</p>	<p>Yes <input type="checkbox"/> No <input checked="" type="checkbox"/></p>	
<p>Is the Premises subject to any EPP requirements?</p>	<p>Yes <input type="checkbox"/> No <input checked="" type="checkbox"/></p>	
<p>Is the Premises a known or suspected contaminated site under the <i>Contaminated Sites Act 2003</i>?</p>	<p>Yes <input checked="" type="checkbox"/> No <input type="checkbox"/></p>	<p>Classification: possibly contaminated – investigation required (PC–IR) Date of classification: 20 July 2011</p>