



## Application for Works Approval Amendment

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

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<b>Works Approval Number</b>	W6475/2020/1
<b>Works Approval Holder</b>	Coburn Resources Pty Ltd
<b>ACN</b>	165 036 537
<b>File Number</b>	DER2020/000541
<b>Premises</b>	Coburn Mineral Sands Project Coburn Road, COBURN  Legal description:  Mining tenements M09/102, M09/103, M09/104, M09/105, M09/106, M09/111 and M09/112
<b>Date of Report</b>	30 May 2023
<b>Decision</b>	Revised works approval 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

Works approval W6475/2020/1 is held by Coburn Resources Pty Ltd (the works approval holder) for the Coburn Mineral Sands Project (the Premises), located on mining tenements M09/102, M09/103, M09/104, M09/105, M09/106, M09/111 and M09/112.

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 construction and operation of the premises. As a result of this assessment, revised works approval W6475/2020/1 has been granted.

The revised works approval issued as a result of this amendment consolidates and supersedes the existing works approval previously granted in relation to the premises.

## 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 17 February 2023, the works approval holder submitted an application to the department to amend works approval W6475/2020/1 under section 59 and 59B of the *Environmental Protection Act 1986* (EP Act). Works approval W6475/2020/1 was initially issued on 21 June 2021 and allowed for the construction and time-limited operation (TLO) of a mineral sands processing facility involving a wet concentrator plant (WCP) and mineral separation plant (MSP) to produce a heavy metal concentrate, with process waste going back to the mine voids or to a Tailings Storage Facility (TSF).

Non-processing supporting infrastructure on the premises include product storage facilities, desalination water treatment plant, waste management facilities, power generation facilities, a solar array, fuel storage, water services, access and site roads, landfill, wastewater treatment plant (WWTP), laboratory, workshop, offices, village accommodation, borefields and communication facilities.

Due to the staged approach that the works approval holder has taken in construction, some items of infrastructure have been constructed and are currently operating in TLO, while other items have not been constructed or are under construction. Under condition 11 of the works approval, upon the completion of specific criteria, TLO is authorised for each item of infrastructure in condition 1 for a period not exceeding 180 calendar days or until such a time as a licence is granted. The effect of this is that the TLO expiry dates for the various items of infrastructure are staggered between March and August 2023.

Works approval W6475/2020/1 does not include waste categories 85 or 89 (sewage and landfill facilities) as the construction of these facilities was regulated under a separate works approval (W6258/2019/1). A licence application for the premises was submitted to the department on 25 October 2022, in relation to the ongoing operation of the infrastructure under W6258/2019/1. When it is granted, the works approval holder can apply for other items of infrastructure that are currently listed on W6475/2020/1 to be assessed for inclusion on the licence through a licence amendment application.

At this point, there is insufficient time for items of infrastructure on W6475/2020/1 to be properly assessed for inclusion on an operating licence before TLO for many of the items

expires. The works approval holder is therefore seeking to amend selected TLO timeframes to allow for continued operation while a licence application is processed. Specifically, the works approval holder is seeking the extension of TLO to 16 August 2023 (an extension of 120 days from the current TLO expiry for the TSF) for the following items listed in condition 1 of the works approval:

- Item 1 – Wet concentrator plant (WCP)
- Item 4 – Tailings Storage Facility (TSF)
- Item 5 – Pipelines for ore, tailings and return water between the processing plants, TSF and mining area.
- Item 7 – Reverse Osmosis (RO) plant
- Item 8 – Gas generator units
- Item 9 – LNG storage tanks

No other changes to the aspects of the existing works approval have been requested. The works approval holder has requested a single expiry date for TLO for all of the above infrastructure to allow for the construction of the majority of the infrastructure included in condition 1 of the works approval to be completed, and for the streamlining of the subsequent licence application amendment relating to the infrastructure.

## 2.3 Part IV of the EP Act

The Coburn Mineral Sands Project was assessed under Part IV of the EP Act and was granted approval in May 2006 under Ministerial Statement (MS) 723. It was also assessed and determined to be a “controlled action” under the Commonwealth *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act) and was approved by the Commonwealth Minister for Environment and Heritage in July 2006.

The WA Environmental Protection Authority (EPA) published EPA Bulletin 1211 in December 2005 in relation to this proposal. It identifies the following environmental factors as relevant to the proposal:

- Groundwater;
- Flora and vegetation;
- Fauna;
- Rehabilitation; and
- World heritage and conservation values.

## 2.4 Developments during the assessment of the application

Since submitting this amendment application, the works approval holder has also submitted a change to their proposal under section 45C of Part IV of the EP Act (on 31 March 2023). It includes a change to the approved disturbance footprint. It is currently being assessed and is not expected to be determined before TLO expires for the infrastructure to which this application relates. The pipelines between the TSF and processing plant (item 5 of condition 1 of the works approval) currently lie partly outside the existing disturbance footprint which is subject to the section 45C application. An extension to TLO for this infrastructure cannot be granted while the infrastructure is situated in this area, or until the Part IV application is resolved. For this reason, TLO for the pipelines (item 5) cannot be extended in this amendment.

In addition, since the initial submission of this application, the off-path TSF has been filled to capacity. The use of the TSF was discontinued on 6 April 2023. Any additional use of the TSF will now involve an embankment lift which will require a separate works approval application,

as the use of this facility to this extent has not previously been assessed. For this reason, TLO for the TSF (item 4 and 5) will not be extended through this application process.

### 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.

This risk assessment information relates only to assessing the emissions and discharges that will occur from extending the operations of the following infrastructure up to an additional 120 days:

- Item 1 – Wet concentrator plant (WCP)
- Item 7 – Reverse Osmosis (RO) plant
- Item 8 – Gas generator units
- Item 9 – LNG storage tanks

The following items will not be considered further in this risk assessment for the reasons outlined in section 2.4:

- Item 4 – Tailings Storage Facility (TSF)
- Item 5 – Pipelines for ore, tailings and return water between the processing plants, TSF and mining area.

The risk assessment only considers operational controls that are currently in place relating to the specified items of infrastructure, and will not take into account any proposed controls that have not yet been implemented under the original works approval.

#### 3.1 Source-pathways and receptors

##### 3.1.1 Emissions and controls

The key emissions and the associated actual or likely pathway during extended operations of the specified infrastructure have been considered in this amendment report are detailed in

Table 1 below.

Table 1 only details the control measures that the works approval holder has already implemented to control these potential or actual emissions.

**Table 1: Works Approval Holder controls**

Emission	Sources	Potential pathways	Implemented controls
Dust	Dust emissions from processing in the WCP and MSP. Dust from exposed tailings material.	Air/windborne pathway	Ore processing in the WCP is wet. Dry processes are carried out in a fully enclosed building. Moisture content of tailings material is high.
Slurried ore, process water	Pipeline failure	Direct discharge to	Pipelines are inspected daily while

Emission	Sources	Potential pathways	Implemented controls
or tailings		soil; seepage and groundwater	operating. Flow meters, sensors and telemetry on the pipelines have been installed to allow for the detection of leaks and failures. During commissioning of pipelines, no leaks were detected.
Seepage of process water	WCP process water and settling ponds MSP process water pond	Seepage to soils and groundwater	All process water ponds are lined with a minimum 1.0 mm HDPE liner.
Spill of process water	Overtopping of process water pond or settling pond	Direct discharge to land	Area contoured so that spills are contained within processing area drainage structures.
Seepage from tailings	From the TSF and mine void areas	Seepage to groundwater	Weekly groundwater monitoring. Decant water is returned to the processing circuit.
Contaminated stormwater	From the TSF and processing areas.	Contamination of ground or surface water	Stormwater management infrastructure has been completed around the processing areas. LNG storage and power station areas contoured to report to sediment traps. Oil-water separator system has been installed around generators to contain spills. The TSF embankment contains all contaminated runoff within the facility. Mine void structures prevent contaminated runoff.
Gaseous emissions (CO, NO <sub>x</sub> , PM <sub>10</sub> and SO <sub>2</sub> )	Gas generators LNG storage tanks	Air/windborne pathway	Modelling has been completed that indicates emissions will be below the National Environment Pollution Measure (NEPM) for ambient air quality. Infrastructure has been installed to manufacturers specifications. LNG storage is a closed loop system with no emissions points.

### 3.1.2 Receptors

In accordance with the *Guideline: Risk assessments* (DWER 2020), the Delegated Officer has excluded employees, visitors and contractors of the works approval holder's from its assessment. Protection of these parties often involves different exposure risks and prevention strategies, and is provided for under other state legislation.

Table 2 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
Coburn Station Homestead	15km east of premises (premises is situated on the station)
Hamelin Station Homestead	30km north of premises
Environmental receptors	Distance from prescribed activity
Shark Bay World Heritage property	Immediately adjacent to the western boundary of the premises. MS 723 requires a 100m buffer from mining areas.
Twelve priority flora species and one threatened flora species	Within the premises
Nine conservation significant vertebrate fauna species are likely to or may occur within the study area.  Two conservation significant fauna species have been identified within or adjacent to the disturbance footprint (Hamelin Skink and Malleefowl).	Within the premises
Zuytdorp Nature Reserve	Immediately south of the premises boundary
Gasgoyne Groundwater Area	Premises is situated in this area.

### 3.2 Decision

The works approval for the premises that was granted on 21 June 2021, previously assessed the risk of operating all infrastructure in accordance with the *Guideline: Risk Assessments* (DWER 2020) for a period of 180 days.

This application and assessment relates to an extension of time limited operations for a period of 120 days or less for the following items of infrastructure:

- Item 1 – Wet concentrator plant (WCP)
- Item 7 – Reverse Osmosis (RO) plant
- Item 8 – Gas generator units
- Item 9 – LNG storage tanks

As the works approval holder has implemented the mitigation measures and controls required in the initial works approval (as detailed in Section 3.1), the source-pathway and receptor linkages and emissions remain the same.

The Delegated Officer finds that the requested extension of time limited operations for these items of infrastructure results in no changes to the discharges and emissions as assessed in the original works approval, and therefore the original risk ratings remain valid. The existing

controls contained within the works approval remain sufficient to manage the operation of the items of infrastructure specified, for a period up to an additional 120 days.

The Revised Works Approval W6475/2020/1 that accompanies this Amendment Report authorises construction and time-limited operations. The conditions in the Revised Works Approval have been determined in accordance with *Guidance Statement: Setting Conditions* (DER 2015).

A licence is required following the time-limited operational phase authorised under the works approval to authorise emissions associated with the ongoing operation of the Premises i.e. mineral sands processing activities. A risk assessment for the operational phase has been included in this amendment report, however licence conditions will not be finalised until the department assesses the licence application.

## 4. Consultation

On 26 May 2023 the Works Approval Holder waived the comment period.

## 5. Conclusion

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

### 5.1 Summary of amendments

Table 3 provides a summary of the proposed amendments and will act as record of implemented changes. All proposed changes have been incorporated into the Revised Works Approval as part of the amendment process.

**Table 3: Summary of works approval amendments**

Condition no.	Proposed amendments
Condition 1, Table 1.	Removal of Item 3 (stripping and stockpiling of overburden) as the note correctly indicates that this is outside the scope of the works approval.  Correction of Australian Standard number for Item 9 (LNG storage tanks), and removal of stack requirements as it is a closed system.
Condition 11.	Reworded to reflect that some items of infrastructure have been granted a fixed date time limited operation period.
Table 5 added .	Extension of time limited operations for specified infrastructure indicating an end date or time period, as applicable.
Table 6 – 9.	Renumbered to accommodate the addition of table 5.
Table 7.	Removal of off-path TSF as an authorised discharge point for tailings during time limited operations.



## 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)			
<b>Application type</b>			
Amendment to works approval	<input checked="" type="checkbox"/>	Current works approval number:	W6475/2020/1
Date application received		17 February 2023	
<b>Applicant and Premises details</b>			
Applicant name/s (full legal name/s)		Coburn Resources Pty Ltd	
Premises name		Coburn Mineral Sands Project	
Premises location		M 09/102, M 09/103, M 09/104, M 09/105, M 09/106, M 09/111 and M 09/112	
Local Government Authority		Shire of Shark Bay	
<b>Application documents</b>			
HPCM file reference number:		DER2020/000541	
Key application documents (additional to application form):		WAA Supporting Document A 221220 Compliance reports relating to condition 1 of the works approval Commissioning reports relating to condition 9 of the works approval	
<b>Scope of application/assessment</b>			
Summary of proposed activities or changes to existing operations.		<b>Works approval amendment</b> The applicant is requesting an extension to time-limited operations for specified items of infrastructure up to 120 days.	
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	
Category 8: mineral sands mining or processing: premises on which mineral sands ore is mined, screened, separated or otherwise processed.		Design Capacity: 23.4mtpa.	
Category 52: Electric power generation: premises (other than premises within category 53 or an emergency standby power generating plant) on which electrical power is generated using a fuel.		20MW	
Category 85B: Water desalination plant: premises at which salt is extracted from water if waste water is discharged onto land or into waters (other than marine waters).		0.62 GL 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 checked="" type="checkbox"/> No <input type="checkbox"/>	Referral decision No: 1491 Managed under Part V <input type="checkbox"/> Assessed under Part IV <input checked="" 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 723 EPA Report No: 1211
Has the proposal been referred and/or assessed under the EPBC Act?	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Reference No: EPBC 2003/1221
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? Not required
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 Clearing is regulated under the Ministerial Statement
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 Not a CAWS Act area
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"/>	Application reference No: Licence/permit No: GWL159157(5)
Does the proposal involve a discharge of waste into a designated area (as defined in section 57 of the EP Act)?	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Name: Gascoyne Groundwater Area Type: Proclaimed Groundwater Area Has Regulatory Services (Water) been consulted? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A <input type="checkbox"/> Regional office: Mid-West Gascoyne

<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 <a href="#">WQPN 25</a>)?  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, Environmental Protection (Controlled Waste) Regulations 2004, State Agreement Act xxxx</i>)</p>	<p>Yes <input checked="" type="checkbox"/> No <input type="checkbox"/></p>	<p><i>Environment Protection and Biodiversity Conservation Act 1999  Dangerous Goods Safety Act 2004  Radiation Safety Act 1975  Mining Act 1978</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 type="checkbox"/> No <input checked="" type="checkbox"/></p>	<p>Classification: N/A  Date of classification: N/A</p>