

Site	Russell Vale Colliery	DOC ID	
Type	Management Plan	Date Published	08/03/2021
Doc Title	Russell Vale Colliery - CEMP		

RUSSELL VALE COLLIERY UNDERGROUND EXPANSION PROJECT

CONSTRUCTION ENVIRONMENTAL MANAGEMENT PLAN

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Revision history

	NAME	TITLE
Approved by		
Document Owner	Richard Sheehan	
Effective Date		

Revisions

VERSION	DATE REVIEWED	REVIEW TEAM (CONSULTATION)	NATURE OF THE AMENDMENT
D1	20/01/2021	EMM Consulting Pty Limited	Draft CEMP
D2	10/02/21	WCL	Revised Draft CEMP incorporating agency feedback
D3	16/02/21	WCL	Final draft CEMP incorporating EPA feedback
D4	03/03/21	WCL	Final draft CEMP incorporating DPIE feedback
D5	08/03/221	WCL	Final CEMP incorporating additional DPIE comments

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1. INTRODUCTION

This Construction Environmental Management Plan (CEMP) has been prepared by Wollongong Coal Pty Limited (Wollongong Coal) for the underground expansion of the Russell Vale Colliery (the Colliery) in accordance with condition D5 of development consent MP09_0013.

1.1 Background

The Colliery is an underground coal mine located at Russell Vale, approximately 8 kilometres (km) north of Wollongong and 70 km south of Sydney, within the Wollongong and Wollondilly local government areas (LGAs), as shown in Figure 1.1. The Colliery is owned and operated by Wollongong Coal. Wollongong Coal is majority owned by Jindal Steel and Power Limited (JSPL).

The Colliery has operated under a Preliminary Works Project (PWP) development consent (project approval 10_0046) granted by the Planning Assessment Commission (PAC) on 13 October 2011, and subsequently modified three times. However, the Colliery has been in 'care and maintenance' since 2015. In February 2013, Wollongong Coal lodged a separate development application (MP09_0013) for its Underground Expansion Project (UEP) to facilitate further mining operations at the Colliery (ERM 2013). This development application was subsequently amended, as Wollongong Coal proposed a substantial revision to the UEP (Umwelt 2019).

The original environmental assessment (EA) prepared for the project, NRE No. 1 Colliery Project Application (09_0013) Environmental Assessment (the Original EA) (ERM 2013), was preceded by the latest environmental assessment report Russell Vale Revised Underground Expansion Project: Revised preferred project report and response to second PAC review (the Revised Project Report) (Umwelt 2019a).

The Revised Project Report was on public exhibition from 1 August 2019 to 29 August 2019. During public exhibition, submissions were received from government agencies, community and interest groups in response to the project. In response to the submissions received during the exhibition period, Wollongong Coal commissioned Umwelt to prepare the Russell Vale Colliery Revised Underground Expansion Project Submissions Report, which was published in two parts - Submission Report Part A (Umwelt 2019b) and Submission Report Part B (Umwelt 2019c) and is collectively referred to as the Submission Report from here on.

After a formal review process by the Planning Assessment Commission (PAC), the Independent Planning Commission of NSW (IPC) granted a development consent (MP09_0013) on 8 December 2020 for the Revised UEP. The Revised UEP, which is also referred to as the Revised Preferred Project in assessment reports, is referred to as 'the project' from here on.

The project involves a revised mine plan that has been designed to have negligible risk of pillar failure to address potential subsidence-related mining impacts on groundwater, surface water and biodiversity within the Cataract Reservoir catchment. The project also involves changes to the Russell Vale Pit Top (the Pit Top), which includes key project components (i.e. surface infrastructure) requiring construction. Key project components and construction activities are outlined in Chapter 2 of this CEMP.

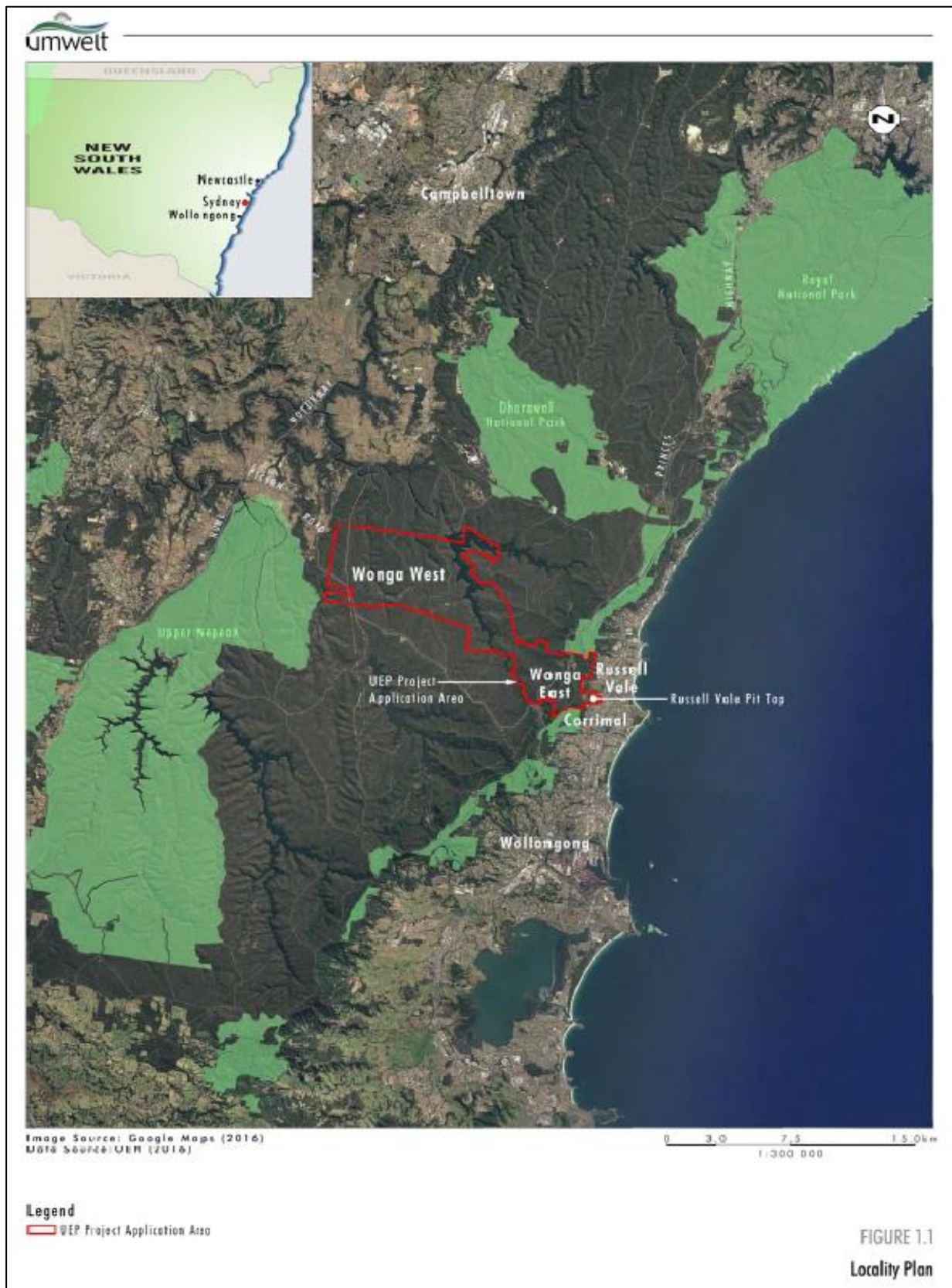


Figure 1.1 Locality plan

1.2 Environmental management system overview

Wollongong Coal has a formalised environmental management system (EMS), which is implemented, managed and updated, as required.

The strategic framework for environmental management at the Colliery is outlined in the EMS for the site, which has been updated as part of the project (Wollongong Coal 2021). This CEMP and Out of Hours Work (OOHW) Protocol forms part of Wollongong Coal's EMS (as shown in Figure 1.2), as do a number of other key operational environmental management plans (EMPs) and monitoring programs. Relevant sections of these EMPs and monitoring programs will also be adhered to during the construction phase of the project.

1.3 Purpose of this CEMP

1.3.1 Overview

The purpose of this CEMP is to provide a structured approach and best practice measures for the management of potential environmental issues that could arise during the construction of the project.

In accordance with conditions D5 and F5(c) of development consent MP09_0013, this CEMP has been prepared to address any relevant commitments or recommendations identified in the documents listed in condition A2 of the development consent MP09_0013, including:

- the conditions of consent;
- all written directions of the Planning Secretary; and
- the Revised Project Report and the project layout (refer Figure 2.1).

The development consent defines construction as:

The construction works for the development as described in the RPPR. Construction work does not include surveys, acquisitions, fencing, investigative drilling or excavation, minor clearing, minor access roads, minor adjustments to services/utilities, works which allow isolation of the site so that access for construction can be provided (including service relocations) and establishing temporary facilities for construction (including for example a site office and amenities compounds, temporary water and communications, construction compounds, materials storage compounds, maintenance workshops, testing laboratory or material stockpile areas).

This CEMP is a part of a larger suite of operational environmental management documents for the project, which are described in greater detail in Section 8.1. The overarching document in the environmental management system is Wollongong Coal's Russell Vale Colliery Environmental Management Strategy, which provides the overall strategic context for the implementation and maintenance of environmental management of the project.

The EMS has been updated with the latest conditions of consent issued in the development consent MP09_0013 (Wollongong Coal 2021).

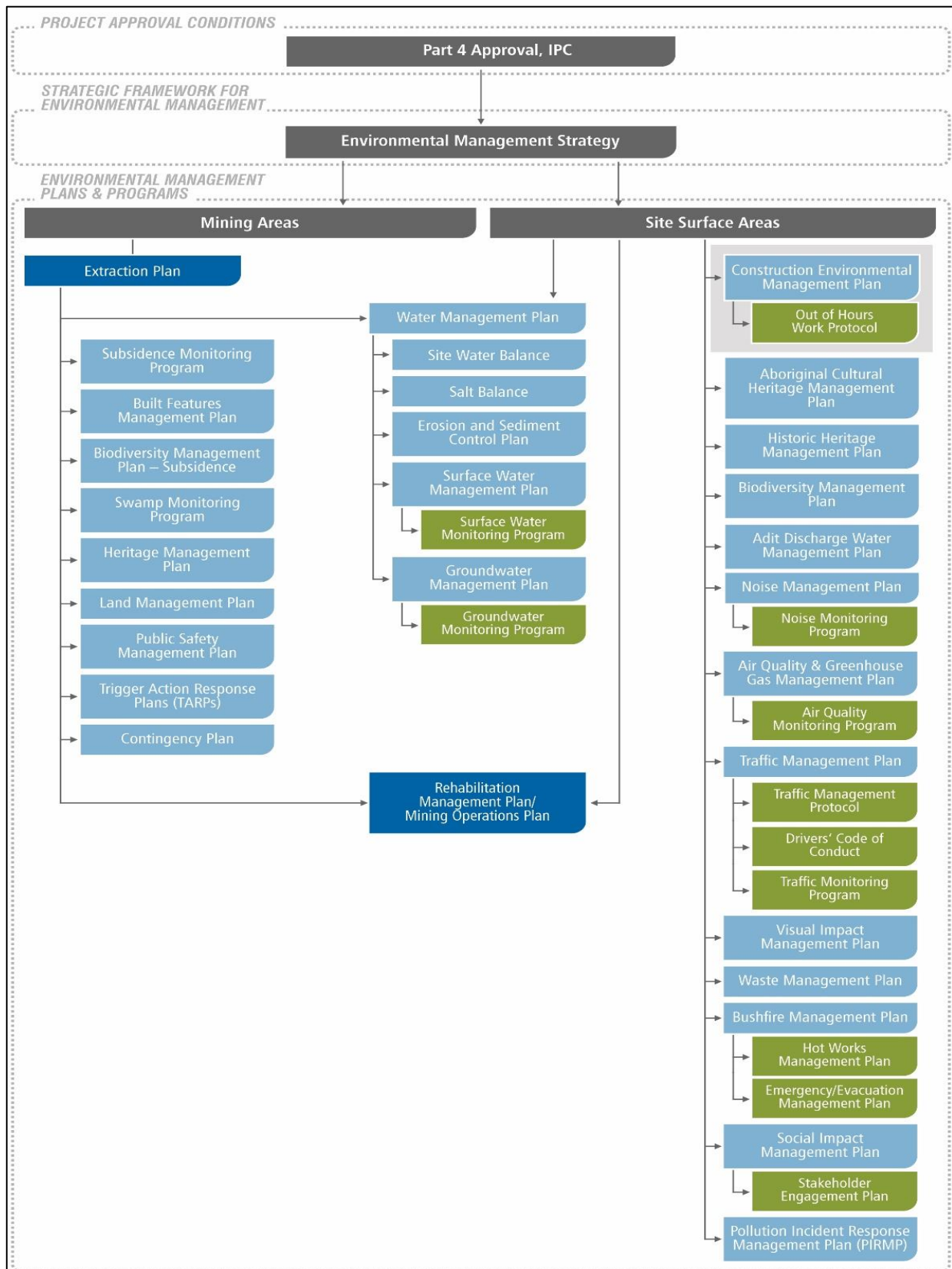


Figure 1.2 EMS framework, including CEMP and OOHW Protocol (outlined in grey)

1.3.2 Document structure

This CEMP is divided into chapters to address specific requirements and objectives as detailed in Table 1.1.

Table 1.1 – CEMP Document Structure

Chapter	Content
Chapter 1 – Introduction	Provides the background, purpose and structure of this CEMP, outlines the conditions of consent, document scope, as well as consultation requirements and outcomes.
Chapter 2 – Project description	Provides a description of the project including construction activities to be undertaken.
Chapter 3 - Planning	Outlines compliance with legislative framework, and approvals, permits and licences required for the construction of the project.
Chapter 4 – Environmental risk management	Provides the outcomes of the risk assessment undertaken as part of the preparation of this CEMP.
Chapter 5 – Background conditions and criteria	Provides specific background conditions and criteria for key environmental aspects requiring management during the construction stage of the project (i.e. noise, air quality, traffic, visual, soil and water, heritage, social and economic and waste).
Chapter 6 – Mitigation and management strategies, triggers and responses	Provides specific mitigation and management strategies for key environmental aspects requiring management during the construction stage of the project (i.e. noise, air quality, traffic, visual, soil and water, heritage, social and economic and waste). Also provides references to TARPs for the environmental aspects identified.
Chapter 7 – Monitoring	Refers to inspections and environmental monitoring.
Chapter 8 – Reporting	Monitoring, incident and non-compliance reporting.
Chapter 9 – Communication	Refers to internal/external communications, protocols, incident and emergency response.
Chapter 10 – Roles, responsibility and accountability	For Wollongong Coal personnel, contractors and all other employees and sub-contractors.
Chapter 11 – Competency, training and awareness	Includes information to be covered during inductions, toolbox talks and pre-start meetings.
Chapter 12 – Audit and review	Includes information on audit and review processes.
Chapter 13 – Records and document control	Includes information on records and document control.
Chapter 14 – References	Outlines document references used in the CEMP.
Chapter 15 – Glossary of abbreviations and terms	Provides a glossary of abbreviations and terms used in the CEMP.

1.4 Document scope

The scope of this CEMP is to describe how Wollongong Coal propose to manage potential environmental issues that could arise during construction for the project. Environmental issues associated with first workings will be addressed in the Mine Operations Plan (MOP).

Key environmental issues identified in the CEMP and considered in Chapter 5 and Chapter 6 include noise, air quality, traffic, visual and water. The management of these potential environmental issues is considered in relation to construction of the noise barriers, fixed plant and surface infrastructure at the Russell Vale Pit Top (the Pit Top) for the project (refer Figure 2.1), comprising:

- New noise barrier along the site access road and extension/rising of existing bunds around the Pit Top;
- New conveyor system for transferring coal from the underground reclaim bin to the processing plant;
- New Secondary sizer;
- New Surge bin;
- New enclosed Coal Processing Plant and clean coal belt;
- New truck loading bin;
- Establishment of product stockpile area; and
- New rejects conveyor and establishment of temporary reject stockpile area.

Further details about construction activities and staging and provided in Chapter 2.

1.5 Consultation

1.5.1 Consultation during the environmental assessment process

Extensive community and government consultation has been carried out prior to and during the preparation of the original EA, the Revised Project Report, the Submissions Report and other project-related assessment documentation. The primary objective of consultation was to keep the community, government agencies and other stakeholders informed and involved during project development process.

Community engagement was carried out in two phases and is summarised in Section 4.1.2 and Section 4.1.3 of the Revised Project Report.

A complete summary of previous and ongoing government agency and stakeholder consultation is provided in Table 4.5 of the Revised Project Report. Consulted parties included the following State and local government agencies, and roads and utilities authorities:

- Department of Planning, Industry and Environment (DPIE);
- Department of Resources and Geosciences (DRG);
- Department of Environment and Energy (DoEE);
- NSW Environment Protection Authority (EPA);
- Wollongong City Council (WCC);
- WaterNSW;
- The former Office of Environment and Heritage (OEH) now DPIE Biodiversity Conservation Department BCD;
- Roads and Maritime Services (RMS);

- TransGrid;
- Endeavour Energy; and
- the Independent Expert Panel for Mining in the Catchment.

1.5.2 Consultation for the preparation of the CEMP

In accordance with condition D5 of development consent, this CEMP has been prepared in consultation with the EPA, WCC and the relevant roads and utilities authorities. Consultation undertaken as part of the preparation of this CEMP is included in Table 1.2. Evidence of consultation is provided in Appendix A.

Table 1.2 – Consultation undertaken as part of the preparation of this CEMP

Agency	Issue	Where addressed
DPIE	Various comments on CEMP received from DPIE on 25 February 2021.	See Appendix A for details
EPA	Minor comment regarding incorrect approval condition reference, clarity regarding Bund 1 works and the noise wall and comment on method of communication (WCL website) regarding community notification of noise wall works. Specific comments on draft CEMP: Page 6, (condition) D5; Page 8, (condition) D5; Page 16, Does this mean construction of the noise wall on the existing bund no. 1 in Figure 1 above. If it means construction of bund 1 why does figure 1 show the bund as already existing? Suggest clarification; Page 17, Is this the noise wall on bund 1? Is this referring to the noise wall on bund 4 in Figure 1? Page 18, typo; and Page 42, Wollongong Coal website?	Chapter 1 Introduction Section 1.3 Purpose of this CEMP Section 2.3.1 and 2.3.2 Noise bunds and noise walls Table 6.1 noise mitigation
WCC	Requested clarification on what was meant by the term phase-in, as it is used in this document.	Term 'phase-in' removed from CEMP

TfNSW/RMS	<p>Prior to any works any mining operations, or other works which have the potential to cause mine subsidence or compromise TfNSW infrastructure, Wollongong Coal Limited (WCL) must review, update and implement a Subsidence Management Plan to the satisfaction of TfNSW.</p> <p>Notes:</p> <ul style="list-style-type: none"> – The Subsidence Management Plan must be prepared in consultation with, and to the satisfaction of, TfNSW appointed consultant. All costs associated with TfNSW involvement are to be borne by the proponent. – The plan must comply with the TfNSW Mine Subsidence Risk Assessment Guidelines. – The plan must identify any mining operations within a distance of 5 times the seam depth to a TfNSW asset for, TfNSW risk assessment and acceptance of subsidence impacts and far-field effects. <p>Wollongong Coal Limited (WCL) must clearly demonstrate that implementation of its Subsidence Management Plan will assure that mining impacts on TfNSW infrastructure, functionality, and road user safety will be proactively managed and effectively reduced to levels acceptable to TfNSW.</p>	<p>This response was determined to be a whole of project response. Specifically, the Built Features Management Plan component of the Extraction Plan will address this feedback.</p>
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1.6 CEMP preparation and approval

This document has been prepared by EMM Consulting Pty Limited (EMM) in conjunction with Wollongong Coal.

This CEMP will be submitted for approval to DPIE's Planning Secretary (the Planning Secretary), or nominee, under the NSW Environmental Planning and Assessment Act 1979 (EP&A Act); and in compliance with condition D7 of development consent MP09_0013.

In accordance with condition D6 of the development consent, the CEMP will be implemented as approved by the Planning Secretary.

Construction of the project will not commence prior to approval of the CEMP by the Planning Secretary. Wollongong Coal will notify DPIE in writing at least two weeks prior to:

- commencing the development under this consent; and
- commencing construction under this consent.

2. PROJECT DESCRIPTION

2.1 Overview

This chapter provides a summary of key project components, outlines the key construction activities as well as their timing (staging approach).

2.2 Project summary

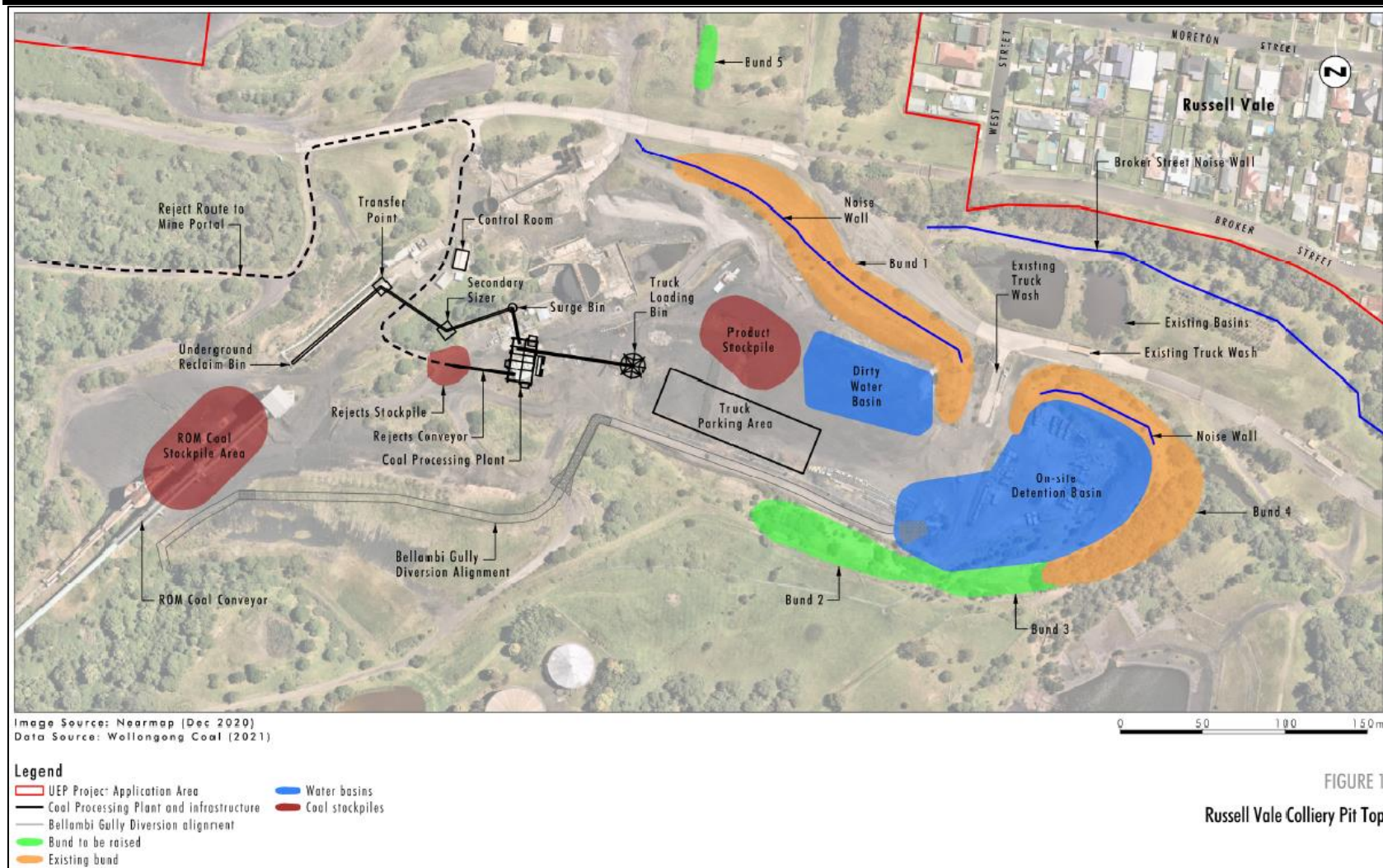
As noted in Section 1.1, the original project application submitted by Gujarat NRE Coking Coal Ltd in 2009 involved a substantial revision in subsequent assessment documentation. Previous assessments of the project are summarised in Section 1.2 of the Revised Project Report. All key reports are provided on the DPIE major project's website and, in addition to the reports already outlined in Section 1.1, also include:

- PAC's Russell Vale Colliery – Underground Expansion Project: Review Report (PAC's First Review Report) (PAC 2015); and
- PAC's Russell Vale Colliery – Underground Expansion Project: Second Review Report (PAC's Second Review Report) (PAC 2016).

To address residual uncertainty regarding the impacts of longwall mining raised by PAC's Second Review Report, a revised mine design was developed by Wollongong Coal based on a non-caving first workings mining system. The revised mine plan has been designed to be minimise pillar failure and address potential subsidence-related mining impacts on groundwater, surface water and biodiversity within the Cataract Reservoir catchment.

Changes to the Pit Top layout and infrastructure are also proposed to address concerns regarding potential amenity impacts to surrounding residential areas. Current and proposed surface infrastructure are presented in Figure 2.1.

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Source: Umwelt 2021

Figure 2.1 Existing and proposed plant and infrastructure

Table 2.1 provides an overview of key project components.

Table 2.1 – Key project components

Project component	Project (as revised, 2019)
Project life	5 years
Project Application Area (PAA)	As per the historical Colliery Holdings/lease boundary, including Consolidated Coal Lease (CCL) 745, Mining Purpose Lease (MPL) 271 and Mining Lease (ML) 1575
Mine design and method	No-caving first workings within the Wonga East area. No longwall mining proposed. Longwall equipment will be recovered from underground and sold.
Target seam	Wongawilli seam
Total reserves recovered	Approximately 3.7 Mt of ROM coal
Extraction rate	Up to 1.2 Mtpa ROM coal
Production rate	Up to 1 Mtpa of product coal
Hours of operation	Underground operations and delivery of ROM coal to the surface: 24 hours, 7 days a week Surface facilities and product transport: <ul style="list-style-type: none"> 7:00am – 6:00pm, Monday to Friday; 8:00am – 6:00pm, Saturday; no Sundays or Public Holidays. Provision for occasional operation until 10:00pm Monday to Friday to cater for unexpected Port closures or interruptions. Operation until 10:00pm Monday to Friday has been considered in this assessment.
Pit Top facilities	Refer to Section 2.3 (Construction activities)
Management of mining waste	Coarse rejects from the processing plant will be trucked off site as fill if it meets requirements for Virgin Excavated Natural Material (VENM), stockpiled for emplacement underground or used in the rehabilitation of the site.
Coal transport	Transport by road to the Port Kembla Coal Terminal (PKCT) for export.
Transport hours and rates	<ul style="list-style-type: none"> An average rate of 16 laden outbound trucks per hour leaving the site between 7:00am – 6:00pm Monday to Friday and 8:00am – 6:00pm Saturday. No coal transport Sundays or Public Holidays. If coal transport is required during the evening to cater for unexpected Port closures or interruptions, these movements would be limited to an average of 12 trucks per hour leaving the site between 6:00pm – 10:00pm Mondays to Fridays only. Trucks arriving at the site between 6:00am – 7:00am Monday to Friday or between 7:00am – 8:00am Saturday will be required to proceed to the truck parking area on site and turn

	off engine until loading commences at 7:00am Monday to Friday or 8:00am Saturday.
Employment	<ul style="list-style-type: none"> Operational workforce of approximately 205 employees and contractors. Short-term construction workforce of approximately 22 employees over a 12 - 24-month period.
Ongoing activities within mining tenements	<ul style="list-style-type: none"> Exploration activities, environmental monitoring and maintenance of access to the existing underground workings and surface infrastructure within exploration and mining tenements in the Wonga West domain. Ongoing maintenance and refurbishment of ventilation shafts, water and electrical facilities.
Rehabilitation	Progressive rehabilitation over project life, with rehabilitation of all surface facilities following the completion of mining.
Capital investment value (CIV)	\$35.3 million

2.3 Construction activities

2.3.1 Noise bunds

To improve noise emissions from site operations, bunds surrounding the Pit Top will be raised and/or extended using material won onsite or imported clean fill material. Bunds will be modified as follows:

- sections of Bund 1 and Bund 4 will require reshaping to allow for the construction of noise walls on top of the existing bunds (see Section 2.3.2 for more detail);
- Bund 2 will be raised to reach Reduced Level (RL) of 56 m throughout its length and form an extension to Bund 4;
- Bund 3 will be raised to reach an RL of 47 m throughout its length and form an extension to Bund 4 and Bund 2; and
- Bund 5 will be extended to the south to the access road and to the north such that the total length is 67 m. It will be raised to reach an RL of 58 m throughout its length.

The extension and reshaping of the main bund to the north of the Pit Top (Bund 1) will be prioritised. It is anticipated that the extension of Bund 1 will be completed in a 6-8 week timeframe. The remaining bunds will be completed prior to operations commencing. Bund construction will be undertaken using a dump truck, front end loader, compactor roller and occasional use of a grader.

2.3.2 Noise walls

In addition to the above noise bunds, the following noise walls to the north of the Pit Top will be constructed:

- Construction of a 5 m high noise wall (Broker Street noise wall) using CSR Hebel Sounds Barrier panels along the northern boundary of the site starting from the Princes Highway entrance to the old Broker Street site gates;
- The wall near the upper stockpile area (Bund 1 noise wall) would be built using Wallmark Australia P/L Acoustic Noise Walls. The Bund 1 noise wall will span a total length of approximately 240 m. The top of the western section (approximately 80 m long) is to reach an RL of 58.7 m at the western end and decrease to RL of 55.2 m at the eastern end. The middle section (approximately 140 m long) is to reach an RL of 52.8 m across the entire length. The eastern section (approximately 20 m long) is to reach an RL of 45.2 m across the entire length; and
- The wall at the lower stockpile area (Bund 4 noise wall) would be built using Wallmark Australia P/L Acoustic Noise Walls. The Bund 4 noise wall will span a total length of approximately 80 m with the top of the wall to reach an RL of 45.2 m.

2.3.3 Coal processing plant and associated infrastructure

Construction of the new Coal Processing Plant and associated infrastructure, if proceeding, will be staged over an anticipated 24 month construction period, subject to delays such as weather and logistical issues.

The fixed plant and infrastructure that will be constructed as part of the project include:

- Conveyor system for transferring coal from the underground reclaim bin to the processing plant;
- Secondary sizer;
- Surge bin;
- Enclosed coal processing plant and clean coal belt;
- truck loading bin;
- Establish product stockpile area; and
- Reject conveyor and establish temporary reject stockpile area.

2.4 Construction activities and staging

The key construction activities are broken down into different components, based on different stages of construction.

Construction of the project is planned to start in the first quarter of 2021, with a completion date yet to be determined. The total period of construction works is expected to be around 12 – 24 months. An indicative program is provided in Table 2.2, which outlines the order of priority of construction activities.

Table 2.2 – Overview of construction activities and stages

Component and indicative timeframe	Typical activities
Stage 1: Site establishment and enabling works 6 to 8 weeks	<ul style="list-style-type: none"> • Installation of safety and environmental controls; • Installation of internal site fencing and hoarding; • Implementation of temporary and/or new on-site traffic management measures, including pedestrian access; • Internal utility works as required; • Install site compound and amenities; • Offsite construction of panels for the noise wall • Extension and reshaping of Bund 1.
Stage 2: Surface earthworks, main works 8 weeks to 24 months	<ul style="list-style-type: none"> • Bund construction (2, 3 and 5) and construction of noise walls. • Construction of main fixed plant and surface infrastructure, including enclosed coal processing plant, secondary sizing plant, surge bin, enclosed conveyors and truck loading facility.
Stage 3: Operational phase 24 months+	<ul style="list-style-type: none"> • Test and commission fixed plant and infrastructure.

2.5 Construction hours

As per condition D1 of the development consent (MP09_0013) for the project, construction activities at the surface facilities at the site (i.e. the Pit Top) will be undertaken during the following daytime hours:

- 7:00 am – 6:00pm, Monday to Friday; and
- 8:00am – 1:00pm, Saturday.

No construction activities are proposed on Sundays or public holidays.

However, should construction outside of the above hours be required (e.g. emergency works), an Out of Hours Work (OOHW) Protocol has been developed in accordance with condition D3 and to the satisfaction of the Planning Secretary (see Appendix B).

The OOHW Protocol:

- addresses the relevant requirements of the Interim Construction Noise Guideline (ICNG) (DECC 2009);
- has been prepared to ensure consultation with the EPA and any residents who may be affected by the noise generated by these works, as required; and
- will be approved by the Planning Secretary before any out of hours construction works are carried out.

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2.6 Construction workforce

It is anticipated that the project will require a construction workforce of approximately 22 full-time equivalent (FTE) staff for the duration of the construction period (12-24 months).

3. PLANNING

3.1 Overview

A number of approvals, licences and consents apply to the Colliery, with associated conditions and requirements. The following sections summarise those that are relevant in relation to the CEMP.

Wollongong Coal will conduct all approved construction activities consistent with development consent MP09_0013 and any other legislation that is applicable. A list of legislation applicable (including but not limited to) for construction of the project are listed below:

- Work Health and Safety (Mines and Petroleum Sites) Act 2013;
- Environmental Planning and Assessment Act 1979;
- Contaminated Land Management Act 1997;
- Occupational Health and Safety Amendment (Dangerous Goods) Act 2003;
- Roads Act 1993;
- Protection of the Environment Operations Act 1997;
- Biodiversity Conservation Act 2016;
- Crown Lands Act 1989;
- Energy and Utilities Administration Act 1987;
- Water NSW Act 2014;
- Water Act 1912;
- Water Management Act 2000; and
- Local Land Services Amendment Act 2016.

3.2 Regulatory requirements

A summary of the legal requirements applicable to the Colliery will be in the Compliance Register, which will be updated and will consider relevant legislation, conditions of consent and licence requirements. The Compliance Register will include both Federal and State legislation, as well as State Environmental Planning Policies (SEPPs) and any Codes of Practice to which the Wollongong Colliery is required to comply.

A copy of the Compliance Register is maintained on the Wollongong Coal Server.

3.3 Conditions of consent

The key conditions of consent relevant to this CEMP are listed in Table 3.1. A cross reference is also provided to indicate where the condition is addressed in this CEMP or other documents.

Table 3.1 –CEMP conditions of consent requirements

Conditions of consent	Plan section
<p>OBLIGATION TO MINIMISE HARM TO THE ENVIRONMENT</p> <p><i>Condition A1/ Schedule 2, Part A</i></p> <p>In addition to meeting the specific performance measures and criteria established under this consent, the Applicant must implement all reasonable and feasible measures to prevent, and if prevention is not reasonable and feasible, minimise, any material harm to the</p>	<p>Section 1.3 Purpose of this CEMP</p> <p>Chapter 6 Mitigation and management strategies</p>

environment that may result from the construction and operation of the development, and any rehabilitation required under this consent.	
TERMS OF CONSENT <i>Condition A2/ Schedule 2, Part A</i> The development may only be carried out: (a) in compliance with the conditions of this consent; (b) in accordance with all written directions of the Planning Secretary; and (c) generally in accordance with the RPPR and the Development Layout.	Section 1.3 Purpose of this CEMP (Chapter 1 Introduction) Chapter 6 Mitigation and management strategies
NOTIFICATION OF COMMENCEMENT <i>Condition A5/Schedule 2, Part A</i> The Applicant must notify the Department in writing at least two weeks prior to: (a) commencing the development under this consent; (b) commencing construction under this consent; <i>Note: (c)– (e) not relevant to this CEMP.</i>	Section 1.6 CEMP preparation and approval (Chapter 1 Introduction)
EVIDENCE OF CONSULTATION <i>Condition A20/Schedule 2, Part A</i> Where conditions of this consent require consultation with an identified party, the Applicant must: (a) consult with the relevant party prior to submitting the subject document; and (b) provide details of the consultation undertaken including: (i) the outcome of that consultation, matters resolved and unresolved; and (ii) details of any disagreement remaining between the party consulted and the Applicant and how the Applicant has addressed the matters not resolved.	Section 1.5 Consultation (Chapter 1 Introduction)
DEMOLITION <i>Condition A25/Schedule 2, Part A</i> All demolition must be carried out in accordance with Australian Standard AS 2604-2001 The Demolition of Structures (Standards Australia, 2001).	Section 2.3 Construction activities (Chapter 2 Project description)

<p>STRUCTURAL ADEQUACY</p> <p><i>Condition A26/Schedule 2, Part A</i></p> <p>All new buildings and structures, and any alterations or additions to existing buildings and structures, that are part of the development must be constructed in accordance with:</p> <p>(a) the relevant requirements of the BCA; and</p> <p>(b) any additional requirements of SA NSW where the building or structure is located on land with a declared Mine Subsidence District.</p>	<p>Section 2.3 Construction activities (Chapter 2 Project description)</p>
<p>NOISE OPERATING CONDITIONS</p> <p><i>Condition B2/Schedule 2, Part B</i></p> <p>The Applicant must:</p> <p>(a) take all reasonable steps to minimise the construction, operational and road noise of the development, including low frequency noise and other audible characteristics;</p> <p>(b) implement reasonable and feasible noise attenuation measures on all plant and equipment that operation in noise sensitive areas, and monitor and report on these measures;</p> <p>(c) monitor and record all major equipment use and make this data readily available at the request of the Department or the EPA;</p> <p>(f) carry out attended noise monitoring (quarterly or otherwise agreed with the Secretary) to determine whether the development is complying with the relevant conditions of consent.</p>	<p>Section 5.1.1 Noise (Chapter 5 Background conditions and criteria)</p> <p>Chapter 6 Mitigation and management strategies</p>
<p>NOISE MITIGATION</p> <p><i>Condition B3/Schedule 2, Part B</i></p> <p>The Applicant must:</p> <p>(a) implement noise mitigation bunds, walls and barriers identified in Appendix 2 prior to the commencement of mining operations;</p> <p>(b) consider the use of noise absorptive material as far as practical in the construction of the noise walls and barriers in conditions B3(a); and</p> <p>(c) ensure the design of the noise walls and barriers in conditions B3(a) are endorsed by a suitably qualified and experienced noise expert.</p>	<p>Section 2.3.1 Noise barrier and bunds (Chapter 2 Project description)</p> <p>Section 2.3.2 Noise walls (Chapter 2 Project description)</p> <p>Chapter 6 Mitigation and management strategies</p>

<p>METEOROLOGICAL MONITORING</p> <p><i>Condition B11/Schedule 2, Part B</i></p> <p>Prior to commencing construction under this consent and for the remaining life of the development, the Applicant must ensure that there is a suitable meteorological station operating in the vicinity of the site that:</p> <ul style="list-style-type: none"> (a) complies with the requirements in the Approved Methods for Sampling and Analysis of Air Pollutants in New South Wales (DEC, 2007); (b) is capable of continuous real-time measurement of wind speed, wind direction sigma theta and temperature; and (c) is capable of measuring meteorological conditions in accordance with the NPfl; <p>unless a suitable alternative is approved by the Planning Secretary following consultation with the EPA.</p>	<p>Section 7.3 Meteorological monitoring (Chapter 7 Monitoring)</p>
<p>Traffic Management Plan</p> <p><i>Condition B30/ Schedule 2, Part B</i></p> <p>The Applicant must prepare a Traffic Management Plan for the development to the satisfaction of the Planning Secretary. This plan must:</p> <ul style="list-style-type: none"> (f) include a traffic management protocol for construction and operation of the development, which considers: <ul style="list-style-type: none"> (i) truck number, time and operating restrictions as required by conditions A11-A13; (ii) appropriate speed limits; (iii) truck separation distances; (iv) minimisation of compression braking and other noisy practices, including on the approach to Port Kembla Road/Springhill Road traffic lights when entering or exiting PKCT; (v) reporting traffic faults and traffic incidents; 	<p>Chapter 6 Mitigation and management strategies</p>
<p>CONSTRUCTION</p> <p>Construction Hours</p> <p><i>Condition D1/ Schedule 2, Part D</i></p> <p>Construction activities at the surface facilities site must only be undertaken between the hours of 7 am to 6 pm Monday to Friday, and 8 am to 1 pm Saturday, with no construction activities on Sundays or public holidays, unless the Planning Secretary agrees otherwise.</p>	<p>Section 2.5 Construction hours (Chapter 2 Project description)</p> <p>Chapter 6 Mitigation and management strategies</p>
<p>Construction Noise</p> <p><i>Condition D2/ Schedule 2, Part D</i></p> <p>The Applicant must ensure that the noise generated by construction complies with the requirements of the ICNG.</p>	<p>Section 5.2.1 Noise (Chapter 5 Background conditions and criteria)</p>

<p>Out of Hours Construction Works</p> <p><i>Condition D3/ Schedule 2, Part D</i></p> <p>If the Applicant proposes to undertake any construction works outside the hours specified in condition D1, then the Applicant must prepare an Out of Hours Work Protocol for these works, to the satisfaction of the Planning Secretary. This protocol must:</p> <ul style="list-style-type: none"> (a) be prepared in consultation with the EPA and any residents who may be affected by the noise generated by these works; (b) address the relevant requirements of the ICNG; and (c) be approved by the Planning Secretary before any out of hours construction works are carried out. 	<p>Section 1.5 Consultation (Chapter 1 Introduction)</p> <p>Section 2.5 Construction hours (Chapter 2 Project description)</p> <p>Section 5.2.1 Noise (Chapter 5 Background conditions and criteria)</p> <p>Chapter 6 Mitigation and management strategies</p> <p>Appendix B – Out of Hours Work Protocol</p>
<p><i>Condition D4/ Schedule 2, Part D</i></p> <p>The Applicant must implement the Out of Hours Work Protocol approved by the Planning Secretary.</p> <p><i>Note: For areas where construction noise is predicted to be at or below operational noise criteria at sensitive receptors, this is likely to provide sufficient justification to allow construction works to be undertaken outside of recommended standard hours as specified in the ICNG.</i></p>	<p>Section 5.2.1 Noise (Chapter 5 Background conditions and criteria)</p> <p>Chapter 6 Mitigation and management strategies</p> <p>Section 2.5 Working hours (Chapter 2 Project description)</p> <p>Appendix B – Out of Hours Work Protocol</p>
<p>Construction Management Plan</p> <p><i>Condition D5/ Schedule 2, Part D</i></p> <p>The Applicant must prepare a Construction Environmental Management Plan for construction works to the satisfaction of the Planning Secretary. This plan must:</p> <ul style="list-style-type: none"> (a) be prepared in consultation with the EPA, WCC and the relevant roads or utilities authorities; (b) provide the specific environmental management measures for construction works; and (c) describe the measures to be implemented to minimise construction-related traffic, noise, dust and visual impacts, including minimising surface disturbance. 	<p>Section 1.3 Purpose of this CEMP (Chapter 1 Introduction)</p> <p>Section 1.5 Consultation (Chapter 1 Introduction)</p> <p>Chapter 6 Mitigation and management strategies</p>
<p><i>Condition D6/ Schedule 2, Part D</i></p> <p>The Applicant must not commence construction until the Construction Environmental Management Plan is approved by the Planning Secretary.</p>	<p>Section 1.6 Preparation and approval (Chapter 1 Introduction)</p>
<p><i>Condition D7/ Schedule 2, Part D</i></p> <p>The Applicant must implement the Construction Environmental Management Plan as approved by the Planning Secretary.</p>	<p>Section 1.6 Preparation and approval (Chapter 1 Introduction)</p>
<p>INDEPENDENT REVIEW</p> <p><i>Condition E1/ Schedule 2, Part E</i></p>	<p>Section 9.5 Independent Review</p>

<p>As soon as practicable, and no longer than 7 days after obtaining monitoring results showing:</p> <p>(a) an exceedance of any relevant criteria in PART B of this consent, the Applicant must notify affected landowners in writing of the exceedance, and provide regular monitoring results to these landowners until the development is again complying with the relevant criteria; and</p> <p>(b) an exceedance of any relevant air quality criteria in PART B of this consent, the Applicant must also provide to any affected land owners and tenants a copy of the fact sheet entitled "Mine Dust and You" (NSW Health, 2017).</p>	
<p><i>Condition E2/ Schedule 2, Part E</i></p> <p>If an owner of privately-owned land considers the development to be exceeding the relevant criteria in PART B or PART C of this consent, then he/she may ask the Secretary in writing for an independent review of the impacts of the development on his/her land.</p>	Section 9.5 Independent Review
<p><i>Condition E3/ Schedule 2, Part E</i></p> <p>If the Planning Secretary is not satisfied that an independent review is warranted, the Planning Secretary will notify the landowner in writing of that decision, and the reasons for that decision, within 28 days of the request for a review.</p>	Section 9.5 Independent Review
<p><i>Condition E4/ Schedule 2, Part E</i></p> <p>If the Planning Secretary is satisfied that an independent review is warranted, within 3 months, or other timeframe agreed by the Planning Secretary and the landowner, of the Planning Secretary's decision, the Applicant must:</p> <p>(a) commission a suitably qualified, experienced and independent person, whose appointment has been approved by the Planning Secretary, to:</p> <p>(i) consult with the landowner to determine their concerns;</p> <p>(ii) conduct monitoring to determine whether the development is complying with the relevant criteria in Part B and Part C; and</p> <p>(iii) if the development is not complying with the relevant criterion, identify measures that could be implemented to ensure compliance with the relevant criterion; and</p> <p>(b) give the Planning Secretary and landowner a copy of the independent review.</p>	Section 9.5 Independent Review
<p><i>Condition E5/ Schedule 2, Part E</i></p> <p>The applicant must then comply with any written requests made by the Planning Secretary to implement any findings of the review and in accordance with any timeframes specified.</p>	Section 9.5 Independent Review
<p>Adaptive Management</p> <p><i>Condition F4/ Schedule 2, Part F</i></p>	Section 12.2

The Applicant must assess and manage development-related risks to ensure that there are no exceedances of the criteria and/or performance measures in this consent. Any exceedance of these criteria and/or performance measures constitutes a breach of this consent and may be subject to penalty or offence provisions under the EP&A Act or EP&A Regulation, notwithstanding offsetting actions taken.

Where any exceedance of these criteria and/or performance measures has occurred, the Applicant must, at the earliest opportunity:

- (a) take all reasonable and feasible steps to ensure that the exceedance ceases and does not re-occur;
- (b) consider all reasonable and feasible options for remediation (where relevant) and submit a report to the Department describing those options and any preferred remediation measures or other course of action;
- (c) within 14 days of the exceedance occurring, submit a report to the Secretary describing these remediation options and any preferred remediation measures or other course of action; and
- (d) implement remediation measures as directed by the Planning Secretary;

to the satisfaction of the Secretary.

Management Plan Requirements

Condition F5/ Schedule 2, Part F

Management plans required under this consent must be prepared in accordance with relevant guidelines, and include:

- (a) a summary of relevant background or baseline data;
- (b) details of:
 - (i) the relevant statutory requirements (including any relevant consent, licence or lease conditions);
 - (ii) any relevant limits or performance measures and criteria; and
 - (iii) the specific performance indicators that are proposed to be used to judge the performance of, or guide the implementation of, the development or any management measures;
- (c) any relevant commitments or recommendations identified in the document/s listed in condition A2;
- (d) a description of the measures to be implemented to comply with the relevant statutory requirements, limits, or performance measures and criteria;
- (e) a program to monitor and report on the:

Chapter 5 Background conditions and criteria

Chapter 3 Planning

Chapter 5 Background conditions and criteria

Section 1.3 Purpose of this CEMP (Chapter 1 Introduction)

Chapter 5 Background conditions and criteria

Chapter 6 Mitigation and management strategies

Chapter 7 Monitoring

<p>(i) impacts and environmental performance of the development; and</p> <p>(ii) effectiveness of the management measures set out pursuant to condition F5(c);</p> <p>(f) a contingency plan to manage any unpredicted impacts and their consequences and to ensure that ongoing impacts reduce to levels below relevant impact assessment criteria as quickly as possible;</p> <p>(g) a program to investigate and implement ways to improve the environmental performance of the development over time;</p> <p>(h) a protocol for managing and reporting any;</p> <p>(i) incident, non-compliance or exceedance of any impact assessment criterion or performance criterion;</p> <p>(ii) complaint; or</p> <p>(iii) failure to comply with other statutory requirements;</p> <p>(i) public sources of information and data to assist stakeholders in understanding environmental impacts of the development; and</p> <p>(j) a protocol for periodic review of the plan.</p> <p><i>Note: The Planning Secretary may waive some of these requirements if they are unnecessary or unwarranted for particular management plans.</i></p>	<p>Section 9.5 Emergency response (Chapter 9 Communication)</p> <p>Section 6.8 Triggers and responses (Chapter 6 Mitigation and management strategies)</p> <p>Chapter 7 Monitoring</p> <p>Chapter 8 Reporting</p> <p>Section 9.3 Communication with the community</p> <p>Chapter 12 Audit and review</p>
<p><i>Condition F6/ Schedule 2, Part F</i></p> <p>The Applicant must ensure that management plans prepared for the development are consistent with the conditions of this consent and any EPL issued for the site.</p>	<p>Chapter 5 Background conditions and criteria</p>
<p>Revision of Strategies, Plans and Programs</p> <p><i>Condition F7/ Schedule 2, Part F</i></p> <p>Within three months of:</p> <p>(a) the submission of an incident report under condition F9;</p> <p>(b) the submission of an Annual Review under condition F11;</p> <p>(c) the submission of an Independent Environmental Audit under condition F13; or</p> <p>(d) the approval of any modification of the conditions of this consent (unless the conditions require otherwise);</p> <p>the suitability of existing strategies, plans and programs required under this consent must be reviewed by the Applicant.</p>	<p>Section 12.1 Document Review</p>
<p><i>Condition F8/ Schedule 2, Part F</i></p>	<p>Section 12.1 Document Review</p>

<p>If necessary, to either improve the environmental performance of the development, cater for a modification or comply with a direction, the strategies, plans and programs required under this consent must be revised, to the satisfaction of the Planning Secretary. Where revisions are required, the revised document must be submitted to the Planning Secretary for approval within 6 weeks of the review.</p>	
<p>Incident Notification</p> <p><i>Condition F9/ Schedule 2, Part F</i></p> <p>The Applicant must immediately notify the Department and any other relevant agencies immediately after it becomes aware of an incident. The notification must identify the development (including the development application number and name) and set out the location and nature of the incident.</p>	<p>Section 8.3.1 Incident and non-compliance reporting</p> <p>Section 9.5 Independent review</p>
<p>Non-Compliance Notification</p> <p><i>Condition F9/ Schedule 2, Part F</i></p> <p>Within seven days of becoming aware of a non-compliance, the Applicant must notify the Department of the non-compliance. The notification must set out the condition of this consent that the development is non-compliant with, why it does not comply and the reasons for the non-compliance (if known) and what actions have been, or will be, undertaken to address the non-compliance.</p>	<p>Section 8.3.2 Non-compliance</p>
<p>Annual Review</p> <p><i>Condition F11/ Schedule 2, Part F</i></p> <p>By the end of March each year after the commencement of the development under this consent, or other timeframe agreed by the Planning Secretary, a report must be submitted to the Department reviewing the environmental performance of the development, to the satisfaction of the Planning Secretary.</p>	<p>Section 12.3 Annual Review</p>
<p><i>Condition F12/ Schedule 2, Part F</i></p> <p>Copies of the Annual Review must be submitted to WCC, WSC, and made available to the CCC and any interested person upon request.</p>	<p>Section 12.3 Annual Review</p>

3.4 Other approvals, permits and licences

All licences, permits and approvals that have and/or will be obtained and maintained as required prior to or throughout the construction of the project are outlined in Table 3.2. For a more comprehensive list of all licences previously obtained and required for the project refer to the site EMS.

Table 3.2 – Environmental approvals, permits and licences required for the construction of the project

Approval/ permit/ licence	Regulatory authority	Timing	Status of the approval/ permit/ licence
Development consent granted under the EP&A Act	DPIE/ IPC	Prior to commencement of construction works	Approved 8 December 2020

Environment Protection Licence (EPL) will be required for activities listed in Schedule 1 of the <i>Protection of the Environment Operations Act 1997</i> (POEO Act)	EPA	Prior to scheduled activities or works that enable a scheduled activity	EPL 12040 issued 6 May 2019
Section 143 notice of POEO Act	EPA	Prior to transportation of waste to receiving facility	As required
CCL 745	Resource Regulator	-	Obtained and valid until 30 December 2023
MPL 271	Resource Regulator	-	Obtained and valid until 9 May 2033
ML 1575	Resource Regulator	-	Obtained and valid until 22 March 2029
EPA Approval for Storm Water Control Dam 90/6041 J280.021C/21)	EPA	-	Issued on 10 August 1992
Dangerous Goods Licence NDG021269	EPA	-	Issued on 8 September 2015
Water Access Licence (WAL) 36488 for 515 ML/year	NSW Land Registry Services	-	-

3.5 Guidelines

The CEMP has been prepared to be consistent with the following standards and guidelines:

- Noise Policy for Industry (NPfI) (EPA 2017);
- Interim Construction Noise Guideline (ICNG) (DECC 2009);
- NSW Road Noise Policy (DECCW 2011);
- AS 1055:2018 Acoustics – Description and measurement of environmental noise;
- Australian and New Zealand guidelines for fresh and marine water quality (ANZECC 2000);
- Managing Urban Stormwater – Soils and Construction Volumes 1 (the Blue Book) (Landcom 2004);
- Managing Urban Stormwater – Soils and Construction Volumes 2E Mines and Quarries (DECC 2008);
- AS/NZS 3580.10.1:2016 Methods for sampling and analysis of ambient air Determination of particulate matter - Deposited matter - Gravimetric method;
- AS/NZS 3580.9.8:2008 Methods for sampling and analysis of ambient air Determination of suspended particulate matter - PM 10 continuous direct mass method using a tapered element oscillating microbalance analyser;
- AS/NZS 3580.1.1:2007 Methods for sampling and analysis of ambient air – guide to siting air monitoring equipment; and
- DEC (2006) Approved methods for the sampling and analysis of air pollutants in NSW.

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4. ENVIRONMENTAL RISK MANAGEMENT

4.1 Introduction

The original environmental risk assessment for the project was undertaken in the EIS (ERM, 2013). The assessment identified the extent of the environmental risks associated with the undertaking of the project.

With the issuing of the draft conditions of approval, Wollongong Coal undertook a broad-brush risk assessment (BBRA) on 27 August 2020, with the main objectives being:

- To define all activities carried out in the draft conditions of approval; and
- Identify those activities that represent significant risks to the operation.

Consideration was given to risks in the form of people (safety), environment and financial. The results of the BBRA are provided in Appendix C.

The primary risks in relation to construction can be summarised as:

Medium risk:

- Construction noise at start-up – does not comply with the requirements of the ICNG;
- Air quality - particulate emissions generated by the project cause exceedances of the criteria at any residence on privately owned land;
- Water management - the project causes exceedances of the performance measures;

Low risk:

- Construction noise during operational period – does not comply with the requirements of the ICNG;
- Access to information – the Colliery does not make the required information and documents publicly available on its website;
- Notification of non-compliance – the Colliery does not notify the Department within 7 days of becoming aware of the non-compliance;
- There is not a suitable meteorological station operating in the vicinity of the site that complies with the requirements;
- The Colliery does not obtain all necessary water licences for the project.

The BBRA did not cover out of hours construction works in relation to potential noise impacts however for the purpose of this CEMP an Out of Hours Work Protocol has been developed in compliance with condition D3 (see Appendix B).

A contractor risk assessment workshop will be held with the preferred contractor and relevant Wollongong Coal personnel to identify any additional environmental risks and mitigation measures that may need to be implemented during construction works. The CEMP may need updating following this workshop.

5. BACKGROUND CONDITIONS AND CRITERIA

5.1 Background conditions

5.1.1 Noise

Table 5.1 summarises the rating background level (RBL) in each of the three noise catchment areas surrounding the site (WM 2019). Figure 5.1 shows the background monitoring locations.

Table 5.1 – Summary of RBLs

ID	Representative receiver	Measured RBLs (dBA)			
		Day	Evening	Night	Morning shoulder
M1	R1, R2, R3, R4	43	40	37	39
NMT1	R5, R6, R7, R8	39	38	37	39
NMT2	R9, R10, R11, R12, R13, R14	39	38	34	36

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Figure 5.1 Background noise monitoring locations



5.1.2 Air quality

Two TEOM monitors are maintained at the WCL northern and southern boundaries (see Figure 5.4) that continuously monitor PM₁₀ and PM_{2.5} concentrations. One of the most recent years of data (2016), which corresponds to the modelling year, is shown in Figure 5.2 for PM₁₀ and Figure 5.3 for PM_{2.5} (sourced from Appendix 6 of RPPR – Air Quality Assessment by ERM 2019)).

There were no exceedances of 24-hour PM₁₀ criteria during 2016. On two occasions the 24-hour average concentrations for PM_{2.5} exceeded the assessment criteria (two exceedances at each TEOM on the same days). These exceedances both occurred during May when there was a significant hazard reduction burn within the region.

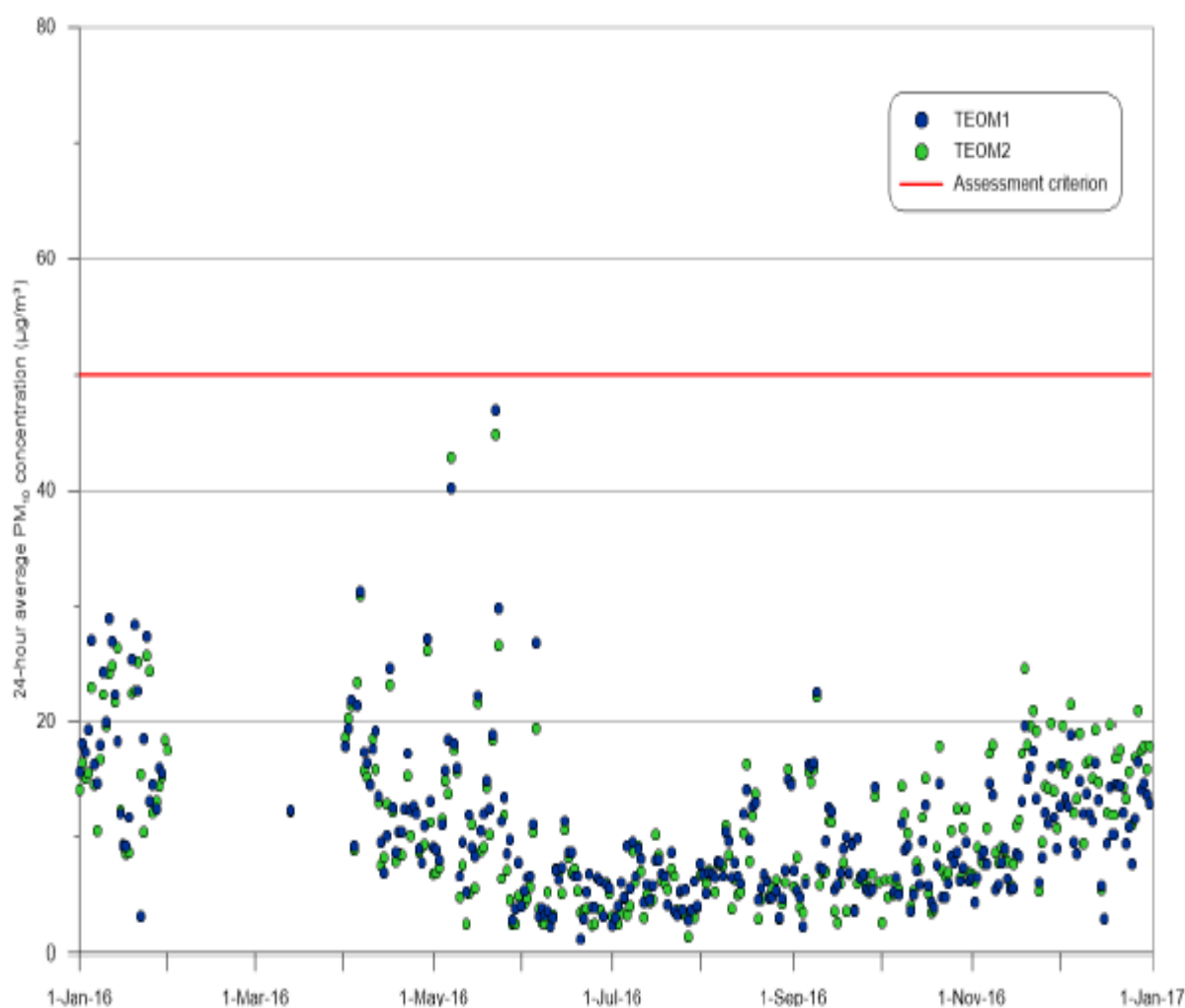


Figure 5.2 24-hour average PM10 concentrations at TEOM1 and TEOM2

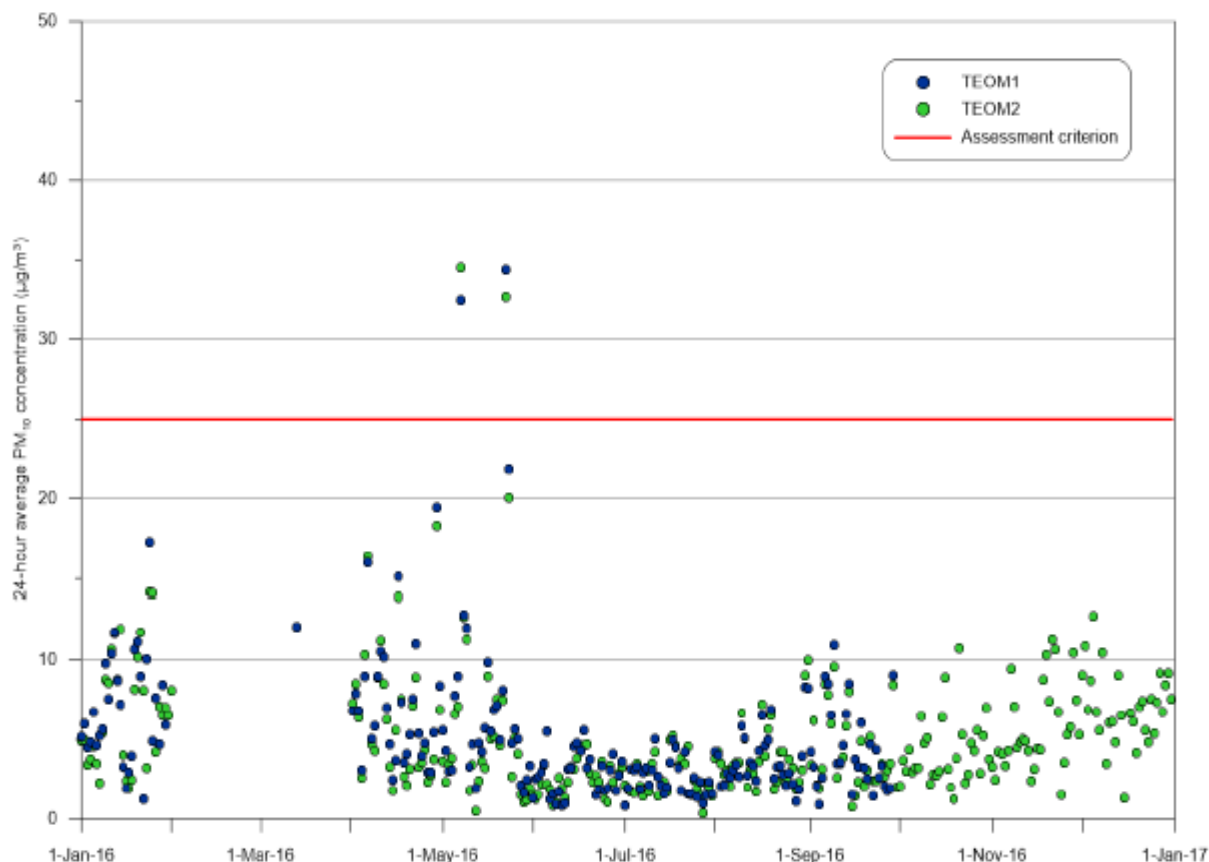


Figure 5.3 24-hour average PM_{2.5} concentrations at TEOM1 and TEOM2

The PM₁₀ and PM_{2.5} data collected by Wollongong Coal at TEOM2 has been used to provide a conservative evaluation of background concentration for the cumulative assessment. The contributions from existing operations will already be captured to some extent in the 2016 monitoring data, therefore the assumed background levels are considered conservative. During 2016 the Colliery was in care and maintenance, therefore contributions from existing operations relate primarily to emissions from exposed areas around the surface infrastructure and Russell Vale Emplacement Area to the north.

The 24-hour background levels for PM₁₀ and PM_{2.5} are also conservative as they have adopted the 95th percentile measured values. The vast majority of measured levels fall well below the adopted background levels (see Figure 5.2 and Figure 5.3). Background concentrations were based on data from TEOM2, for predominate wind directions, this monitor is located upwind of the major particulate matter sources at the mine, in close proximity to sensitive residential receptors.

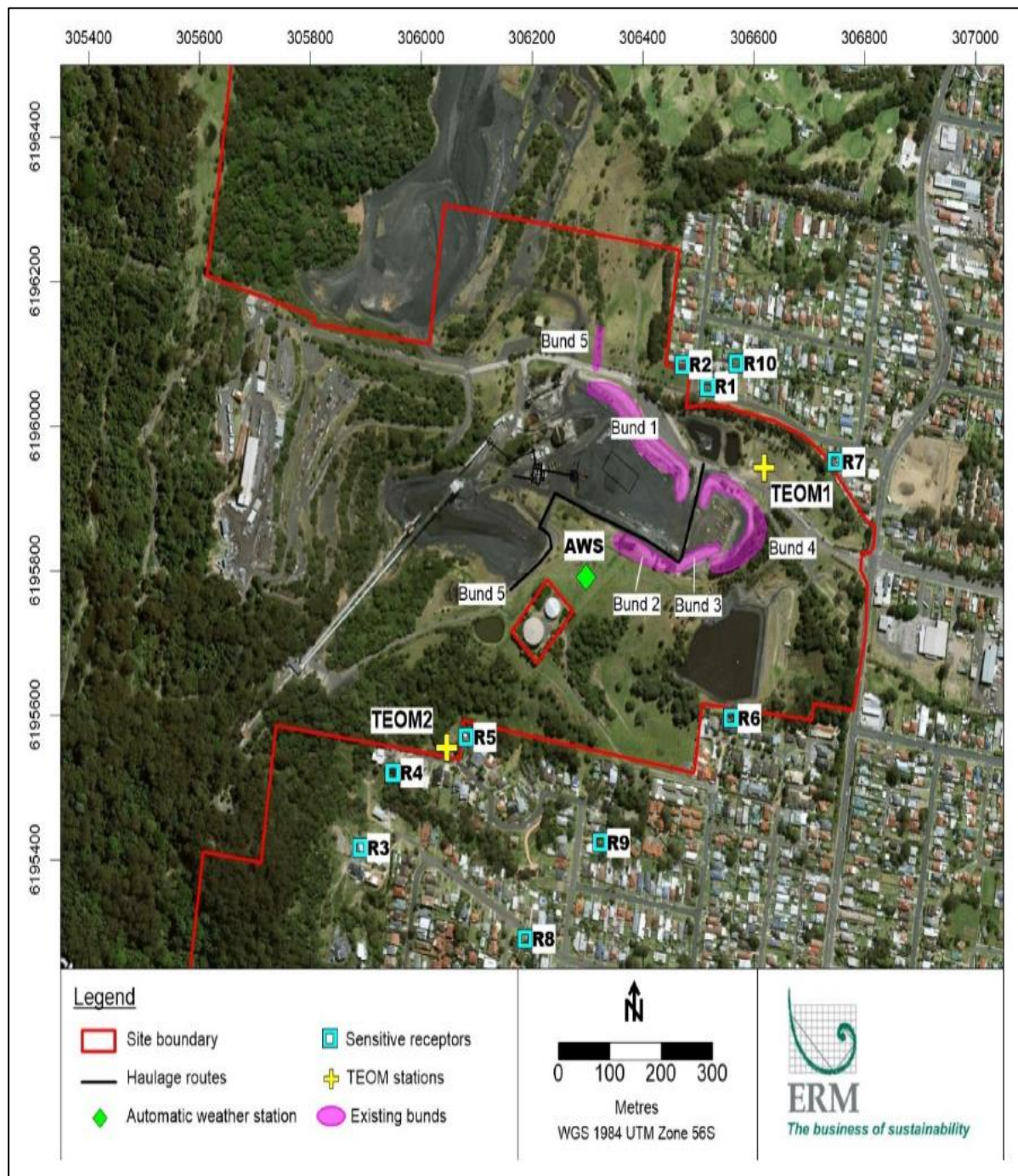
The following has been assumed, for the purpose of estimating background concentrations of PM₁₀ and PM_{2.5}:

- 24-hour average PM₁₀ concentrations are equivalent to the 95th percentile 24-hour average values collected at TEOM2 during 2016 (22.6 µg/m³);
- Annual average PM₁₀ concentration at TEOM2 during 2016 (10.7 µg/m³);
- 24-hour average PM_{2.5} concentration equivalent to the 95th percentile 24-hour average values collect at TEOM2 during 2016 (11.2 µg/m³); and

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- Annual average PM_{2.5} concentration at TEOM2 during 2016 (5.0 µg/m³).

Figure 5.4 Air quality monitoring locations (TEOM1 and TEOM2) and automatic weather station (AWS)



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5.1.3 Traffic

The Colliery's principal service road networks for operation and transport of ROM coal include the Colliery Access Road, Bellambi Lane, Memorial Drive, M1 Princes Motorway, Masters Road, Springhill Road and Port Kembla Rad.

Coal is delivered from the Colliery to Port Kembla Coal Terminal (PKCT) via Bellambi Lane, Memorial Drive, Southern Freeway, Masters Road, Springhill Road and Port Kembla Road.

The overall management of coal loading standards, vehicle standards and vehicle movements around the Colliery Coal Loading area and between the Site and PKCT is outlined in the Traffic Management Plan together with Wollongong Coal's Surface Transport Management Plan and Stockpile Slope Stability and Coal Handling Procedure.

The construction workforce trips of an average of 22 people per day arriving and departing the Colliery will occur before and after the weekday AM and PM peak, the adjoining principal intersections currently have adequate capacity. Parking for these workers will be onsite.

The total traffic generation of the construction phase will be less than the Operational Phase (refer Section 5.23).

5.1.4 Soils and water

Russell Vale Pit Tip Existing Water Management System (WMS) is approximately 45 ha in area and consist of the following sub catchments:

- Rehabilitated and undisturbed natural catchments;
- Disturbed catchments including the pit top area and coal handling infrastructure;
- Hardstand areas including the maintenance workshop area, administration offices, access roads and car parking.
- The existing WMS allows for two categories of water:
 - Clean water, which comprises runoff from undisturbed and fully rehabilitated areas; and
 - Dirty water, which comprises runoff from any area disturbed by mining operations, runoff from areas where coal is stockpiled and handled and groundwater extracted from the underground workings.

Dam 1 functions as a primary sediment basin receiving runoff from the coal handling and stockpile area, before flowing into Dam 2. Dam 2 also receives excess water from the truck wash system. Water from Dam 2 overflows to the Stormwater Control Dam (SWCD).

Runoff from the maintenance and laydown areas flow to a First Flush system to remove entrained sediments. The dirty water discharge from the First Flush system flows to Dam 1. Excess water from the underground mining operation is also transferred to Dam 1.

The Highway Dam collects runoff from a small catchment between Bellambi Lane and Bellambi Gully Creek. Dam 5 and Dam 6, located to the south of the stockpile area (see Figure 5.5), have minimal catchment areas and spill to the SWCD. Dam 5 is overgrown with vegetation and any future operation is unlikely. The seepage pump collects seepage through the SWCD wall, along with any runoff from the small Seepage Sump catchment and is returned via a submersible pump to the SWCD. Figure 5.5 shows EPL (12040) licenced discharge points for the site.

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Works are currently underway to construct a replacement of an underground pipe section of Bellambi Gully Creek. These works are separate to those addressed in this CEMP.

5.1.5 Visual

The visual landscape is characterised by the slopes of the Illawarra Escarpment and the urban development on the lower slopes at the base of the escarpment. The Colliery is situated at the base of the Illawarra Escarpment. The Pit Top is surrounded by a range of local topography, with steep slopes and cliff faces to the west, to gentle undulating slopes at the base of the Escarpment. Residential properties boarder the north, east and southern site boundaries, on the gently sloping land.

The Pit Top is predominately cleared and re-contoured undulating land, the north, east and southern boundaries are bordered with vegetation that includes predominately mature trees.

The existing bunds surrounding the Pit Top will be raised in order to improve operational noise mitigation. During the construction phase of the bund raising temporary views of earthworks and associated mobile equipment will be visible to residents surrounding the site.

Changes to the Pit Top layout are proposed in the Revised Preferred Project, these changes will include the strategic relocation of infrastructure to more shielded locations.

Lighting during the night-time is required on site meet maintenance and safety requirements. Lighting will be kept to a minimum and directed away from surrounding residences (refer Section 5.2.5). A Visual Impact Management Plan (VIMP) will be prepared as part of the operational phase.

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Figure 5.5 EPL discharge monitoring locations



5.2 Compliance criteria

5.2.1 Noise

Table 5.2 provides ICNG noise management levels (NML) which apply to residential assessment locations.

Table 5.2 – ICNG construction noise management levels for residences

Time of day	NML LAeq,15min	How to apply
Recommended standard hours: Monday to Friday 7 am to 6 pm, Saturday 8 am to 1 pm, No work on Sundays or public holidays	Noise-affected RBL + 10 dB	<p>The noise-affected level represents the point above which there may be some community reaction to noise.</p> <ul style="list-style-type: none"> Where the predicted or measured $Leq(15\text{-min})$ is greater than the noise-affected level, the proponent should apply all feasible and reasonable work practices to meet the noise affected level. The proponent should also inform all potentially impacted residents of the nature of works to be carried out, the expected noise levels and duration, as well as contact details.
	Highly noise affected 75 dBA	<p>The highly noise-affected level represents the point above which there may be strong community reaction to noise.</p> <ul style="list-style-type: none"> Where noise is above this level, the relevant authority (consent, determining or regulatory) may require respite periods by restricting the hours that the very noisy activities can occur, taking into account: <ol style="list-style-type: none"> times identified by the community when they are less sensitive to noise (such as before and after school for works near schools, or mid-morning or mid-afternoon for works near residences); if the community is prepared to accept a longer period of construction in exchange for restrictions on construction times.
Outside recommended standard hours	Noise-affected RBL + 5 dB	<ul style="list-style-type: none"> A strong justification would typically be required for works outside the recommended standard hours (refer OOHV Protocol – Appendix B). The proponent should apply all feasible and reasonable work practices to meet the noise affected level. Where all feasible and reasonable practices have been applied and noise is more than 5 dBA above the noise-affected level, the proponent should negotiate with the community. For guidance on negotiating agreements see Section 7.2.2 of the ICNG.

Source: ICNG (EPA, 2009)

The recommended noise management level described in the ICNG for schools when in use is an external $LA_{eq,15\text{min}}$ of 55 dBA.

The predicted construction noise levels comply with the ICNG 'highly noise affected' management level of 75 dBA at all identified receivers. However, exceedances of the ICNG 'noise affected' management level may occur under adverse weather conditions for short durations

while construction equipment is operating in close proximity to receivers. For the remainder of time, construction noise is expected to comply with the 'noise affected' management level.

As a result of potential short duration exceedances of the 'noise affected' management levels, mitigation measures and monitoring outlined in Chapter 6 will be undertaken.

5.2.2 Air quality

Table 5.3 details the air quality criteria for concentrations of particulate matter.

Table 5.3 – NSW EPA impact assessment criteria for particulate matter concentrations and deposited dust

PM metric	Averaging period	Assessment criteria
PM ₁₀	24 hour	50 µg/m ³
	Annual	25 µg/m ³
PM _{2.5}	24 hour	25 µg/m ³
	Annual	8 µg/m ³
Dust deposition	Annual	2 g/m ² /month (project increment only)
		4 g/m ² /month (cumulative)

Notes: µg/m³: micrograms per cubic meter; g/m²/month: gram per square meter per month

5.2.3 Traffic

The traffic impacts of the construction phase on the adjacent road network will be relatively minor and less than that assessed for the operational phase.

In order to assess the construction phase traffic, the workforce and associated traffic required during the proposed construction activities as follows:

- 22 workers (i.e. light vehicle trips) arrive between 6.00am – 7.00am and departing between 6.00pm – 7.00 pm; and
- Up to 8 heavy vehicles per day (i.e. 8 in/ 8 out) including 2 oversize vehicles per week.

The project is not expected to have any adverse impacts on road safety on the road network, or on other road users. All roads within the transport route via Bellambi Land/Memorial Drive to PKCT uses Bellambi Lane to Memorial Drive and then state arterial roads and motorways, are approved 25/25 metre B-Double routes.

Traffic conditions at the principal adjacent intersections to the Colliery in Bellambi Lane, are expected to remain satisfactory over the life of the project.

All trucks generated by the colliery will aim to achieve a 95% compliance of maintaining the voluntary 50 km/h speed restriction in Bellambi Lane and 100% compliance with the signposted 60 km/h speed limit.

5.2.4 Soil and water

Wollongong Coal undertakes a range of water quality and volume monitoring in accordance with the site EPL (12040). EPL monitoring locations and limits (where appropriate) are detailed in Table 5.4.

Table 5.4 – EPL monitoring locations and limits

Point	Description	Monitoring Requirements	Frequency	Limit Conditions
2	Licensed Discharge: Treated water outlet from the 1.2 ML thickener discharging from a 200 mm steel pipe into the 1,800 mm Bellambi Gully Creek diversion pipe.	pH Total Suspended Solids Turbidity Electrical Conductivity Volume	Monthly during discharge Continuous for turbidity	6.5 – 9.2 50 mg/L - - 2,500 kL/day ^{1,2,3}
3	Licensed Discharge: Seepage through the SWCD wall into Bellambi Gully Creek.	-	-	-
9	Licensed Discharge: The SWCD gabion spillway discharging to Bellambi Gully Creek.	-	-	-

Point	Description	Monitoring Requirements	Frequency	Limit Conditions
11	Monitoring: Bellambi Gully ambient water quality west of Princes Highway.	Turbidity Electrical Conductivity	Continuous	
12	Monitoring: Bellambi Gully upstream ambient water quality.	Turbidity Electrical Conductivity	Continuous	

Note:

- ¹ The volume of wastes discharged from Point 2 on any day must not exceed 2,500 kL under dry weather conditions, but may exceed this volume under wet weather conditions provided all practical measures are taken to minimise additional pollution caused by the wet weather.
- ² Dry Weather Conditions is defined as less than 10 mm of rain falling within a 24 hour period measured at a point on the premises. Wet Weather Conditions means anything other than Dry Weather Conditions (i.e. equal or greater than 10 mm of rain falling within a 24 hour period measured at a point on the premises).
- ³ Dry Weather Conditions discharge limit. Volume limit may be exceeded during Wet Weather Conditions for up to 72 hours following these conditions provided all practical measures are taken to minimise additional pollution.
- ⁴ Special Frequency 1 means daily during discharge for 3 consecutive days commencing within 12 hours of "wet weather conditions" occurring. "Wet weather conditions" are defined in condition L3.2 of this licence.

Details on specific requirements for erosion and sediment control are provided in Chapter 6.

5.2.5 Visual

All lighting required during construction and after construction will be directed away from surrounding residence and will be maintained in accordance the relevant Australian Standard (*Australian Standard AS4282 (INT) 1995 – Control of Obtrusive Effects of Outdoor Lighting*).

Out of hours work is not proposed at this time, therefore any lighting impacts during the construction phase are likely to be minimal.

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6. MITIGATION AND MANAGEMENT STRATEGIES

6.1 Introduction

This section describes the management and mitigation measures to be implemented during construction to ensure compliance with the criteria, legal and other requirements that apply to the project. These measures have been sourced from:

- The EIS, response to submissions and statement of commitments prepared to support the application for development consent;
- Conditions associated with development consent MP09_0013 and EPL 12040;
- Feedback received from government agencies during the consultation process;
- The risk assessment outcomes and controls detailed in Appendix C; and
- Industry best practice.

The information in this section should be read in conjunction with the TARPs presented in Section 6.8. Measures to monitor the effectiveness of the mitigation and management strategies are detailed in Chapter 7.

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6.2 Noise

Table 6.1 details management and mitigation measures required to ameliorate potential noise impacts during the construction phase of the project.

Table 6.1 – Management and mitigation measures - noise

Management/mitigation measure	Timing	Source	Responsibility	Evidence for compliance
Implement noise mitigation bunds, walls and barriers	Prior to commencement of mining operations	Statement of commitments CoA B3(a) EPL	Contract Project Manager	Photographic records Survey records
Consider use of noise absorptive material as far as practicable	Prior to construction	CoA B3(b)	Environment Manager	Specifications
Ensure design of noise walls and barriers are endorsed by suitably qualified and experienced noise expert	Prior to construction	CoA B3(c)	Environment Manager	Specifications Endorsement by suitably qualified and experienced noise expert
Meteorological monitoring is to happen prior to commencing construction. The met station should be capable of continuous real-time measurement of WS, WD sigma theta and temperature, and met conditions in accordance with NPfl.	Prior to construction	CoA B11	Contract Project Manager	Initial calibration certificate Meteorological records Photographic record
All construction work will be undertaken during standard working hours as defined in the ICNG (2009), being:	During construction	Statement of commitments	Contract Project Manager	Personnel records Site access records Real time noise data/recordings

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Management/mitigation measure	Timing	Source	Responsibility	Evidence for compliance
<ul style="list-style-type: none"> 7.00am – 6.00pm Monday to Friday; 8.00am – 1.00pm Saturday; and No construction works on Sundays or Public Holidays. 				
Emergency construction work outside of standard working hours to be assessed in accordance with OOHW Protocol (Appendix B)	During construction	CoA D3	Environment Manager	OOHW Protocol records Attended monitoring Community consultation
Preparation of a CEMP that identifies the environmental and social management controls to be implemented during the construction phase	Prior to the commencement of construction	Statement of commitments	Environment Manager	This document
Construction of access road noise barrier.	Prior to operations commencing	Statement of commitments	Contract Project Manager	Photographic records Survey records
Construction of two noise walls (Bund 1 and 4).	Prior to operations commencing	Statement of commitments	Contract Project Manager	Photographic records Survey records
Completion of Bunds 2, 3 and 5 construction.	Prior to operations commencing	Statement of commitments	Contract Project Manager	Photographic records Survey records
Wollongong Coal will implement the following feasible and reasonable construction noise management measures during construction of bunds around the Pit Top, in accordance with the ICNG and identified in the CEMP:	-	-	-	-

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Management/mitigation measure	Timing	Source	Responsibility	Evidence for compliance
<ul style="list-style-type: none"> Schedule activities to minimise noise impacts: <ul style="list-style-type: none"> All bund construction works will be undertaken during recommended standard construction hours; Construction of Bunds 2 to 5 will be scheduled as early as possible; Minimise the duration of bund construction; Consult with affected neighbours about scheduling bund construction to minimise noise impacts. 	Ongoing during construction	Statement of commitments	Contract Project Manager	Personnel records Site access records Real time noise data/recordings Communication records

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Management/mitigation measure	Timing	Source	Responsibility	Evidence for compliance
<ul style="list-style-type: none"> Use quieter equipment and methods: <ul style="list-style-type: none"> Dump truck access to be provided to bunds on the side further away from the closest receivers to maximise distance to receivers and shielding from bunds; Use mobile equipment with less annoying alternatives to the typical 'beeper' alarms; and Regularly inspect and maintain equipment in good working order. 	Ongoing during construction	Statement of commitments	Contract Project Manager	Equipment specifications Monitoring records Maintenance records
<ul style="list-style-type: none"> Notification before and during bund construction <ul style="list-style-type: none"> Provide information regarding construction activities to potentially affected neighbours, including the nature and expected duration of construction activities; Provide signage at the front of the site providing contact information, construction hours and any updates on construction activities. 	Ongoing during construction	Statement of commitments	Contract Project Manager Environment Manager	Project newsletters/ communication records Photographic record WCL website

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Management/mitigation measure	Timing	Source	Responsibility	Evidence for compliance
<ul style="list-style-type: none"> Implement a complaints handling procedure, maintain a complaints register and implement all feasible and reasonable measures to address the source of complaints. 	Ongoing during construction	Statement of commitments	Contract Project Manager Environment Manager	Complaints and communications records
Undertake attended noise monitoring at the nearest and potentially most impacted residence(s) when construction of noise bunds is occurring within 200 m of noise sensitive receivers to confirm construction noise levels are consistent with predicted levels.	Ongoing during construction	Statement of commitments	Contract Project Manager Environment Manager	Monitoring records Incident records
Acoustic treatment of new plant and equipment, including enclosing the CPP and secondary sizer in an acoustically treated building, acoustic treatments to the surge bin and conveyors and attenuation pack and grouser treatment of the dozer.	Ongoing during construction	Statement of commitments	Contract Project Manager	Specifications Monitoring records
40 km/hr speed limit onsite	Ongoing	Statement of commitments	Contract Project Manager	Complaints/ communications records Drivers code of conduct Vehicle data and dashcam videos



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Management/mitigation measure	Timing	Source	Responsibility	Evidence for compliance
Wollongong Coal will continue to operate two continuous noise monitoring stations within the Colliery site	Ongoing	Statement of commitments	Environment Manager	Ongoing monitoring records Calibration records

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6.3 Air quality

Table 6.2 details management and mitigation measures required to ameliorate potential air quality impacts during the construction phase of the project.

Table 6.2 – Management and mitigation measures – air quality

Management/mitigation measure	Timing	Source	Responsibility	Evidence for compliance
WCL will implement a range of air quality mitigation measures and controls:	-	-	-	-
<ul style="list-style-type: none"> Water sprays on the bunds during construction; Trucks will be covered before leaving the site Trucks will be washed before leaving the site. 	Ongoing during construction	Statement of commitments	Contract Project Manager	Photographic records Inspection records Monitoring records

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6.4 Traffic

Table 6.3 details management and mitigation measures required to ameliorate potential traffic impacts during the construction phase of the project.

Table 6.3 – Management and mitigation measures – traffic

Management/mitigation measure	Timing	Source	Responsibility	Evidence for compliance
Trucks arriving between: <ul style="list-style-type: none"> 6.00am and 7.00am (Mondays to Fridays) or 7.00am and 8.00am (Saturdays) will park in the dedicated truck parking provided on site and switch off engines. 	Ongoing during construction	Statement of commitments	Contract Project Manager	CCTV footage Vehicle data Site access records Complaints/communications records
Wollongong Coal will maintain, monitor and enforce the voluntary speed limit along Bellambi Lane of 50 km/hr for all trucks accessing the Colliery, with the continued aim of achieving 95% compliance with the voluntary speed restriction and 100% compliance with the signposted 60 km/h speed limit.	Ongoing during construction	Statement of commitments	Contract Project Manager	Audit results Complaints/communications record GPS monitoring of trucks
Drivers must maintain truck separation on Bellambi Lane	Ongoing	Traffic Management Plan and Drivers Code of Conduct	Contract Project Manager	Audit results Complaints/communications record



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Management/mitigation measure	Timing	Source	Responsibility	Evidence for compliance
Drivers will minimise compression braking	Ongoing	Traffic Management Plan and Drivers Code of Conduct	Contract Project Manager	Audit results Complaints/ communications record Noise monitoring records

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6.5 Soil and water

Table 6.5 Table 6.4 details management and mitigation measures required to ameliorate potential soil and water impacts during the construction phase of the project.

Table 6.4 – Management and mitigation measures – soil and water

Management/mitigation measure	Timing	Source	Responsibility	Evidence for compliance
The detailed plans of the revised Water Management System will be prepared by a suitably qualified civil engineer in consultation with Council and OEH and provided to consent authority for approval	Prior to the commencement of construction	Statement of commitments	Contract Project Manager	Specifications
New and existing flood structures and controls will be included on regular maintenance schedules.	Ongoing	Statement of commitments	Contract Project Manager	Work order details Inspection records
Hazardous materials, including diesel fuel, water treatment chemicals and hydraulic fluid emulsions will be stored in appropriately sized bunds. All hydrocarbon storage and handling will be undertaken in accordance with AS1940-2017.	Ongoing	Statement of commitments	Contract Project Manager	Inspection records Photographic records
Temporary erosion and sediment control structures will be installed around construction activities, in accordance with best practice and inspected on a regular basis	Prior to the commencement of construction	-	Contract Project Manager	Inspection records Photographic records



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Management/mitigation measure	Timing	Source	Responsibility	Evidence for compliance
Regular water quality monitoring	Ongoing	-	Contract Project Manager	Water management plan requirements Monitoring records

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6.6 Visual

Table 6.5 details management and mitigation measures required to ameliorate potential visual impacts during the construction phase of the project.

Table 6.5 – Management and mitigation measures – visual

Management/mitigation measure	Timing	Source	Responsibility	Evidence for compliance
Wollongong Coal will implement the following measures to improve the visual amenity of the site and minimise the visual impact of the Project:	-	-	-	-
Bunds surrounding the Pit Top will be progressively rehabilitated, spread with topsoil and planted with a selection of native species as soon as practical once final bund height is achieved.	Ongoing during construction	Statement of commitments	Contract Project Manager	Survey records Inspection records
Areas of disturbance will be kept to the minimum practicable and rehabilitated as soon as practical.	Ongoing during construction	Statement of commitments	Contract Project Manager	Inspection records Photographic records
Proposed coal handling infrastructure will be coloured in non-reflective natural tones to minimise contrast against the surrounding environment.	Determined prior to construction	Statement of commitments	Contract Project Manager	Specifications Photographic records

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6.7 Social and economic

Table 6.6 details management and mitigation measures required to ameliorate potential social and economic impacts during the construction phase of the project.

Table 6.6 – Management and mitigation measures – social and economic

Management/mitigation measure	Timing	Source	Responsibility	Evidence for compliance
Wollongong Coal will conduct regular community liaison meetings and provide regular updates to the community during construction. It will include quarterly website updates and annual community information sessions.	Ongoing during construction	Statement of commitments	Contract Project Manager	Complaints/communications records CCC meeting minutes WCL website updated
Wollongong Coal will continue to operation the Russell Vale CCC following relevant DPIE guidelines	Ongoing	Statement of commitments	Contract Project Manager	CCC meeting minutes WCL website updated
Wollongong Coal will continue to implement the existing community complaints response and management program	Ongoing	Statement of commitments	Contract Project Manager	Complaints and communications records CCC meeting minutes WCL website updated

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6.8 Triggers and responses

Condition F5(f) requires Wollongong Coal to establish a contingency plan to manage any unpredicted impacts and their consequences, and to ensure that ongoing impacts reduce to levels below relevant impact assessment criteria as quickly as possible.

This takes the form of a Trigger Action Response Plan (TARP), as presented in Appendix D. The TARP provides a simple, transparent and useable reference for the short-term management of aspects or issues at Russell Vale Colliery, and the implementation of appropriate management measures.

TARPs are designed to summarise for each aspect or issue:

- monitoring requirements (may include different locations);
- trigger levels (performance measures or criteria) that flag implementation of contingency measures;
- management and contingency actions or reporting requirements;
- responsibilities; and
- timing.

The TARPs (those specifically relevant to construction) for noise, air quality, traffic, soil and water management are reproduced in Appendix D.

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7. MONITORING

7.1 Weekly and post rainfall site inspections

The Environment Manager (EM), Site Environmental Representative (SER) or delegate will undertake inspections of the work sites weekly and after significant rainfall events (more than 20 mm) to evaluate the effectiveness of environmental controls.

The results of the inspections will be recorded in the site Environmental Inspection Checklist.

If any maintenance or deficiencies in environmental controls or in the standard of environmental performance are observed, they will be recorded on the checklist form.

Records will also include details of any maintenance required, the nature of the deficiency, any actions required and an implementation priority. The completion of the actions will be monitored to ensure they are implemented within the agreed timeframes.

7.2 Environmental monitoring

The monitoring required under the CEMP during construction is described in detail in the relevant environmental management sections of this CEMP (Chapter 6).

The Environment Manager /SER will be advised of any non-conformances identified through monitoring activities. Details will be reported by the EM/SER in the monthly report.

Where a non-conformance is detected or monitoring results are outside the expected range and are directly attributable to the project (i.e. are influenced by factors under the direct control of the project e.g. noise from construction equipment), the non-conformance process will be implemented.

Steps in the non-conformance process will typically include:

- An analysis of the results by the EM/SER to determining possible causes for the non-conformance;
- A site inspection by the EM/SER or delegate;
- Advising relevant personnel of the problem;
- Identifying and agreeing on actions to resolve or mitigate the non-conformance; and
- Implementing actions to rectify or mitigate the non-conformance.

An Environmental Incident Report may be issued by the ER in response to a non-conformance if it is found to be construction-related.

The timing for any improvement will be agreed between the relevant Construction Manager and EM/SER based on the level of risk (e.g. a significant risk will require immediate action).

All environmental monitoring equipment will be maintained and calibrated according to the manufacturer's specifications and appropriate records kept.

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7.3 Meteorological monitoring

The meteorological station located on the site is used for noise, air quality and surface water monitoring and reporting. The location of the station is shown on Figure 5.4.

Data recorded by the weather station satisfies AS 3580 14–2011 *Methods for sampling and analysis of ambient air, Part 14: Meteorological monitoring for ambient air quality monitoring applications* and NPfl including:

- Date and time;
- Temperature;
- Wind speed;
- Wind direction;
- Sigma theta (standard deviation of wind direction); and
- Rainfall.

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8. REPORTING

8.1 Monitoring reports

On receipt of monitoring results, these will be reviewed to confirm compliance with relevant criteria specified in Chapter 5. This will ensure corrective action is taken where results might indicate a non-compliance or risk of future non-compliance.

Results of monitoring data will be regularly made available on the Wollongong Coal website in accordance with the requirements of Condition F17(a).

8.2 Construction compliance reports

The following specific reports that are required to be prepared during the course of the construction works:

- Reporting on construction compliance will be undertaken on a weekly basis as supported by an inspection routine.
- Outcomes will be reported to the Senior Leadership Team (SLT).
- Regular meetings will be held with the SLT and construction Contractor.
- Construction Compliance Reports (at the completion of the contract).
- Non - Conformance Reports (when an NCR occurs).
- Corrective Action Plan (when an NCR occurs); and
- Complaint Management Report (when a complaint is received).

Copies of each report will be made available by any interested party on request.

The Construction Compliance Report must include the following information:

- Compliance with the CEMP and Conditions of Approval.
- Compliance with any other relevant approvals or licenses.
- The implementation and effectiveness of environmental controls. The assessment of effectiveness should be based on a comparison of actual impacts against performance criteria identified in the CEMP.
- The number and details of any complaints, including a summary of the main areas of complaint, action taken response given and intended strategies to reduce recurring complaints; and
- Details of any review and amendments to the CEMP resulting from construction during the reporting period.

8.3 Incident and non-compliance reporting

The Development Consent defines:

- an 'incident' to be "an occurrence or a set of circumstances that causes or threatens to cause material harm and which may or nor cause a non-compliance".
- 'Non-compliance as "an occurrence, set of circumstances or development that is a breach of this consent".

Incidents and non-compliance will be managed through established WCL procedures as detailed in the EMS (Wollongong Coal 2021).

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If monitoring or site inspections reveal that there has been an incident or non-compliance in accordance with the development consent (i.e., Schedule 2, Part F – Environmental Management, Reporting and Auditing) or EPL, Wollongong Coal will notify DPIE and any other relevant agencies, such as the EPA as required.

8.3.1 Incidents

As required by Condition F9, immediately after Wollongong Coal becomes aware of an incident it will notify:

- DPIE; and
- any other relevant agencies.

The notification will identify the project (including the development application number and name), and set out the location and nature of the incident.

8.3.2 Non-compliance

As required by Condition F10, WCL will notify DPIE of any non-compliance within seven days of becoming aware of it. A non-compliance which has been notified as an incident does not need to also be notified as a non-compliance.

The notification will set out the condition of the consent that the project is non-compliant with, why it does not comply, the reasons for the non-compliance (if known), and what actions have been, or will be, undertaken to address the non-compliance.

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9. COMMUNICATION

9.1 Internal communications

Clear communication throughout all levels and functions (e.g., management, staff members and subcontracted service providers), is key to minimising environmental impacts and achieving continual improvements in environmental performance during construction.

The environmental team will meet regularly to discuss on-site construction environmental management, amendments to plans, changes to construction activities, environmental monitoring results and other relevant aspects of the project.

Regular meetings may also be scheduled with the Contract Project Manager (CPM) or delegate to communicate ongoing environmental performance and to discuss issues to be addressed.

The EM/SER or delegate will participate regularly in toolbox talks to communicate to the wider project personnel on environmental performance including sensitive environmental matters for future work areas, and to receive feedback from on-site personnel.

9.2 Communication with relevant agencies and authorities

The EM/SER will be the main point of contact regarding specific environmental issues.

The EM/SER has the responsibility to report on the ongoing environmental performance of the project to DPIE, EPA and WCC and the Project Director.

The EM/SER, or delegate, will prepare monthly reports, addressing all key environmental matters.

9.3 Communication with the community

Wollongong Coal is committed to regular liaison with the local community and strives to maintain positive relationship with stakeholders.

Dissemination of information to the local community and relevant agencies regarding the Colliery, its construction schedule, progress and environmental management will be achieved via:

- The community consultative committee (CCC);
- Project newsletters, letterbox drops or notifications; and
- The Wollongong Coal website or the local press.

9.4 Complaint protocol

Wollongong Coal will maintain public signage advertising the telephone number on which environmental complaints can be made. The Environment and Community Department is responsible for ensuring that the currency and effectiveness of the service is maintained. Notifications of complaints received are to be provided as quickly as practicable to the CPM and EM/SER.

As required by Condition F5, complaints and enquiries will be handled in accordance with the Wollongong Coal Community Complaints and Enquiries Procedure and Section 4.7 of the EMS.

In accordance with Condition F17(a)(x) of the development consent, the complaints register will be updated monthly and be made available on the Wollongong Coal website.

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9.5 Incident and emergency response

All environmental incidents and emergencies will be managed in accordance with the Wollongong Coal's Incident Management Procedure and Emergency Response Procedure/Emergency Management Plan. Once notified of an incident, the Control Room Operator (CRO) is to mobilise internal and external expertise and resources. Where an incident represents an immediate threat to human health or property, the first point of contact should be the Emergency response hotline on 000.

If the incident does not require an initial combat agency, or once 000 has been called, in accordance with the EPA notification protocol, the relevant individual responsible for activating the Pollution Incident Response Management Plan (PIRMP) needs to be notified.

Upon consultation with the EM/SER, CPM and SLT, each relevant authority will be notified immediately via the appropriate telephone number should a pollution incident occur that causes or threatens material harm to the environment, as required by Condition F9 immediately after Wollongong Coal becomes aware of an incident. Section 8.3 of this CEMP provides further details.

The relevant authorities to be notified are detailed in the PIRMP. A copy is held in the Control Room.

A report will be submitted to Wollongong Coal on each occasion when the site is visited by the EPA or any other Authority. The report will detail the purpose, outcome and actions pertaining to the visit and is submitted to the ER within one working day of the EPA or any other Authority visit.

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10. ROLE, RESPONSIBILITY, AND ACCOUNTABILITY

The key environmental management roles and responsibilities for the construction of the project are described below and have been divided into two main groups including Wollongong Coal personnel and Contractor personnel.

10.1 Wollongong Coal personnel

Wollongong Coal will have the primary responsibility of preparing, administering and updating the CEMP. The environmental responsibilities of the positions as detailed below include:

- Contract Project Manager (CPM)
 - Ensure all works comply with relevant regulatory and project requirements;
 - Ensure the requirements of this CEMP are fully implemented, and in particular, that environmental requirements are not secondary to other construction requirements;
 - Endorse and support the project environmental policy;
 - Participate and provide guidance in the regular review of this CEMP and supporting documentation;
 - Provide adequate resources (personnel, financial and technological) to ensure effective development, implementation and maintenance of this CEMP;
 - Ensure that all personnel receive appropriate induction training, including details of the environmental and community requirements;
 - Ensure that complaints are investigated, issues raised resolved; and
 - Direct that works be stopped immediately where there is an actual or potential risk of harm to the environment.
- Environment Manager (EM)
 - Overall responsibility for the management of environmental aspects of the project;
 - Development, implementation, monitoring and updating of the CEMP and sub plans;
 - Report to SLT on the performance and implementation of the CEMP;
 - Liaise with DPIE, EPA and other government authorities as required;
 - Ensure management reviews of the CEMP are undertaken annually, documented and actions implemented;
 - Ensure environmental risks of the project are identified and appropriate mitigation measures are implemented;
 - Identify where environmental measures are not meeting the set targets and where improvement can be achieved;
 - Ensure environmental protocols are in place and managed;
 - Ensure environmental compliance;
 - Obtain and update all construction environmental licences, approvals and permits as required;

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- Manage environmental document control, reporting, inductions and training;
 - Manage environmental reporting;
 - Prepare reports on a monthly basis outlining the construction works undertaken, achievements and areas where improvements were made;
 - Oversee site construction environmental monitoring, inspections and internal audits;
 - Manage all subcontractors and consultants with regards to environmental matters, including assessing their environmental capabilities and environmental documents;
 - Prepare and/or distribute environment awareness notes;
 - Develop and facilitate inductions, Toolbox Talks and other training programs regarding environmental requirements for all site personnel;
 - Notify relevant authorities in the event of an environmental incident and manage the close-out of these;
 - Stop activities where there is actual or potential risk of harm to the environment or to prevent an environmental non-conformance and advise the SLT, Construction Manager;
 - Recommend reasonable steps to be taken to avoid or minimise unintended or adverse environmental impacts;
 - Resolve environment-related complaints;
 - Ensure that all community consultation activities are carried out in accordance with the conditions of approval;
 - Report any environmental issues raised by stakeholders or members of the community to the SLT;
 - Communicate environment-related project progress, performance, mitigation measures and issues to stakeholders and the community; and
 - Maintain the 24-hour complaints hotline.
- Site Environmental Representative (SER)
 - Environmental monitoring, compliance and reporting back to EM;
 - Development, implementation, monitoring and updating of the CEMP and sub plans;
 - Liaise with DPIE, EPA and other government authorities as required;
 - Ensure management reviews of the CEMP are undertaken annually, documented and actions implemented;
 - Ensure environmental risks of the project are identified and appropriate mitigation measures are implemented;
 - Identify where environmental measures are not meeting the set targets and where improvement can be achieved;
 - Ensure environmental protocols are in place and managed;
 - Ensure environmental compliance;
 - Undertake site construction environmental monitoring, inspections and internal audits;

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- Manage all subcontractors and consultants with regards to environmental matters, including assessing their environmental capabilities and environmental documents;
- Prepare and/or distribute environment awareness notes;
- Develop and facilitate inductions, Toolbox Talks and other training programs regarding environmental requirements for all site personnel; and
- Stop activities where there is actual or potential risk of harm to the environment or to prevent an environmental non-conformance and advise the SLT, Construction Manager.

10.2 Contractor personnel

The Contractor(s) appointed for the construction of the project will have the primary responsibility for implementing the CEMP. All actions, except where specifically attributable to others, will be the responsibility of the Contractor.

Contractors' environmental requirements and responsibilities will be addressed in the contract documentation. As part of the selection process, consideration will also be given to their past environmental performance. The EMR, or delegate, will participate in the tender assessment and selection process where it is deemed necessary due to associated environmental risks.

Prior to undertaking works on the construction of the project, all contractors will be inducted into, and will operate under the framework provided in this CEMP. All contractors will be required to implement the same procedures, monitoring and reporting systems that have been designed for construction of the project and contained in this CEMP.

A standard monitoring form will be developed that will be used to assess the:

- Contractor's general work practices;
- Effectiveness of the contractor's environmental protection measures;
- Contractor's compliance with the requirements of this CEMP; and
- Maintenance of environmental measures.

10.3 All other employees and sub-contractors

Will be responsible for following directions and instructions from site management and supervisors. All other employees and sub-contractors will be inducted into and will operate under the framework provided in this CEMP.

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11. COMPETENCE, TRAINING, AND AWARENESS

The Environment Manager has overall responsibility for ensuring the requirements of this CEMP are fully implemented.

The EM/SER will coordinate environmental training in conjunction with other training and development activities.

11.1 Environmental induction

All personnel, including contractors, sub-contractors and staff, are required to attend a compulsory site induction that includes an environmental component prior to commencement on site. The EM/SER, or delegate, will conduct the environmental component of the site induction.

The environmental component will include an overview of:

- Relevant details of the CEMP including purpose and objectives;
- Key environmental issues (i.e. protection of sensitive areas, dust and noise management);
- Conditions of environmental licences, permits and approvals;
- Specific environmental management requirements and responsibilities;
- Mitigation measures for the control of environmental issues;
- Incident response and reporting requirements; and
- Information relating to the location of environmental constraints.

A record of all environment inductions will be maintained and kept on site. The ER may authorise amendments to the induction where required to address project modifications, legislative changes or amendments to this CEMP or related documentation.

The EM/SER will review and endorse the induction program and monitor its implementation.

11.2 Toolbox talks, training and awareness

Toolbox talks will be used to raise awareness and educate personnel on construction related environmental issues. The Toolbox talks will be used to ensure environmental awareness continues during construction.

Toolbox talks will be tailored to specific environmental constraints as relevant to the package of works, including:

- Erosion and sediment control;
- Hours of work;
- Emergency and spill response;
- Threatened species, endangered ecological communities, clearing controls and vegetation protection;
- Weed management;
- Noise;
- Housekeeping and waste;
- Concrete washout;
- Dewatering;
- Project and clearing limits;

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- Works in waterways;
- Dust control; and
- Traffic management.

Toolbox Talk attendance is mandatory, with attendees required to sign an attendance form. Records of Toolbox Talk attendance will be maintained.

Targeted environmental awareness training will be provided to individuals or groups of workers with a specific authority or responsibility for construction environmental management or those undertaking an activity with a high risk of environmental impact.

The EM/SER and Mine Training Manager will review the training program and monitor its implementation.

11.3 Daily pre-start meeting

The pre-start meeting is a tool for informing the workforce of the day's/ shift's activities, safe work practices, environmental protection practices, safe work method statement (SWMS) for a particular area of work, work area restrictions, activities that may affect the works, coordination issues with other trades, hazards and other information that may be relevant to the day's work.

The Construction Manager, or other appropriate site staff member, will conduct a daily pre-start meeting for the site workforce before the commencement of work each day (or shift) or where changes occur during a shift. Pre-start meetings may be project-wide and/or held for specific work areas.

The environmental component of pre-starts will include any environmental issues that could potentially be impacted by, or impact on, the day's construction activities. All attendees will be required to sign on to the pre-start and acknowledge their understanding of the issues explained.

Pre-start topics, dates delivered, and a register of attendees will be recorded and the records maintained.

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12. AUDIT AND REVIEW

12.1 Document review

In accordance with the requirements of condition F7, this CEMP will be reviewed within 3 months of:

- The submission of an incident report under condition F9;
- The submission of an Annual Review under condition F11;
- The submission of an Independent Environmental Audit under condition F13; and
- The approval of any modification of the conditions of this consent (unless the conditions require otherwise).

Wollongong Coal will review and revise the CEMP and any associated plans where required. Where revisions to any document are required, then within 6 weeks of the review, the revised document will be submitted to the Secretary for approval, unless agreed otherwise.

Any revisions or changes to the CEMP will be made in consultation with the relevant authorities and groups.

12.2 Adaptive management

In accordance with Condition F4, where exceedances of criteria or performance measures has occurred, commensurate with construction activities Wollongong Coal will:

- implement all reasonable and feasible mitigation measures to ensure that the exceedance does not re-occur; and
- consider all options for remediation.

12.3 Annual review

In accordance with Condition F11, Wollongong Coal will prepare an annual review of the environmental performance of the project. The timeframe and scope of the annual review are defined in Section 5.1 of the EMS.

12.4 Copies of the Annual Review will be submitted to WCC, WSC, and made available to the CCC and any interested person upon request in accordance with Condition F12.Auditing

The objectives of an audit are to maintain compliance with the CEMP. Audits shall be carried out by staff or consultants with the necessary qualifications or experience to make an objective assessment.

In accordance with Condition F13, an Independent Environmental Audit will be undertaken by a suitably qualified auditor and include experts in any field specified by the Secretary. The timeframe and scope of the audit are defined in Section 5.2 of the EMS.

12.5 Management reviews

Management reviews will be undertaken as part of the continual improvement process. The reviews will be initiated by the EMR and includes relevant project team members and the mine SLT members as required.

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The Wollongong Coal Environment and Community Department will meet at least quarterly, to review environmental management issues for the project. The meeting can be run in conjunction with a wider project team meeting if the EM/SER deems it appropriate.

The reviews will include:

- Consideration of the general progress of work and the level of overall construction environmental risk;
- Consideration of monitoring, inspection and audit results;
- Consideration of recent and relevant incidents and any lessons learnt;
- Consideration of any new regulatory obligations;
- Consideration of any recorded pollution complaints;
- A review of the effectiveness of environmental controls, including. Erosion and sediment controls;
- Consideration of changes in operational needs such as resourcing; and
- Feedback from Wollongong Coal and other relevant stakeholders.

The outcomes of the environmental reviews may trigger amendments to this CEMP and related documentation, revision to the project's environmental management system, review of the risk assessment, re-evaluation of the project objectives and targets as well as input into other project documents.

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13. RECORDS AND DOCUMENT CONTROL

13.1 Environmental records

The EM/SER is responsible for maintaining all environmental management documents so that they are always current at the point of use.

Types of records include:

- Monitoring, inspection and compliance reports/records;
- Correspondence with public authorities;
- Induction and training records;
- Reports on environmental incidents, other environmental non-conformances, complaints and follow-up action;
- Community engagement information; and
- Minutes of environmental management system review meetings and evidence of any action taken.

All construction environmental management documents are subject to ongoing review and continual improvement. This includes times of change to scheduled activities or to legislative or licensing requirements.

Only the EM/SER, or delegate, has the authority to change any of the construction environmental management documentation.

13.2 Document control

The CPM will coordinate the preparation, review and distribution, as appropriate, of the environmental documents. During construction, the environmental documents will be stored at the main site compound.

The CEMP will be developed, approved, implemented and maintained in accordance with the Document Control Procedure (WCL SYS PRO 001).

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14. REFERENCES

- ERM 2013, NRE No. 1 Colliery Project Application (09_0013) Environmental Assessment, prepared for Gujarat NRE Coking Coal Pty Ltd, Environmental Resources Management Australia.
- PAC 2015, *Russell Vale Colliery – Underground Expansion Project: Review Report*, Planning Assessment Commission.
- PAC 2016, *Russell Vale Colliery – Underground Expansion Project: Second Review Report*, Planning Assessment Commission.
- Umwelt 2019a, *Russell Vale Revised Underground Expansion Project: Revised preferred project report and response to second PAC review*, Umwelt Environmental and Social Consultants.
- Umwelt 2019b, *Russell Vale Colliery Revised Underground Expansion Project Submissions Report – Part A*, Umwelt Environmental and Social Consultants.
- Umwelt 2019c, *Russell Vale Colliery Revised Underground Expansion Project Submissions Report – Part B*, Umwelt Environmental and Social Consultants.
- Wollongong Coal 2021, *Russell Vale Colliery Environmental Management Strategy*, Wollongong Coal Pty Limited.

15. GLOSSARY OF ABBREVIATIONS AND TERMS

Abbreviations	
CCC	Community Consultative Committee
CCL	Consolidated Coal Lease
CPM	Contract Project Manager
CEMP	Construction Environmental Management Plan
DECC	Department of Environment and Climate Change NSW
DPIE	NSW Department of Planning, Industry and Environment
EA	Environmental assessment
EMM	EMM Consulting Pty Limited
EMP	Environmental Management Plan
EM	Environment Manager
EMS	Environmental Management System
EPA	NSW Environment Protection Authority
EPL	Environment Protection Licence
ICNG	Interim construction noise guideline
IPC	Independent Planning Commission of NSW
JSPL	Jindal Steel and Power Limited
LGA	Local Government Area
ML	Mining Lease
MPL	Mining Purpose Lease
Npfi	Noise Policy for Industry
NSW	New South Wales
PAA	Project application area
PAC	Planning Assessment Commission
PKCT	Port Kembla Coal Terminal

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ROM	Run-of-mine
SEPP	State Environmental Planning Policy
SER	Site Environment Representative
UEP	Underground Expansion Project
VENM	Virgin Excavated Natural Material

Terms	
the Colliery	Russell Vale Colliery
the Planning Secretary	The Planning Secretary of the Department of Planning, Industry and Environment (DPIE)
The Project	the Revised Preferred Project
Wollongong Coal Pty Limited	Wollongong Coal



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APPENDIX A – AGENCY CONSULTATION

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<i>Obligation to Minimise Harm to the Environment, Condition A1, Schedule 2</i>	Sufficient (Yes/No/Partial)	Document reference and comment	Action Required	Company Response
In addition to meeting the specific performance measures and criteria established under this consent, the Applicant must implement all reasonable and feasible measures to prevent, and if prevention is not reasonable and feasible, minimise, any material harm to the environment that may result from the construction and operation of the development, and any rehabilitation required under this consent.	Yes	Table 3.1 suggests this condition is addressed by Section 1.2 and Section 6. Neither Section 1.2 or Section 6 contains relevant commitment. Commitment included in Section 1.	-	Noted - no change
<i>Notification of Commencement, Condition A5, Schedule 2</i>	Sufficient (Yes/No/Partial)	Document reference and comment	Action Required	Company Response
The Applicant must notify the Department in writing at least two weeks prior to: (a) commencing the development under this consent (b) commencing construction under this consent;	Yes	Commitment included in Section 1.6.	-	Noted - no change
<i>Noise Operating Conditions, Condition B2, Schedule 2</i>	Sufficient (Yes/No/Partial)	Document reference and comment	Action Required	Company Response
The Applicant must: (a) take all reasonable steps to minimise the construction, operational and road noise of the development, including low frequency noise and other audible characteristics;	Yes	Commitment included in Section 1.	-	Noted - no change
<i>Noise Mitigation, Condition B3, Schedule 2</i>	Sufficient (Yes/No/Partial)	Document reference and comment	Action Required	Company Response
The Applicant must: a) implement noise mitigation bunds, walls and barriers identified in	No	Section 2.3 contains statements such as 'The remaining bunds will be completed prior to full operation commencing' and 'Construction of walls	In accordance with condition noise mitigation bunds, walls and barriers	Agreed - Section 2.4, Table 2.2, Section 6.2, and Definition of terms

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Appendix 2 prior to the commencement of mining operations;		shall be completed prior to the commencement of 'phase-in' operations'. The above timing conflicts with Table 6.1.	must be implemented prior to operation. Please provide a clear schedule of bund and wall construction	revised to address uncertainty and confirm timing of noise bund/wall construction, 'phase-in' operations and management of noise prior to full operation
b) consider the use of noise absorptive material as far as is practicable in the construction of the noise walls and barriers in condition B3(a); and	Yes	Table 6.1 contains this commitment.	-	Noted – no change
c) ensure the design of the noise walls and barriers in condition B3(a) are endorsed by a suitably qualified and experienced noise expert.	Yes	Table 6.1 contains this commitment	-	Noted – no change
<i>Meteorological Monitoring, Condition B11, Schedule 2</i>	Sufficient (Yes/No/Partial)	Document reference and comment	Action Required	Company Response
Prior to commencing construction under this consent and for the remaining life of the development, the Applicant must ensure that there is a suitable meteorological station operating in the vicinity of the site that: (a) complies with the requirements in the Approved Methods for Sampling and Analysis of Air Pollutants in New South Wales (DEC, 2007); (b) is capable of continuous real-time measurement of wind speed, wind direction sigma theta and temperature; and	Partial	Table 6.1 contains commitment capable of continuous real-time measurement of wind speed, wind direction sigma theta and temperature Section 7.3 contains commitment capable of continuous real-time measurement of wind speed, wind direction sigma theta and temperature. No details on compliance with Approved Methods for Sampling and Analysis of Air Pollutants in New South Wales (DEC, 2007) or NPfl.	Ensure a suitable meteorological station compliant with all requirements is operating prior to commencing construction. If station is compliant include detail in CEMP	Agreed - Section 7.3 revised to confirm meteorological monitoring will be undertaken in accordance with AS 3580 14-2011

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(c) is capable of measuring meteorological conditions in accordance with the NPfI; unless a suitable alternative is approved by the Planning Secretary following consultation with the EPA.				
<i>Traffic Management Plan, Condition B30, Schedule 2</i>	Sufficient (Yes/No/Partial)	Document reference and comment	Action Required	Company Response
<p>B30. The Applicant must prepare a Traffic Management Plan for the development to the satisfaction of the Planning Secretary. This plan must:</p> <p>(f) include a traffic management protocol for construction and operation of the development, which considers:</p> <p>(i) truck number, time and operating restrictions as required by conditions A11-A13;</p> <p>(ii) appropriate speed limits;</p> <p>(iii) truck separation distances;</p> <p>(iv) minimisation of compression braking and other noisy practices, including on the approach to Port Kembla Road/Springhill Road traffic lights when entering or exiting PKCT;</p> <p>(v) reporting traffic faults and traffic incidents; and</p>	Partial	<p>No specific Traffic Management Plan provided.</p> <p>Traffic criteria and mitigation included in CEMP.</p> <p>Why has a 50kph restriction been placed on a 60kph public road?</p> <p>No details of truck separation details provided.</p> <p>No details on minimization of compression braking.</p>	<p>Include justification for 50kph limit on 60kph public road.</p> <p>Include details on truck separation.</p> <p>Include details on minimization of compression braking.</p>	<p>Agreed – voluntary speed limit has been in place as part of Wollongong Coal's historic traffic safety initiative, previous approvals and reflects DPIE's Bellambi Gully Development Control Order issued on 23 July 2020</p> <p>Table 6.3 revised to include management / mitigation measure for maintaining truck separation on Bellambi Lane during construction to minimise the use of compression braking in urban area</p>

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Construction Hours, Condition D1, Schedule 2	Sufficient (Yes/No/Partial)	Document reference and comment	Action Required	Company Response
Construction activities at the surface facilities site must only be undertake between the hours of 7 am to 6 pm Monday to Friday, and 8 am to 1 pm Saturday, with no construction activities on Sundays or public holidays, unless the Planning Secretary agrees otherwise	Partial	<p>Section 2.5 and Table 6.1</p> <p>NOTE: Conflict in CEMP text– an OOHWP document will be prepared? An OOHWP has been prepared (see Appendix B).</p> <p>Has EPA reviewed OOHWP?</p> <p>Current submission is a protocol only and not an OOHWP request for a specific task.</p>	Ensure CEMP text in relation to OOHWP is consistent	<p>Agreed - Section 2.5 revised to clarify that an OOHWP Protocol has been prepared</p> <p>No specific comments have been received from the EPA on the OOHWP Protocol</p> <p>The purpose of the OOHWP Protocol is to demonstrate how emergency construction activities undertaken outside of standard hours would be assessed to determine such works are predicted to be at or below operational noise criteria at sensitive receptors</p>
Construction Noise, Condition D2, Schedule 2	Sufficient (Yes/No/Partial)	Document reference and comment	Action Required	Company Response
The Applicant must ensure that the noise generated by construction complies with the requirements of the ICNG.	Partial	Various partial commitments through the document	Include a blanket commitment	Agreed - Section 5.2.1 revised to confirm that the noise generated by construction will comply with the

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				requirements of the ICNG
Out of Hours Construction Work, Condition D3, Schedule 2	Sufficient (Yes/No/Partial)	Document reference and comment	Action Required	Company Response
<p>If the Applicant proposes to undertake any construction works outside the hours specified in condition D1, then the Applicant must prepare an Out of Hours Work Protocol for these works, to the satisfaction of the Planning Secretary. This protocol must:</p> <p>(a) be prepared in consultation with the EPA and any residents who may be affected by the noise generated by these works;</p> <p>(b) address the relevant requirements of the ICNG; and</p> <p>(c) be approved by the Planning Secretary before any out of hours construction works are carried out.</p>	No	<p>Given the scope, duration and the type of construction works proposed (noise mitigation bund and walls) for the construction scope there is little justification for OOHW except for emergency works.</p>	<p>If there are specific tasks where OOHW is necessary provide DPIE with OOHP with detailed assessment (Noise Impact Statement - including an appropriately detailed noise prediction tool noise outcome) so it can be reviewed, assessed and if appropriate approved prior to commencement.</p>	<p>Agreed – the OOHW Protocol provides examples / reasons for emergency work to be undertaken out of hours, including (but not be limited to):</p> <ul style="list-style-type: none"> ensuring the safety of the public and Wollongong Coal personnel; minimising disruption to the existing mining activities; following directions by DPIE and/or relevant mine authority; minimising disruption to members of the public; minimising disruptions to essential services and utilities for surrounding

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				<p>businesses and adjoining residential receivers;</p> <ul style="list-style-type: none"> • work that shortens the length of proposed activity; and/or • fulfilling engineering design requirements.
<i>Out of Hours Construction Work, Condition D4, Schedule 2</i>	Sufficient (Yes/No/Partial)	Document reference and comment	Action Required	Company Response
<p>The Applicant must implement the Out of Hours Work Protocol approved by the Planning Secretary.</p> <p>Note: For areas where construction noise is predicted to be at or below operational noise criteria at sensitive receptors, this is likely to provide sufficient justification to allow construction works to be undertaken outside of recommended standard hours as specified in the ICNG.</p>	No	See above		<p>Agreed – as previously stated the purpose of the OOHW Protocol is to demonstrate how emergency construction activities undertaken outside of standard hours would be assessed to determine such works are predicted to be at or below operational noise criteria at sensitive receptors</p>

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Construction Management Plan, Condition D5, Schedule 2	Sufficient (Yes/No/Partial)	Document reference and comment	Action Required	Company Response
The Applicant must prepare a Construction Environmental Management Plan for construction works to the satisfaction of the Planning Secretary. This plan must: (a) be prepared in consultation with the EPA, WCC and the relevant roads or utilities authorities; (b) provide the specific environmental management measures for construction works; and (a) describe the measures to be implemented to minimise construction-related traffic, noise, dust and visual impacts, including minimising surface disturbance.	Partial	CEMP prepared in consultation with EPA and WCC. Note: EPA and WCC raised similar issues as this review in relation to 'phasing-in' phase compared to that approved prior to operation. Specific environmental management measures were detailed in Section 6.	Provide CEMP content consistent with approval – i.e. include revisions to address issues raised by agencies.	Agreed – Table 1.2 revised to address / cross reference comments raised by EPA and WCC As previously stated Section 2.4, Table 2.2, Section 6.2, and Definition of terms revised to address Agency comments and confirm timing of noise bund/wall construction, 'phase-in' operations
Construction Management Plan, Condition D6, Schedule 2	Sufficient (Yes/No/Partial)	Document reference and comment	Action Required	Company Response
The Applicant must not commence construction until the Construction Environmental Management Plan is approved by the Planning Secretary.	Yes	Proponent not commenced construction yet	-	Noted – no change
Construction Management Plan, Condition D7, Schedule 2	Sufficient (Yes/No/Partial)	Document reference and comment	Action Required	Company Response
The Applicant must implement the Construction Environmental Management Plan as approved by the Planning Secretary	Yes	Section 6 text includes commitment to implement mitigation measures	-	Noted – no change

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Notification of Exceedances, Condition E1, Schedule 2	Sufficient (Yes/No/Partial)	Document reference and comment	Action Required	Company Response
As soon as practicable, and no longer than 7 days after obtaining monitoring results showing: (a) an exceedance of any relevant criteria in PART B of this consent, the Applicant must notify affected landowners in writing of the exceedance, and provide regular monitoring results to these landowners until the development is again complying with the relevant criteria; and (b) an exceedance of any relevant air quality criteria in PART B of this consent, the Applicant must also provide to any affected land owners and tenants a copy of the fact sheet entitled "Mine Dust and You" (NSW Health, 2017).	No	Section 8 refers to notification of Non Compliances but not exceedances	Include commitments relevant to this condition – ie notification of exceedances and notify land owners as required.	Agreed - Section 8.3 revised to include incident and non-compliance reporting timeframes in accordance with consent conditions
Independent Review, Condition E2 to E5, Schedule 2	Sufficient (Yes/No/Partial)	Document reference and comment	Action Required	Company Response
E2. If an owner of privately-owned land considers the development to be exceeding the relevant criteria in PART B or PART C of this consent, then he/she may ask the Secretary in writing for an independent review of the impacts of the development on his/her land	No	No relevant text identified in CEMP	Include text relevant to Independent reviews	Noted - Sections 9.3 and 9.4 outline Wollongong Coal's communication with the community on proposed activities and protocol in the event of a complaint being received to address construction impacts The purpose of the Conditions E2 to E5 of

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				Schedule 2 are considered relevant for operation of the Russell Vale Colliery and are appropriately addressed in operational management plans
E3. If the Planning Secretary is not satisfied that an independent review is warranted, the Planning Secretary will notify the landowner in writing of that decision, and the reasons for that decision, within 28 days of the request for a review.	No	No relevant text identified in CEMP	Include text relevant to Independent reviews	Noted – refer response comment above
E4. If the Planning Secretary is satisfied that an independent review is warranted, within 3 months, or other timeframe agreed by the Planning Secretary and the landowner, of the Planning Secretary's decision, the Applicant must: (a) commission a suitably qualified, experienced and independent person, whose appointment has been approved by the Planning Secretary, to: (i) consult with the landowner to determine their concerns; (ii) conduct monitoring to determine whether the development is complying with the relevant criteria in Part B and Part C; and (iii) if the development is not complying with the relevant criterion, identify measures that could be implemented to ensure compliance with the relevant criterion; and	No	No relevant text identified in CEMP	Include text relevant to Independent reviews	Noted – refer response comment above

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(b) give the Planning Secretary and landowner a copy of the independent review.				
Adaptive Management, Condition F4, Schedule 2	Sufficient (Yes/No/Partial)	Document reference and comment	Action Required	Company Response
<p>F4. The Applicant must assess and manage development-related risks to ensure that there are no exceedances of the criteria and/or performance measures in this consent. Any exceedance of these criteria and/or performance measures constitutes a breach of this consent and may be subject to penalty or offence provisions under the EP&A Act or EP&A Regulation, notwithstanding offsetting actions taken.</p> <p>Where any exceedance of these criteria and/or performance measures has occurred, the Applicant must, at the earliest opportunity:</p> <p>(a) take all reasonable and feasible steps to ensure that the exceedance ceases and does not re-occur;</p> <p>(b) consider all reasonable and feasible options for remediation (where relevant) and submit a report to the Department describing those options and any preferred remediation measures or other course of action;</p> <p>(c) within 14 days of the exceedance occurring, submit a report to the Secretary describing these remediation options and any preferred remediation measures or other course of action; and</p>	No	Adaptive Management only mentioned in BB Risk Assessment	Include text relevant to Adaptive Management	Agreed - Section 12.2 added to outline adaptative management measures to be implemented during construction

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(d) implement remediation measures as directed by the Planning Secretary; to the satisfaction of the Secretary.				
Management Plan Requirements, Condition F5, Schedule 2	Sufficient (Yes/No/Partial)	Document reference and comment	Action Required	Company Response
<p>F5. Management plans required under this consent must be prepared in accordance with relevant guidelines, and include:</p> <p>(a) a summary of relevant background or baseline data;</p> <p>(b) details of:</p> <p>(i) the relevant statutory requirements (including any relevant consent, licence or lease conditions);</p> <p>(ii) any relevant limits or performance measures and criteria; and</p> <p>(iii) the specific performance indicators that are proposed to be used to judge the performance of, or guide the implementation of, the development or any management measures;</p> <p>(c) any relevant commitments or recommendations identified in the document/s listed in condition A2;</p> <p>(d) a description of the measures to be implemented to comply with the relevant statutory requirements, limits, or performance measures and criteria;</p> <p>(e) a program to monitor and report on the:</p>	Partial		<p>Update Table 3.1 to include conditions of consent documented in this feedback table.</p> <p>Include text on Contingency Plan</p>	<p>Agreed - Table 3.1 revised to incorporate all conditions of consent</p> <p>Section 6.8 revised to reference to contingency plan as part of WCL's Trigger Action Response Plan (TARP)</p>

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<p>(i) impacts and environmental performance of the development; and</p> <p>(ii) effectiveness of the management measures set out pursuant to condition F5(c);</p> <p>(f) a contingency plan to manage any unpredicted impacts and their consequences and to ensure that ongoing impacts reduce to levels below relevant impact assessment criteria as quickly as possible;</p> <p>(g) a program to investigate and implement ways to improve the environmental performance of the development over time;</p> <p>(h) a protocol for managing and reporting any:</p> <p>(i) incident, non-compliance or exceedance of any impact assessment criterion or performance criterion;</p> <p>(ii) complaint; or</p> <p>(iii) failure to comply with other statutory requirements;</p> <p>(i) public sources of information and data to assist stakeholders in understanding environmental impacts of the development; and</p> <p>(j) a protocol for periodic review of the plan.</p>				
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Management Plan Requirements, Condition F6, Schedule 2	Sufficient (Yes/No/Partial)	Document reference and comment	Action Required	Company Response
The Applicant must ensure that management plans prepared for the development are consistent with the conditions of this consent and any EPL issued for the site	Yes	Section 5.2.4 – Water Monitoring Consistent with EPL 12040.	-	Noted – no change
Revision of Strategies, Plan and Programs, Condition F7 and F8, Schedule 2	Sufficient (Yes/No/Partial)	Document reference and comment	Action Required	Company Response
F7. Within three months of: (a) the submission of an incident report under condition F9; (b) the submission of an Annual Review under condition F11; (c) the submission of an Independent Environmental Audit under condition F13; or (d) the approval of any modification of the conditions of this consent (unless the conditions require otherwise); the suitability of existing strategies, plans and programs required under this consent must be reviewed by the Applicant.	Yes	Section 12.1	-	Noted – no change
F8. If necessary, to either improve the environmental performance of the development, cater for a modification or comply with a direction, the strategies, plans and programs required under this consent must be revised, to the satisfaction of the Planning Secretary. Where revisions are required, the revised document must be submitted to the Planning Secretary for approval within 6 weeks of the review.	Yes	Section 12.1	-	Noted – no change

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Note: This is to ensure strategies, plans and programs are updated on a regular basis and to incorporate any recommended measures to improve the environmental performance of the development.				
Incident Notification, Condition F9, Schedule 2	Sufficient (Yes/No/Partial)	Document reference and comment	Action Required	Company Response
The Applicant must immediately notify the Department and any other relevant agencies immediately after it becomes aware of an incident. The notification must identify the development (including the development application number and name) and set out the location and nature of the incident.	Partial	Section 9.5 refers to PIRMP.	<p>Include a summary of the steps included in referred PIRMP. Include approximately a paragraph of text or 5 or 6 dot points.</p> <p>Include commitment to notify DPIE of an incident immediately consistent with condition.</p>	Agreed – Section 9.6 revised to include addition text on PIRMP and commitment to immediately notify DPIE of an incident
Non-Compliance Notification, Condition F10, Schedule 2	Sufficient (Yes/No/Partial)	Document reference and comment	Action Required	Company Response
Within seven days of becoming aware of a non-compliance, the Applicant must notify the Department of the non-compliance. The notification must set out the condition of this consent that the development is non-compliant with, why it does not comply and the reasons for the non-compliance (if known) and what actions have been, or will be, undertaken to address the non-compliance	Partial	Section 8.3 includes the reporting but no timeframe.	Include 7 day timeframe.	Agreed – as previously stated Section 8.3 revised to include incident and non-compliance reporting timeframes in accordance with consent conditions

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Annual Review, Condition F11 and F12, Schedule 2	Sufficient (Yes/No/Partial)	Document reference and comment	Action Required	Company Response
By the end of March each year after the commencement of the development under this consent, or other timeframe agreed by the Planning Secretary, a report must be submitted to the Department reviewing the environmental performance of the development, to the satisfaction of the Planning Secretary.	No	Section 12.1 was only location relevant text was identified.	Include a section on Annual Review Report	Agreed - Section 12.3 revised to include Annual Review
General Comments				Company Response
'Phase-In' operation is not consistent with phases and scopes in Approval				Agreed - Section 2.4, Table 2.2, Section 6.2, and Definition of terms revised to confirm timing of noise bund/wall construction, 'phase-in' operations
Why is Baker Road wall and Bund 1 wall constructed first? Include a sequence of construction activities				Agreed - Broker Street noise wall and Bund 1 prioritised to reduce predicted noise impacts to these sensitive receivers (ie to the north-east). Table 2.2 revised to confirm timing / sequence of noise bund/wall construction
Water quality performance – any mitigation proposed given scale of earthworks to be undertaken?				Agreed - Section 6.5 and Table 6.4 revised to include regular water quality monitoring as a

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	management/mitigation measure
Is the scope of work associated with Section 2.3.3 likely to proceed?	Noted - Section 2.3.3 revised to include caveat for coal processing plant
Section 10.1 EM and SER needs separate lists of responsibilities	Agreed - Section 10.1 revised to separate EM and SER roles and responsibilities
OOHP – difficult to establish if this OOHP is a protocol or an OOHW application for the bund/wall construction?	Agreed – as previously stated the purpose of the OOHW Protocol is to demonstrate how emergency construction activities undertaken outside of standard hours would be assessed to determine such works are predicted to be at or below operational noise criteria at sensitive receptors
OOHP – Difficult to justify OOHW for the bund/wall construction considering the assessment criteria in Section 3.2	Agreed - as previously stated the purpose of the OOHW Protocol is to demonstrate how emergency construction activities to be undertaken outside of standard hours would be assessed to determine such works are

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	predicted to be at or below operational noise criteria at sensitive receptors
Please confirm environmental issues associated with First Workings will be managed via revised Operational Management Plans	Agreed - Section 1.4 revised to confirm environmental issues associated with first workings will be addressed in the Mine Operations Plan (MOP)



Site	Russell Vale Colliery	DOC ID	
Type	Management Plan	Date Published	08/03/2021
Doc Title	Russell Vale Colliery - CEMP		

From: Andrew Couldridge <Andrew.Couldridge@epa.nsw.gov.au>
Date: 15 February 2021 at 1:08:38 pm AEDT
To: Richard Sheehan <richard.sheehan@wcl.net.au>
Cc: Devendra Vyas <dvyas2@wcl.net.au>
Subject: RE: Submission of WCL RussellVale Management Plans

Dear Richard,

Apologies for the delay in responding.

The EPA has reviewed the first of the EMP's for Russell Vale and intends to provide comment on the others by the end of the week.

The EPA has only minor comments on the CEMP and has noted them in the document attached for ease of reference.

As the comments are minor, the EMP does not have to be re-submitted to the EPA before submission to NSW Planning.

Regards Andrew.

Mr Andrew Couldridge
Senior Operations Officer – Metro South
Regulatory Services Division, NSW Environment Protection Authority
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andrew.couldridge@epa.nsw.gov.au www.epa.nsw.gov.au



Site	Russell Vale Colliery	DOC ID	
Type	Management Plan	Date Published	08/03/2021
Doc Title	Russell Vale Colliery - CEMP		

From: Richard Sheehan <richard.sheehan@wcl.net.au>
Sent: Wednesday, 6 January 2021 11:28 PM
To: Ron Zwicker <RZwicker@wollongong.nsw.gov.au>
Cc: Devendra Vyas <dvyas2@wcl.net.au>; Wayne Sly <wayne.sly@wcl.net.au>; Warwick Lidbury <wlidbury@wcl.net.au>
Subject: HPRM: Good Evening Ron,

[EXTERNAL EMAIL] This email was sent from outside of Wollongong City Council – be cautious, particularly with links and attachments.

In support of our meeting tomorrow please see for your information the draft CEMP including an out of hours protocol, and a draft noise management plan. The traffic management plan won't be ready in time for this meeting but will be forwarded for your review by COB tomorrow.

Regards

Richard Sheehan
Group Environmental & Approvals Manager

Wollongong Coal Limited
Russell Vale Colliery
7 Princes Highway, Corrimal NSW 2518
PO Box 281, Fairy Meadow NSW 2519
☎ Mob: 0404 972 746
✉ Email: Richard.sheehan@wcl.net.au





From: Ron Zwicker <rzwicker@wollongong.nsw.gov.au>
Date: 7 January 2021 at 11:17:47 am AEDT
To: Richard Sheehan <richard.sheehan@wcl.net.au>
Cc: Devendra Vyas <dvyas2@wcl.net.au>, Wayne Sly <wayne.sly@wcl.net.au>, Warwick Lidbury <wlidbury@wcl.net.au>
Subject: RE: HPRM: Good Evening Ron,

Hi Richard

As discussed, it would be appreciated if the CEMP could be amended to clarify what the "phased-in operation period" means and that the noise wall will be completed before coal mining operations begin.

Regards,

Ron

 Ron Zwicker
Special Projects and Planning Support Manager
Post Locked Bag 8821 Wollongong DC NSW 2500
Phone +61242277639
Email rzwicker@wollongong.nsw.gov.au • www.wollongong.nsw.gov.au
Our Values ♻️ SUSTAINABLE ⚔️ COURAGE ♡ RESPECT ⚡️ INTEGRITY 1. ONE TEAM
  



Site	Russell Vale Colliery	DOC ID	
Type	Management Plan	Date Published	08/03/2021
Doc Title	Russell Vale Colliery - CEMP		

From: Development Southern <development.southern@rms.nsw.gov.au>

Date: 10 February 2021 at 9:50:03 am AEDT

To: richard.sheehan@wcl.net.au

Subject: MP09_0013-PA-2 (Our Ref: STH09/02236/19)

Please find attached correspondence.

Melanie Grant

Development Support Officer, Land Use Southern
Community and Place | South Region
Regional and Outer Metropolitan
Transport for NSW

T: 02 4221 2548

development.southern@rms.nsw.gov.au



Site	Russell Vale Colliery	DOC ID	
Type	Management Plan	Date Published	08/03/2021
Doc Title	Russell Vale Colliery - CEMP		

APPENDIX B – OUT OF HOURS WORK PROTOCOL

Russell Vale Colliery

Out of Hours Work Protocol – Emergency Works

Prepared for Wollongong Coal Limited
March 2021

EMM Newcastle
Level 1, 146 Hunter Street
Newcastle NSW 2300

T 02 4907 4800

E info@emmconsulting.com.au

www.emmconsulting.com.au

Russell Vale Colliery

Out of Hours Work Protocol – Emergency Works

Report Number

H200718 RP 2

Client

Wollongong Coal Limited

Date

8 March 2021

Version

v4 Final

Prepared by



Katie Weekes

Senior Environmental Scientist

8 March 2021

Approved by



Paul Gibbons

Director

8 March 2021

This report has been prepared in accordance with the brief provided by the client and has relied upon the information collected at the time and under the conditions specified in the report. All findings, conclusions or recommendations contained in the report are based on the aforementioned circumstances. The report is for the use of the client and no responsibility will be taken for its use by other parties. The client may, at its discretion, use the report to inform regulators and the public.

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Appendices

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1 Introduction

This Out of Hours Work Protocol – Emergency Works (OOHW Protocol) has been prepared for Wollongong Coal Pty Limited (Wollongong Coal) for the underground expansion of the Russell Vale Colliery (the Colliery) in accordance with development consent MP09_0013, Condition D3 and Condition D4.

1.1 Purpose and scope

Russell Vale Colliery (the Colliery) is an underground coal mine located at Russell Vale, approximately 8 kilometres (km) north of Wollongong and 70 km south of Sydney within the Wollongong and Wollondilly local government areas (LGAs). The Colliery is owned and operated by Wollongong Coal Pty Limited (Wollongong Coal).

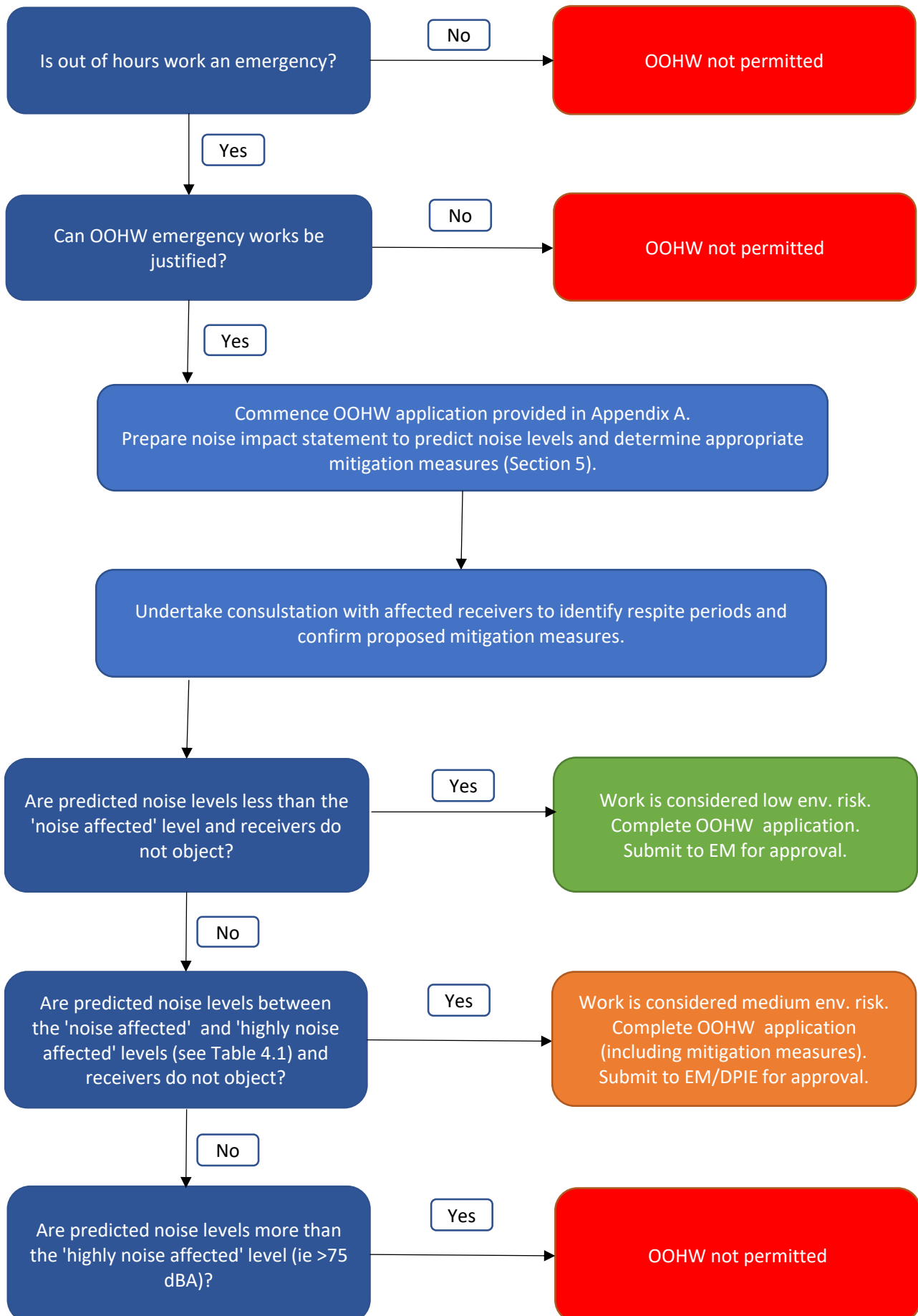
The purpose of this OOHW Protocol is to:

- provide a process to justify and assess the impact of OOHW against relevant noise criteria;
- define criteria to determine the risk of OOHW and who has the authority to approve the OOHW;
- determine the application of standard and additional noise mitigation measures based on defined criteria; and
- outline community consultation and other notification requirements.

This OOHW protocol has been prepared in accordance with the Interim Construction Noise Guideline (ICNG) (DECC 2009) to address development consent MP09_0013, Condition D3 and Condition D4.

2 The OOHW process

To undertake OOHW, the approved construction contractor will be required to undertake a number of evaluation tasks, answer a series of questions and document these in an OOHW application for approval by Wollongong Coal Environment Manager (EM) or delegate. Figure 2.1 illustrates the step-by-step process from justification to approval.



3 Justification for OOHW

Construction of the coal processing plant and associated infrastructure will be staged to meet production requirements and is planned to be undertaken within a 12 – 24 month timeframe.

Standard construction hours described in the ICNG for residences and adopted for the OOHW protocol are:

- 7:00 am to 6:00 pm Monday to Friday;
- 8:00 am to 1:00 pm Saturday; and
- No work on Sundays or public holidays.

As described by the ICNG a strong justification would typically be required for works outside the recommended standard hours. Work outside of these standard working hours might include:

- emergency work OOHW that is justified and approved.

3.1 Emergency works

Emergency works that would allow for a variation to standard work hours that can be carried out without further OOHW approval include those situations where works are required in an emergency to avoid injury or the loss of life, to avoid damage or loss of property or to prevent environmental harm (ICNG 2009).

On becoming aware of the need for emergency work, the EM, will notify the required construction personnel and Wollongong Coal staff, Department of Planning, Infrastructure and Environment (DPIE) and other relevant authorities as required of the reasons for such work.

All practical measures will be taken to minimise impacts to neighbouring affected receivers. Wollongong Coal or the Construction Contractor would endeavour to notify all noise affected sensitive receivers of the likely impact and duration of those works. Notification can be in the form of information cards distributed to those properties immediately adjacent to the works or potentially impacted. Details should include:

- scope and location of works;
- hours and duration;
- type of equipment to be used;
- likely impacts; and
- a 24-hour contact phone number.

For completion of the emergency works, a report is to be prepared by the Construction Contractor detailing:

- date, time and duration of the works;
- description of the emergency works undertaken;
- measures implemented to mitigation impacts from the works;
- action taken to prevent the recurrence of the emergency; and

- a review of the works schedule following emergency works to ensure standard respite requirements are achieved.

4 OOHW application and approval

4.1 Assessment requirements

Emergency works that has been appropriately justified can only proceed outside of standard construction hours where a OOHW application form (Appendix A) has been prepared and the following procedures followed:

- Where works are greater than 200 m from the nearest potentially affected receivers (see Figure 4.1), potentially affected receivers have been notified and works are relatively minor in nature, works will be classified as low environmental risk and the application will be referred to the EM for approval.
- Where works are less than 200 m from the nearest receiver or involve noise generating activities or equipment, a Noise Impact Statement (NIS) will be prepared in accordance with Section 4.6.
- If the NIS concludes that the OOHW would be low environmental risk (ie less than the 'noise affected' level detailed in Table 4.1) and the nearest potentially affected receivers have been notified of the works, the application will be referred to the EM for approval.
- If the NIS concludes that the OOHW would be medium environmental risk (greater than the 'noise affected' level but lower than the 'highly noise affected level' detailed in Table 4.1) and the nearest potentially affected receivers have been notified, the application will identify additional mitigation measures to be employed and then be referred to the EM and DPIE for approval 5-days prior to the commencement of works.
- If the NIS concludes that the OOHW would be high environmental risk (greater than the 'highly noise affected' level detailed in Table 4.1), works are not permitted.

No works will take place without the approval of the EM (or delegate). All OOHW will be recorded in the Out of Hours Works Register.

4.2 Hierarchy of working hours

In addition to the information provided in Section 4.1, consideration should be given to selecting the most appropriate working period for out of hours work according to the following hierarchy:

1. Sunday and public holiday periods between 8 am and 6 pm (Period 1 day).
2. Weekday evening periods between 6 pm and 10 pm (Period 1 evening).
3. Weekend evening periods between 6 pm and 10 pm (Saturday Period 1 or Sunday Period 2).
4. Weekend night periods between 10 pm and 8 am (Period 2 night).
5. Weekday night periods between 10 pm and 7 am (Period 2 night).

Work during Period 2 night should be avoided where possible. If work needs to be undertaken during this period, the noisiest work should be scheduled first (ie during Period 1 day or evening) to minimise potential sleep disturbance impacts.



Figure 4.1 Noise sensitive receivers

4.3 OOHW application

Appendix A provides the application form to capture all necessary information for this protocol including:

- relevant personnel details;
- detailed work description including location, activity, equipment required, timing and duration (not more than 3 consecutive OOHW periods);
- valid justification;
- determination of a risk category based on criteria in Section 4.4;
- standard and additional mitigation measures to be adopted; and
- details of community consultation including relevant feedback and how it has been addressed, and the status of any agreements.

This information will be reviewed by the EM when considering whether proposed OOHW can proceed as documented, proceed on a conditional basis, or not proceed at all.

The subsequent sections provide further detail of the above (where relevant) or cross-reference to where further detail can be found.

4.4 Noise assessment criteria

Construction noise levels were predicted for all proposed bunds/walls/barriers as the worst-case construction scenario. These noise predictions were reported in the Submissions Report – Part A (Umwelt 2019) and are detailed in **Error! Reference source not found..**

These levels represent the worst-case noise levels generated when construction is taking place at the closest point to the individual sensitive receiver (as shown in Figure 4.1). Predicted levels in bold are greater than the ‘noise affected’ level.

Table 4.1 **L_{Aeq,15min} Levels from Bund/Wall/Barrier Construction**

Receiver ID	Predicted L _{Aeq,15min} Noise level (dBA)	‘Noise Affected’ level (dBA)	‘Highly Noise Affected’ level (dBA)
R1	59	49	75
R2	65	49	75
R3	69	49	75
R4	68	49	75
R5	72	53	75
R6	70	53	75
R7	53	53	75
R8	55	53	75
R9	58	49	75
R10	53	49	75

Table 4.1 **L_{Aeq,15min} Levels from Bund/Wall/Barrier Construction**

Receiver ID	Predicted L _{Aeq,15min} Noise level (dBA)	'Noise Affected' level (dBA)	'Highly Noise Affected' level (dBA)
R11	40	49	75
R12	35	49	75
R13	37	49	75
R14	39	49	75
R15 ¹	60	55	-
R16 ¹	57	55	-
R17 ¹	45	55	-

1. Receiver relates to schools.

The predicted construction noise levels comply with the ICNG 'highly noise affected' management level of 75 dBA at all identified receivers. However, at some point in time during construction works, the ICNG 'noise affected' management level is likely to be exceeded at 11 of the 17 representative receiver locations surrounding the site. These exceedances would however only occur for a short duration of up to 8 weeks while construction equipment is operating in close proximity to the receiver in question and under adverse weather conditions. For the remainder of time, construction noise is expected to comply with the 'noise affected' management level.

As a result of the predicted short duration exceedances of the 'noise affected' management levels, mitigation measures outlined in Section 5 will be implemented.

4.5 Noise impact statement

A NIS to determine the noise impacts of the proposed OOHW will be undertaken for planned OOHW, as required under Section 4.1, using an appropriately detailed noise prediction tool. The assessment will predict the level and extent of noise impact that OOHW activities will have on potentially affected sensitive receivers based on inputs including location, and the types and number of construction machinery operating at any one time under a worst-case scenario.

As noted in Section 4.3, noise management levels (NMLs) have been established based on the ICNG. Quantitative noise assessments conducted by the Construction Contractor for OOHW will predict the potential exceedances of the OOHW scenario against the relevant NMLs and sleep disturbance screening criteria identified for potentially affected sensitive receivers.

The assessment will include, but not be limited to:

- details of the nature and scope of each activity, including details of times, duration (not more than 3 consecutive OOHW periods), vehicles, plant and equipment to be used;
- justification of the selected construction and work methods, plant and equipment compared to alternatives taking into consideration;
- an evaluation of the worst-case scenario for each potentially affected receiver including:
 - the background noise level;
 - NMLs;

- the predicted $L_{Aeq,15min}$ noise level, incorporating any 5 dB correction for particularly annoying activities; and
- assessment of sleep disturbance (L_{Amax}) for works undertaken during the night period, being 10 pm to 7 am Monday to Friday, 10 pm to 8 am Saturday and 6 pm to 7 am Sundays and public holidays;
- a conclusion as to whether the works are low, medium or high environmental risk.

Noise mitigation measures to be adopted based on the predicted noise levels are detailed further in Section 5.

4.6 Notification obligations

Before the commencement of OOHW, the EM or delegate will consult with potentially affected receivers. This consultation will be by phone or in-person. Written notification would be to those residents that request it.

The residents should be provided with the following detail:

- The proposed works.
- The timing, duration and nature of the works.
- What is being done to minimise noise impacts.
- When respite periods would occur.
- How progress updates would be communicated.
- How the resident can contact the EM/Construction Contractor.

Consultation and notification of residents would take place at least 5 days prior to the commencement of proposed construction works.

Contact with all residents will be documented by the EM.

5 Application of mitigation measures

5.1 Standard mitigation measures

Reasonable and feasible standard mitigation measures will be implemented for all OOHW. These measures include, but are not limited to:

- modifying behavioural practices on site;
- equipment selection / maintaining and monitoring plant;
- use and siting of plant and hoardings;
- site inductions;
- use of non-tonal reversing alarms;
- minimising reversing movements;
- stakeholder notification; and
- planning noisier work to be carried out during the evening period rather than the night period (ie. before 10 pm).

5.2 Additional mitigation measures

Where construction noise levels are still predicted to exceed the 'noise affected' level after the application of the standard mitigation measures, additional mitigation measures will be implemented in consultation with affected sensitive receivers. These may include:

- consider scheduling of activities:
 - noise barrier/bund/wall construction to be scheduled as early as possible so that they can be used as noise barriers for future construction works (eg Broker Street noise barrier);
 - noise barrier/bund/wall construction works to be undertaken during recommended standard construction hours;
 - consult with affected neighbours about scheduling noise barrier/bund/wall construction to seek to minimise noise impacts, where practicable.
- equipment selection and methods:
 - dump truck access to be provided to bunds on the side further away from the closest receivers to maximise distance to receivers and using the bunds for shielding;
 - regularly inspect and maintain equipment in good working order;

- notification before and during construction:
 - provide information regarding construction activities to potentially affected neighbours, as detailed in the previous section;
 - provide signage at the front of the site providing contact information, construction hours and any updates on construction activities;
- any complaint will be handled in accordance with the Wollongong Coal Complaints Handling Procedure. All feasible and reasonable measures will be implemented to address the source of the complaint and prevent recurrence; and
- undertake attended noise monitoring at the nearest and potentially most impacted residence(s) when construction is occurring within 200 m of noise-sensitive receivers to confirm construction noise levels are consistent with predicted levels. Further detail is provided in the following section.

6 Monitoring

6.1 Attended monitoring

As per the statement of commitments, attended monitoring will be conducted when construction works are within 200 m of the nearest potentially affected receiver. Attended monitoring will also be conducted at the commencement of discrete blocks of OOHW activities or where there is a change in OOHW activities/equipment. This will establish whether NMLs are being met.

The location and number of attended monitoring surveys will be determined by the location and nature of the OOHW.

Where exceedances of the 'highly affected' level is occurring, those works generating high noise levels will cease immediately. Where possible, additional mitigation measures will be identified and implemented and attended monitoring conducted to validate that the measures are effective.

6.2 Real time monitoring

Continuous, real-time monitoring will be conducted at two locations as follows:

- Along the site perimeter directly adjacent to Receivers R2 (north).
- Along the site perimeter directly adjacent to Receivers R9 (south).

The real-time monitoring system shall be used to assist with pro-actively managing noise levels during upcoming periods of noise-enhancing meteorological conditions. However, it may also be used to:

- identify variations in noise levels which can be related to construction activities;
- evaluate the effectiveness of noise mitigation measures; and/or
- assist in the review of noise complaints.

It is noted that as the real-time noise monitoring unit is non-directional and unattended, it cannot be directly used to determine compliance with noise criteria.

6.3 Community consultation

Community consultation and the absence of complaints will be used as an indicator of the effectiveness of the mitigation measures. Monitoring of community feedback will be continual during construction.

Appendix A

OOHW application form

A.1 OOHW application form

Out of hours work emergency works approval request form			
Application No:	Notification date:	Approval Date:	Project:
A. Contact details	Name	Mobile number	Email
WCL Environment Manager (or delegate)			
Contractor Construction Manager			
Contractor Foreman			
Contractor Project Engineer			
B. Details of work:			
Include a map showing location of work extent and nearest sensitive receivers			
Location:			
Description of works – also include a brief description of the sequence of activities:			
Machinery/ plant to be used			
Lighting required:			
Proposed dates:			
Total duration (not more than 3 consecutive OOHW periods):			
Proposed times:			
Justification - why does work need to occur outside of standard construction hours?: (attach support information as required)			
C. Risk assessment			
NML (refer Table 4.1 of OOHW protocol)			
Is the work highly noise intensive? (above 75dB(A) LAeq,15 min)	If yes, the work cannot proceed		
Risk factor category:	Low	Medium (referral to DPIE)	High (work does not proceed)
	Comments:		
Referral to DPIE required?	Yes/No		

D. Details of noise assessment completed:			
Comments:			
E. Proposed mitigation measures:			
Comments:			
F. Community consultation			
Outline consultation undertaken for the proposed OOHW:			
Detail the outcomes of community consultation:			
G. Respite framework			
Have cumulative impacts from OOHW been considered during the development of appropriate mitigation measures and respite?			
I. Review/Endorsements			
WCL EM (or delegate)	Community notified		Date:
	Additional consultation requirements:		
	Have the works been reviewed and endorsed by DPIE, if required?		Yes/No
	Name:	Signature:	Date:
	Comments:		



Site	Russell Vale Colliery	DOC ID	
Type	Management Plan	Date Published	08/03/2021
Doc Title	Russell Vale Colliery - CEMP		



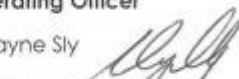

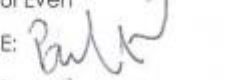

APPENDIX C - BROAD BRUSH RISK ASSESSMENT



Site	Russell Vale Colliery	DOC ID	RVC MIN RA 064
Type	Risk Assessment	Date Published	7 th September 2020
Doc Title	ENVIRONMENT BROAD BRUSH RISK ASSESSMENT		

RISK ASSESSMENT SIGN OFF/ APPROVAL SHEET

OPERATION: Russell Vale Colliery	RA Document Control Number: RVC MIN RA 064
Risk Assessment Title: Environment Broad Brush Risk Assessment	
AUTHOR/ OWNER: Name: Eladio Perez	TITLE: Acting Group Environment and Approvals Manager
REVIEWS	

RISK ASSESSMENT FOLLOWED PROCESS? SPECIFIC COMMENTS / ACTION REQUIRED:	Health, Safety & Training Manager NAME: David Moore SIGNATURE:  DATE: 27/8/2020
SPECIFIC COMMENTS / ACTION REQUIRED:	Mining Engineering & Operations Manager (Wongawilli) NAME: Peter Roser SIGNATURE:  DATE: 27/8/2020
SPECIFIC COMMENTS / ACTION REQUIRED:	Chief Operating Officer NAME: Wayne Sly SIGNATURE:  DATE: 27/8/2020
SPECIFIC COMMENTS / ACTION REQUIRED:	Production Manager NAME: Dean Jamieson SIGNATURE:  DATE: 27/8/2020
SPECIFIC COMMENTS / ACTION REQUIRED:	Logistics Manager NAME: Paul Evert SIGNATURE:  DATE: 27-8-20
(Optional) ADDITIONAL CONTENT EXPERT	Environmental Coordinator NAME: Robert Faddy-Vrouwe SIGNATURE:  DATE: 27/8/20



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(Optional) ADDITIONAL CONTENT EXPERT	Undermanager NAME: Paul Briggs SIGNATURE: <i>Paul Briggs</i> DATE: 27-08-2020
(Optional) ADDITIONAL CONTENT EXPERT	Environmental Coordinator (Wongawilli) NAME: Justin Merdith SIGNATURE: <i>J. Merdith</i> DATE: 27/8/20

ACTIONS WORKFLOW

Actions added to the Actions Database ☐ Date : _____



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RUSSELL VALE COLLIERY ENVIRONMENT BROAD BRUSH RISK ASSESSMENT

1. INTRODUCTION

Wollongong Coal Limited (formerly Gujarat NRE Coking Coal Ltd) owns and operates the Russell Vale Colliery (formerly the NRE No.1 Colliery) near Wollongong, in the Wollongong and Wollondilly local government areas. The colliery first commenced operations in the 1880s with longwall mining introduced in the late 1960s. The mine is currently on care and maintenance awaiting approval to recommence mining activities in the Wongawilli seam.

In preparation for the recommencement of mining activities in the Wongawilli seam, the Russell Vale mine management undertook to conduct a 'Broad Brush' Risk Assessment of their Environmental Management System (EMS) in order to identify the areas of principal risk at the site. The results of the review will be used to help Russell Vale Colliery ensure that management plans and other controls measures are in place to safely manage the risks identified, and to help meet statutory and legal obligations in relation to the environmental management of the mine.

The hazards/unwanted outcomes that were assessed were identified in the draft conditions of approval (MP09_0013) issued by the Independent Planning Commission of NSW for the Russell Vale Revised Preferred Underground Expansion Project.

These conditions are required to:

- Prevent, minimise, and/or offset adverse environmental impacts;
- Set standards and performance measures for acceptable environmental performance;
- Require regular monitoring and reporting; and
- Provide for the ongoing environmental management of the project.

In addition to meeting the specific performance measures and criteria established under this approval, Russell Vale Colliery must implement all reasonable and feasible measures to prevent, and if prevention is not reasonable and feasible, minimise, any material harm to the environment that may result from the construction and operation of the project, and any rehabilitation required under the approval.

The intent of this sort of review is to take a 'broad brush' look at the mine's environmental activities as described in the draft conditions of consent undertaken by people working at the Russell Vale Colliery. It varies from the standard job-based assessment by factoring in an 'exposure' element to the risk calculation, using frequency of activity and numbers of personnel involved to 'weight' the risk rank.

Those activities identified with 'high' risk will be the initial priority and further examined and an assessment made as to further steps that should be taken to manage the hazards within those activities. In some cases there may be considered to be sufficient strategies in place to manage the risks identified but in others it may be considered worthwhile to conduct further risk assessments to identify and prioritise specific hazards and formulate controls to manage those hazards.



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The risk assessment workshop was conducted on the 27th of August 2020 at the Training Room at Russell Vale Colliery.

2. MINE INFORMATION

History of Operations

The mine is located at Russell Vale approximately 8 km north of Wollongong and 70 km south of Sydney (see Figure 1), within the local government areas (LGAs) of Wollongong and Wollondilly in the Illawarra region of NSW. The total lease area covered by Russell Vale Colliery is 69.73 square kilometres.

The South Bulli Coal Mining Company commenced mining on the slopes of the Illawarra Escarpment in the late-19th Century. Continuous mining has occurred since 1887 and surface facilities have operated at the Russell Vale site since this time.

Historically operations at Russell Vale Colliery have undertaken mining activities in the Wongawilli, Balgownie and Bulli seams at varying depths of cover. Most recent mining has occurred in the Wongawilli Seam.

Mining of the Wongawilli seam (No. 3 seam) reserves in the area has been undertaken for more than 15 years. Prior to mining within the No. 3 seam, initial mining in the area was undertaken in the Bulli seam (No. 1 seam) and Balgownie (No. 2 seam)

The economic working section of the Wongawilli coal seam is in the order of 2.4 to 4.0 metres thick in the present mining area. The mined seam thickness is primarily governed by localised variations between marker bands as well as changes in stress magnitudes and stone rolls. Approximately 76% of the coal mined in this seam section is recoverable. The Wongawilli seam, normally mined from the natural seam floor to one of the more prominent shale bands, is relatively high in ash content and low yielding.

With the advent of more sophisticated mining methods in the 1960s, workings progressed further west of the Illawarra Escarpment. Subsequently, four ventilation shafts (Shaft Numbers 1, 2, 3 and 5) and a shaft to provide personnel and materials access to the workings (No. 4 Shaft) were sunk to the west of the escarpment. Mining commenced in the early 1990's beneath the catchment of Cataract Dam.

In August 2004, production temporarily ceased and the mine was placed on care and maintenance until 3 December 2004 when it was sold to NRE by Bellpac Pty Ltd. Mining recommenced at NRE No.1 Colliery in July 2005. The coal washery at Russell Vale ceased operation in March 2003.

NRE mined the Bulli seam in areas known as 310, 312 and 'P' panels, as well as in the Wongawilli seam in an area known as Wonga Mains and LW 4 and 5 in Wonga East. Wollongong Coal Limited mined the first 365m of LW6 which ended in July 2015. All ROM coal is transported unwashed to PKCT as there is no coal washery on site.

In early 2020, the old Bulli and Balgownie seam mine workings were decommissioned with the eastern portal entries secured against access to personnel. The Catchment infrastructure has been subsequently decommissioned and secured. The Wongawilli seam workings remain in use. This significantly reduces the underground operational mine area.

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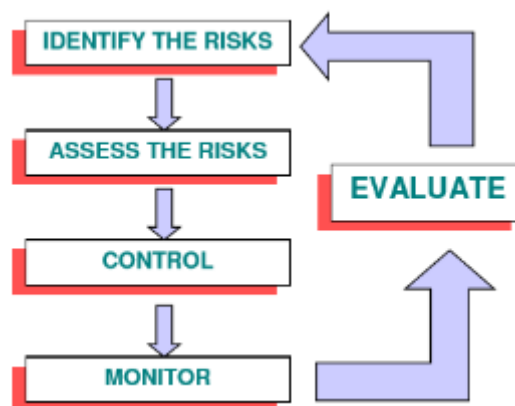
The Russell Vale Colliery site contains the Wongawilli Seam main mine portals and caters for mine ventilation, men, mining equipment, vehicle and machinery maintenance, mine supplies, administration, coal transport to the surface, and an 80,000 tonne capacity coal stockpiling facility.

There is currently one main transport entry into the mine, namely a roadway for rubber tyred vehicles. The rubber tyred vehicles are the primary transport system that services the mine. Coal was transported from the workings to the surface of the mine via conveyor.

3. CONTEXT OF THE REVIEW

3.1 Risk Management Context

The risk management process as shown below includes five main steps. The 'broad brush' risk assessment process involves 2 of these steps by identifying and assessing the risks relating to the operational tasks. The advantage of using the 'broad brush' approach as a 'first pass' in safety management is that it factors in an exposure component which allows workforce numbers and time periods to be factored in to the risk.



For the risk management process to be fully effective it is essential that the control, monitoring and evaluation steps are carried out in accordance with the recommendations of the Risk Assessment. This is articulated in both the Australian Standard and DMR guidelines.

Effective risk management is an ongoing process with reviews over a period of time being essential to the effectiveness and relevance of the control of risk.

3.2 Corporate Context

The results of this review will be used internally by Wollongong Coal management to ensure that there are appropriate and effective controls in place to manage activities



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which are identified as containing hazards of principal risk. These conditions are required to:

- Prevent, minimise, and/or offset adverse environmental impacts;
- Set standards and performance measures for acceptable environmental performance;
- Require regular monitoring and reporting; and
- Provide for the ongoing environmental management of the project.

3.3 Strategic Context

This 'Broad Brush' risk assessment was undertaken by Russell Vale Mine management as part of their proactive approach to managing environmental compliance as well as to minimise adverse environmental impacts.

This document and the results of the Risk Assessment, will be used as a review tool for the mine's Environmental Management System. The adequacy of the Environmental Management System to managing the principal risks identified from the risk assessment, will be determined and where considered necessary, additional management strategies will be formulated and implemented

This risk assessment was conducted to meet the statutory requirements of the Occupational Health & Safety Act 2011 and structured to meet the requirements of the MDG 1010 Guidelines and the Work Health and Safety (Mines and Petroleum Sites) Act 2013.

It would be anticipated that the results of this risk assessment will be reviewed after a period of time (usually no more than about 2 years) to check the effectiveness of any management plans that are implemented and also to review any changes to the business risk status (changes to Wollongong Coal operations both in type and scale that may have occurred).

Should major changes to the mine's operation occur within the review timeframe, it would be recommended that the risk assessment be reassessed in the light of those changes.

This document and the results of the Risk Assessment, will be used as a review tool for the mine's Environmental Management System. The adequacy of the EMS to manage the principal risks identified from the risk assessment will be determined, and where considered necessary, additional management strategies will be formulated and implemented.



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4. OBJECTIVES AND SCOPE

The objectives of the broad brush risk assessment is to define all activities carried out in the draft conditions of approval at the Russell Vale Colliery and through the 'Broad Brush' risk assessment process, identify those activities that represent significant risks to the operation. Environmental Impact (EI) was the principal consequences considered however Harm to People Safety and Health (S/H), business interruption/damage and other losses (F), legal and regulatory (L), and impact on reputation/social/community (R) were also be considered when identifying possible loss scenarios involved in activities studied.

The 'Broad Brush' approach takes a high level view of activities and allows for 'exposure' to be factored in to the risk ranking outcomes.

Inclusions:

All mine tasks and activities under the control and management of Russell Vale Colliery whether carried out by direct employees, casual staff or contractors. This included;

- Noise
- Air Quality & Greenhouse Gas
- Meteorological Monitoring
- Water
- Biodiversity
- Heritage
- Transport
- Visual
- Waste
- Bushfire Management
- Dangerous Goods
- Exploration Activities And Surface Infrastructure
- Rehabilitation
- Subsidence
- Notification Of Exceedances
- Environmental Management
- Reporting
- Independent Environmental Audit
- Access To Information

Exclusions:

There were three activities that were not assessed as they were deemed not applicable to the site operations which were excluded from the scope of this risk assessment. These activities are;

- Noise - Out of Hours Construction Works
- Waste - Waste Received
- Exploration Activities And Surface Infrastructure - Gas Drainage



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4.11 The Risk Assessment Team

A key factor in the effectiveness of an exercise is the availability of relevant information and expertise. This is addressed mainly through the group workshop.

Group workshops recruit the knowledge and experience of many people who are familiar with a particular work situation. The forum of a risk assessment provides a unique opportunity for a group with different interests and backgrounds to meet.

This Assessment team was selected to represent a vertical cross section through the workforce including management, supervisors and operators. The role of each team member is to provide their expertise, experience and technical knowledge and to respect that provided by others. It is not a requirement that every team member is an "expert" in his field. However, outcomes are critically dependent on the team as a whole providing a balanced view at a level of expertise appropriate to the nature of the subject under assessment.

The facilitator's role is to understand the site's requirements and offer advice as to the best approach to meet the assessment objectives. They are an independent person within the team providing objective guidance as necessary. They also assists the team by providing a systematic process and maintaining focus on the scope and objectives. They document both the assessment process and outcomes and offers post-assessment feedback to the site management and / or team if requested.

4.12 Assessment team

Facilitator: David Moore

Name	Role	Experience relevant to this risk assessment
David Moore	Health, Safety & Training Manager/Facilitator	Bachelor of Arts (Psychology), Associate Diploma in in Administration (Industrial Studies). G2 Qualified. 25 years underground coal mining experience. Mines Rescue Brigadesman. Australian Institute of Occupational Hygienists Basic Occupational Hygiene qualification.
Peter Roser	General Manager – Wongawilli Colliery	41 years in Mining industry, Masters of Mining Engineering, Mine Manager's Certificate of Competency, WA 1 st Class Certificate, G3 Risk Assessment qualification, Tasmanian Minerals Council Board member.



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Name	Role	Experience relevant to this risk assessment
Dean Jamieson	Production Manager	30 years mining experience. Practicing certificate - Manager of Mining Engineering Advanced diploma coal mine management G- Mirm. Diploma Occupational Health and Safety. Mines rescue - 7 years RSA, 2 years NZ.
Paul Briggs	Deputy	18 years underground coal mining experience, qualified Deputy and Undermanager, Roadway Dust Sampler.
Robert Faddy-Vrouwe	Environmental Coordinator	Environmental Chemistry Degree, 4 years' experience at Wollongong Coal in the environmental department.
Justin Merdith	Environmental Coordinator (Wongawilli)	Bachelor of Environmental Science Degree, 3 years' experience as an Environmental Field Officer, 1 year experience as an Ecologist Consultant.
Paul Evert	Logistics Manager	10 years' experience in logistics in coal haulage. 20 years' experience in rail industry management roles
Wayne Sly	Chief Operating Officer	42 years industry experience, Bachelor of Engineering (Mining) Qld 1978, Mine Managers Competency NSW and QLD 1992.



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5. METHODOLOGY

5.11 Risk Assessment Process

The Risk Assessment process identifies the tasks involved in a particular activity or scenario. The team, which is selected for its experience and expertise, provides the knowledge base for the Assessment. The facilitated team workshop environment ensures compliance with guidelines of the Australian / New Zealand Standard for Risk Management AS/NZS 4360: 2005.

The method used included the following;

- An assessment team of management and operations personnel. The name and role of each team member is recorded.
- The objectives and scope of the Risk Assessment are clearly identified and defined by the team
- The scales for risk ranking are discussed and explained to the team. They are reviewed for relevance to the mine's operation and changed if considered necessary.
- The major activities carried out at the mine are listed for review.

Additionally, the team;

- Briefly listed all the principal hazards associated with every activity including but not limited to the hazard which provided the 'maximum reasonable consequence' score.

5.12 Method for Risk Ranking

Once the team confirmed the activities, all activities were ranked according to the following criteria.

- Each task is scored by the team deciding on each of the following:
- Exposure (frequency) - how often people do the task
- Exposure (% workforce/community) - how many people do the task or are exposed to the consequences at any one time
- Likelihood of a problem carrying out that task
- Consequence - maximum reasonable consequence should there be a problem (of any kind)

The values for:

- Total Exposure
- Probability and
- Risk Rank;

are derived from the scores by use of the following matrices. The operation, task description, scores and resulting risk rank are all recorded on tables, which appear in the appendices of this report. For clarity the derived values for 'Total Exposure' and 'Probability' are not included on the table.



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Once the team confirmed the activities, all activities were ranked according to the following criteria.

5.13 Ranking Score Definitions

EXPOSURE to the Task

Frequency of Activity		% of Workforce/community * (No. of people at any one time)	
1	Several times per day	1	Almost everyone
2	Daily (once a day)	2	Most people on site
3	Weekly (once a week)	3	Some people
4	Monthly (once / couple times per month)	4	A few people
5	Once or couple of times per year	5	One person

LIKELIHOOD of a problem

Level	Descriptor	Description
A	<i>Common</i>	Expected to happen
B	<i>Has happened</i>	Likely to happen at some point
C	<i>Possible</i>	Heard of so it might happen
D	<i>Unlikely</i>	Not likely to happen
E	<i>Highly Unlikely</i>	Practically impossible

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CONSEQUENCES

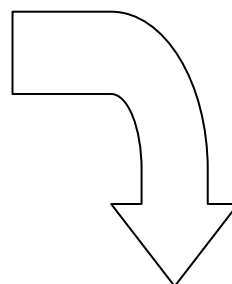
Maximum Reasonable Consequences				
	Descriptor	People (Safety/Health)	Environment (E)	\$ Damage / Costs (C)
1	Major	Fatality Impact on health ultimately fatal	Significant harm will result – Prosecution will result – Adverse publicity	> \$ 5m Substantial or total loss of operation
2	High	Serious injury / permanent disability / Irreversible impact on health	Moderate harm to the environment – high chance of prosecution	\$3m to \$ 5m Partial loss of operation
3	Moderate	Major injury LTI / Reversible impact on health	Moderate harm to the environment – Breach of regulatory condition – PIN	\$750 k to \$ 3m Partial shutdown
4	Minor	Medical treatment / Exposure to major health risk	Minor harm to environment – Technical breach of regulatory requirements	\$150 k to \$ 750 k Brief disruption to operation
5	Insignificant	First aid treatment / Exposure to minor health risk	Minor harm to environment or less	< 150 k (effect NPBT) No disruption to operation

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5.14 Total Exposure Score Calculation Table

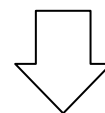
Total Exposure to a problem is calculated by combining the scores for 'Exposure - Frequency' and 'Exposure - Percentage of the Workforce', as below;

		Exposure - Frequency				
		Several times per day	Daily	Weekly (once a week)	Monthly (couple of times / month)	Once or couple of times per year
Exposure - % Workforce	Almost everyone	1	2	3	4	5
	Most people	1	1	2	3	4
	Some people	3	1	2	3	4
	A few people	4	2	3	4	5
	One person	5	3	4	5	5



5.15 Probability Score Calculation Table

		Total Exposure Score				
		1	2	3	4	5
Likelihood of a problem	Common	A	A	A	B	C
	Has happened	B	A	A	B	C
	Possible	C	A	B	C	D
	Unlikely	D	B	C	D	E
	Highly Unlikely	E	C	D	E	E



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5.16 Risk Rank Calculation

		Probability Score				
		A	B	C	D	E
Consequences	1	1	2	4	7	11
	2	3	5	8	12	16
	3	6	9	13	17	20
	4	10	14	18	21	23
	5	15	19	22	24	25

Note that a Risk Ranking of 1 represents the highest risk or the worst case.

5.17 Environmental Standard to be Achieved

It must be remembered that each review may give slightly different 'numbers' for risk depending on the risk ranking method and criteria used and the collective experiences and knowledge of the team who make the assessments. What a risk assessment does provide is a 'priority list' of hazards for a particular work situation. It would be expected that this list would be in approximately the same order (numbers may be different) for the same work scenario at different reviews.

'Broad Brush' risk assessment is designed to indicate activities of principal risk to an operation as a whole over a period of time (usually about 1 year) using exposure (how often and how many people) as a factor. Again as a general rule, activities identified with a 'high' risk should be further examined to determine the effectiveness of management controls for those activities.

5.18 Risk Tables

Once the Jobs and the Tasks are listed, the possibility of a problem occurring during that task is risk ranked in accordance with the above criteria. All of this information is logged on a table. This table provides the framework to allow the group to identify and prioritise the most serious risks at any given point in the operation.

Additionally, hazards relating to each task - including but not limited to the hazard which determined the 'maximum reasonable consequence' - are listed on the table. This is done to allow for a more definitive interpretation of the results.



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6. RISKS SORTED BY RISK RANK

6.11 High Risks (1 – 6)

There were no high risks identified.

Three risks were not assessed as they were not applicable to the risk assessment.

1.0 Noise	1.02 Out of Hours Construction Works	Russell Vale Colliery does not prepare an Out of Hours Work Protocol for these works, to the satisfaction of the Planning Secretary.									
9.0 Waste	9.01 Waste Received	Russell Vale Colliery receives waste at the site for storage, treatment, processing, reprocessing or disposal.									
12.0 Exploration Activities And Surface Infrastructure	12.01 Gas Drainage	Russell Vale Colliery does not ensure that all gas drainage pipelines (other than connection points, monitoring points, dewatering facilities, regulation or isolation points) between gas drainage plants are buried, unless otherwise agreed with the relevant landowner or unless burial is inappropriate for safety or other reasons, to the satisfaction of the Planning Secretary.									



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6.12 Medium Risks (7 - 15)

Main Activity	Sub Activity	Hazard/Unwanted Outcome	Consequence Type	Exposure Frequency	Workforce Exp	Likelihood	Consequence	Total Exposure	Probability	Risk Rank	Risk Level
4.0 Water	4.04 Water Discharges	All surface discharges from the site does not comply with: (a) discharge limits (both volume and quality) set for the development in any EPL; or (b) relevant provisions of the POEO Act.	E	1	4	C	3	2	B	9	M9
4.0 Water	4.05 Water Management Performance Measures	The project causes exceedances of the performance measures in Table 3 of the Draft Conditions of Approval, to the satisfaction of the Planning Secretary which complies with the Draft Conditions of Approval.	E	1	4	C	3	2	B	9	M9
2.0 Air Quality & Greenhouse Gas	2.02 Air Quality Criteria	Particulate emissions generated by the project cause exceedances of the criteria listed in Table 2 of the Draft Conditions of Approval at any residence on privately-owned land. Operating conditions are breached.	E	1	3	C	4	4	A	10	M10
1.0 Noise	1.01 Construction Noise – Start-up	Non-compliance with noise generated by construction. Does not comply with the requirements of the ICNG	E	2	4	C	3	3	C	13	M13
7.0 Transport	7.01 Monitoring of Coal Transport	Russell Vale Colliery does not monitor and report on (a) the amount of coal transported from the site (on a daily basis); (b) the date and time of each truck movement from the site; and (c) make these records publicly available on its website at the end of each quarter.	E	1	4	D	4	4	E	14	M14



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6.13 Low Risks (16 – 25)

Main Activity	Sub Activity	Hazard/Unwanted Outcome	Consequence Type	Exposure Frequency	Workforce Exp	Likelihood	Consequence	Total Exposure	Probability	Risk Rank	Risk Level
14.0 Subsidence	14.09 Extraction Plan – Implementation - Payment of Reasonable Costs	Russell Vale Colliery cannot pay all reasonable costs incurred by the Department to engage suitably qualified, experienced and independent persons to review the adequacy of any aspect of an Extraction Plan.	E	5	4	E	3	2	E	16	L16
14.0 Subsidence	14.02 Measurement and monitoring	Measurement and monitoring of compliance with performance measures and performance indicators in this approval is not undertaken using generally accepted methods that are appropriate to the environment and circumstances in which the feature or characteristic is located.	E	4	4	C	3	3	D	17	L17
15.0 Notification Of Exceedances	15.01 Notification Of Exceedances – Effected Landowners	Russell Vale Colliery does not as soon as practicable, and no longer than 7 days after obtaining monitoring results notify effected landowners which complies with the Draft Conditions of Approval.	E	4	3	C	3	3	D	17	L17
1.0 Noise	1.07 Off-Site Road Traffic Noise		E	1	3	C	4	4	C	18	L18
1.0 Noise	1.01 Construction Noise – Operational Period	Non-compliance with noise generated by construction. Does not comply with the requirements of the ICNG	E	5	4	D	3	5	E	20	L20



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Main Activity	Sub Activity	Hazard/Unwanted Outcome	Consequence Type	Exposure Frequency	Workforce Exp	Likelihood	Consequence	Total Exposure	Probability	Risk Rank	Risk Level
1.0 Noise	1.03 Operational Noise Criteria	Noise generated by the project exceeds the criteria in Table 1 of the Draft Conditions of Approval at any residence on privately-owned land or noise operating conditions.	E	5	3	C	3	5	E	20	L20
1.0 Noise	1.04 Noise Operating Conditions	Russell Vale Colliery does not meet the noise operating conditions of the Draft Conditions of Approval.	E	5	3	C	3	5	C	20	L20
2.0 Air Quality & Greenhouse Gas	2.03 Air Quality Operating Conditions	Russell Vale Colliery does not meet the air quality operating conditions of the Draft Conditions of Approval.	E	5	3	C	3	5	C	20	L20
2.0 Air Quality & Greenhouse Gas	2.06 Discharges to air	Breach of EPA Licence 12040 discharges to air	E	5	3	C	3	5	C	20	L20
6.0 Heritage	6.01 Protection of Aboriginal Heritage	The project causes any direct or indirect impact on any identified heritage items	E	4	4	E	3	5	E	20	L20
6.0 Heritage	6.02 Protection of Aboriginal Heritage – Human Remains	Russell Vale Colliery does not comply with the requirements of the Draft Conditions of Approval for the discovery of human remains on site.	E	4	4	E	3	5	E	20	L20

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6.0 Heritage	6.03 Protection of Aboriginal Heritage - Aboriginal object or place	Russell Vale Colliery does not comply with the requirements of the Draft Conditions of Approval for previously unknown Aboriginal object or Aboriginal place	E	4	4	E	3	5	E	20	L20
6.0 Heritage	6.04 Protection of Aboriginal Heritage - Recording	Russell Vale Colliery does not comply with the requirements of the Draft Conditions of Approval for recording all known Aboriginal objects or Aboriginal places on the site.	E	4	4	E	3	5	E	20	L20
13.0 Rehabilitation	13.01 Rehabilitation Objectives	Russell Vale Colliery does not rehabilitate the site in accordance with the conditions imposed on the mining leases(s) associated with the project under the Mining Act 1992. This rehabilitation must be generally consistent with the proposed rehabilitation strategy described in the RPR and comply with the objectives in Table 4 of the Draft Conditions of Approval.	E	5	4	D	3	3	E	20	L20
13.0 Rehabilitation	13.02 Progressive Rehabilitation	Russell Vale Colliery does not comply with the progressive rehabilitation requirements of the Draft Conditions of Approval.	E	5	4	D	3	3	E	20	L20
14.0 Subsidence	14.01 Performance Measures – Natural and Heritage Features etc.	Russell Vale Colliery does not ensure that the project does not cause any exceedances of the performance measures in Table 5 of the Draft Conditions of Approval, to the satisfaction of the Secretary.	E	4	4	E	3	5	E	20	L20
14.0 Subsidence	14.03 Exceedance of any Subsidence Impact Performance Measure	Exceedance of any Subsidence Impact Performance Measure (Table 5) for Watercourses or for Water Supply that is deemed by the Secretary to be substantial and not capable of being offset under condition C4.	E	4	4	E	3	3	E	20	L20



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14.0 Subsidence	14.04 Offsets	If Russell Vale Colliery exceeds the performance measures in Table 5, Russell Vale Colliery cannot provide a suitable offset to compensate for the subsidence impact or environmental consequence, to the satisfaction of the Secretary.	E	4	4	E	3	3	E	20	L20
14.0 Subsidence	14.05 Offsets - biodiversity and swamps	The offset for biodiversity and swamps cannot be undertaken in accordance with the Biodiversity Offsets Scheme of the BC Act.	E	5	4	E	3	3	E	20	L20
14.0 Subsidence	14.06 Offsets – Physical environmental offsets	The offset cannot give priority to like-for-like physical environmental offsets.	E	5	4	E	3	3	E	20	L20
14.0 Subsidence	14.07 Performance Measures – Built Features	Russell Vale Colliery does not ensure that the project does not cause any exceedances of the performance measures in Table 6 of the Draft Conditions of Approval, to the satisfaction of the Secretary.	E	4	4	E	3	3	E	20	L20
17.0 Reporting	17.01 Incident Notification	Russell Vale Colliery does not immediately notify the Department and any other relevant agencies immediately after it becomes aware of an incident.	E	5	4	4	3	4	E	20	L20
17.0 Reporting	17.02 Incident Notification – Non-compliance	Within seven days of becoming aware of a non-compliance, Russell Vale Colliery does not notify the Department of the non-compliance.	E	5	4	4	3	4	E	20	L20



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17.0 Reporting	17.03 Annual Review	By the end of March in each year after the commencement of the project, or other timeframe agreed by the Planning Secretary, a report is not submitted to the Department reviewing the environmental performance of the project, to the satisfaction of the Planning Secretary and which meets the requirements specified in the Draft Conditions of Approval.	E	5	4	4	3	4	E	20	L20
17.0 Reporting	17.04 Annual Review – Submission and Copies	Copies of the Annual Review are not submitted to WCC and made available to the CCC and any interested person upon request.	E	5	4	4	3	4	E	20	L20
18.0 Independent Environmental Audit	18.01 Independent Environmental Audit	Within one year of commencement of project under this approval, and every three years after, unless the Planning Secretary directs otherwise, Russell Vale Colliery does not commission and pay the full cost of an Independent Environmental Audit of the project which meet the requirements specified in the Draft Conditions of Approval.	E	5	4	4	3	4	E	20	L20
18.0 Independent Environmental Audit	18.02 Independent Environmental Audit - Submission	Within three months of commencing an Independent Environmental Audit, or other timeframe agreed by the Planning Secretary, Russell Vale Colliery does not submit a copy of the audit report to meet the requirements specified in the Draft Conditions of Approval.	E	5	4	4	3	4	E	20	L20
19.0 Access To Information	19.01 Available on Website	Before the commencement of construction until the completion of all rehabilitation required under this approval, Russell Vale Colliery does not make the required information and documents as specified in the Draft Conditions of Approval publicly available on its website.	E	5	4	B	4	4	D	21	L21
1.0 Noise	1.05 Noise Management Plan	Russell Vale Colliery does not prepare a Noise Management Plan for the project to the satisfaction of the Secretary and comply with the Draft Conditions of Approval.	E	5	4	E	4	4	E	23	L23



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Main Activity	Sub Activity	Hazard/Unwanted Outcome	Consequence Type	Exposure Frequency	Workforce Exp	Likelihood	Consequence	Total Exposure	Probability	Risk Rank	Risk Level
1.0 Noise	1.06 Noise Management Plan - Implementation	Russell Vale Colliery does not implement the approved Noise Management Plan as approved by the Secretary.	E	5	4	E	4	4	E	23	L23
2.0 Air Quality & Greenhouse Gas	2.01 Odour	Offensive odours, as defined under the POEO Act, are emitted from the site.	E	5	3	E	4	4	E	23	L23
2.0 Air Quality & Greenhouse Gas	2.04 Air Quality and Greenhouse Gas Management Plan	Russell Vale Colliery does not prepare an Air Quality and Greenhouse Gas Management Plan for the project to the satisfaction of the Secretary which complies with the Draft Conditions of Approval.	E	5	4	E	4	4	E	23	L23
2.0 Air Quality & Greenhouse Gas	2.05 Air Quality and Greenhouse Gas Management Plan - Implementation	Russell Vale Colliery does not implement the approved Air Quality and Greenhouse Gas Management Plan as approved by the Secretary.	E	5	4	E	4	4	E	23	L23
3.0 Meteorological Monitoring	3.01 Monitoring Station	There is not a suitable meteorological station operating in the vicinity of the site that complies with the requirements of the Draft Conditions of Approval and EPA licence 12040.	E	1	4	D	4	4	E	23	L23
4.0 Water	4.01 Water Licences	Russell Vale Colliery does not obtain all necessary water licences for the project.	E	5	4	D	4	4	E	23	L23



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4.0 Water	4.03 Water Supply - Reporting	Russell Vale Colliery does not report on water extracted from the site each year (direct and indirect) in the Annual Review, including water taken under each water licence.	E	5	4	D	4	4	E	23	L23
4.0 Water	4.06 Water Management Plan	Russell Vale Colliery does not prepare a Water Management Plan for the project to the satisfaction of the Secretary which complies with the Draft Conditions of Approval.	E	5	4	E	4	4	E	23	L23
4.0 Water	4.07 Water Management Plan - Implementation	Russell Vale Colliery does not implement the Water Management Plan as approved by the Planning Secretary.	E	5	4	E	4	4	E	23	L23
4.0 Water	4.08 Adit Discharge Water Management Plan	Russell Vale Colliery does not prepare a Adit Discharge Water Management Plan for the project to the satisfaction of the Secretary which complies with the Draft Conditions of Approval.	E	5	4	E	4	4	E	23	L23
4.0 Water	4.09 Adit Discharge Water Management Plan - Implementation	Russell Vale Colliery does not implement the Adit Discharge Water Management Plan as approved by the Planning Secretary.	E	5	4	E	4	4	E	23	L23
5.0 Biodiversity	5.01 Biodiversity Management Plan	Russell Vale Colliery does not prepare a Biodiversity Management Plan for the project to the satisfaction of the Secretary which complies with the Draft Conditions of Approval.	E	5	4	E	4	4	E	23	L23



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5.0 Biodiversity	5.01 Biodiversity Management Plan - Implementation	Russell Vale Colliery does not implement the Biodiversity Management Plan as approved by the Planning Secretary.	E	5	4	E	4	4	E	23	L23
6.0 Heritage	6.05 Aboriginal Cultural Heritage Management Plan	An Aboriginal Cultural Heritage Management Plan for the project is not prepared or does not meet the requirements of the Draft Conditions of Approval.	E	5	4	E	4	4	E	23	L23
6.0 Heritage	6.06 Aboriginal Cultural Heritage Management Plan - Approval	Russell Vale Colliery does not implement the Aboriginal Cultural Heritage Management Plan approved by the Planning Secretary which complies with the Draft Conditions of Approval.	E	5	4	E	4	4	E	23	L23
6.0 Heritage	6.07 Historic Heritage Management Plan	Russell Vale Colliery does not prepare a Historic Heritage Management Plan for the project, in respect of all non-Aboriginal cultural heritage items, to the satisfaction of the Planning Secretary which complies with the Draft Conditions of Approval.	E	5	4	E	4	4	E	23	L23
6.0 Heritage	6.08 Historic Heritage Management Plan - Approval	Russell Vale Colliery does not implement the Historic Heritage Management Plan as approved by the Planning Secretary which complies with the Draft Conditions of Approval.	E	5	4	E	4	4	E	23	L23
7.0 Transport	7.02 Traffic Management Plan	Russell Vale Colliery does not prepare a Traffic Management Plan for the project to the satisfaction of the Planning Secretary which complies with the Draft Conditions of Approval.	E	5	4	E	4	4	E	23	L23



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7.0 Transport	7.02 Traffic Management Plan - Approval	Russell Vale Colliery does not implement the Traffic Management Plan as approved by the Planning Secretary which complies with the Draft Conditions of Approval.	E	5	4	E	4	4	E	23	L23
8.0 Visual	8.01 Visual Amenity and Lighting	Russell Vale Colliery does not comply with the Draft Conditions of Approval.	E	1	4	D	4	4	E	23	L23
8.0 Visual	8.02 Visual Impact Management Plan	Russell Vale Colliery does not prepare a Visual Impact Management Plan for the project to the satisfaction of the Planning Secretary and comply with the Draft Conditions of Approval.	E	5	4	E	4	4	E	23	L23
8.0 Visual	8.03 Visual Impact Management Plan	Russell Vale Colliery does not implement the Visual Impact Management Plan as approved by the Planning Secretary.	E	5	4	E	4	4	E	23	L23
9.0 Waste	9.01 Waste - Conditions of Approval	Russell Vale Colliery does not comply with the Draft Conditions of Approval for Waste.	E	1	4	D	4	4	E	23	L23
10.0 Bushfire Management	10.01 Bushfire Management – Conditions of Approval	Russell Vale Colliery does not comply with the Draft Conditions of Approval for Bushfire Management.	E	1	4	D	4	4	E	23	L23



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10.0 Bushfire Management	10.01 Bushfire Management Plan	Russell Vale Colliery does not prepare a Bushfire Management Plan for the project in consultation with RFS that complies with the Draft Conditions of Approval for Bushfire Management.	E	5	4	E	4	4	E	23	L23
10.0 Bushfire Management	10.01 Bushfire Management Plan - Implementation	Russell Vale Colliery does not implement the Bushfire Management Plan in consultation with RFS.	E	5	4	E	4	4	E	23	L23
11.0 Dangerous Goods	11.01 Storage, handling, and transport	Russell Vale Colliery does not comply with the Draft Conditions of Approval for the storage, handling and transport of dangerous goods.	E	1	4	D	4	4	E	23	L23
12.0 Exploration Activities And Surface Infrastructure	12.02 Exploration Activities and Minor Surface Infrastructure Management Plan	Russell Vale Colliery does not prepare an Exploration Activities and Minor Surface Infrastructure Management Plan for the project to the satisfaction of the Planning Secretary which complies with the Draft Conditions of Approval.	E	5	4	E	4	4	E	23	L23
12.0 Exploration Activities And Surface Infrastructure	12.02 Exploration Activities and Minor Surface Infrastructure Management Plan - Implementation	Russell Vale Colliery does not implement the Exploration Activities and Minor Surface Infrastructure Management Plan as approved by the Planning Secretary.	E	5	4	E	4	4	E	23	L23
13.0 Rehabilitation	13.03 Rehabilitation Management Plan	Russell Vale Colliery does not prepare and implement a Rehabilitation Management Plan in accordance with the conditions imposed on the mining lease(s) associated with the project under the Mining Act 1992 which complies with the conditions in the Draft Conditions of Approval.	E	5	4	E	4	4	E	23	L23



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13.0 Rehabilitation	13.04 Social Impact Management Plan	Russell Vale Colliery does not prepare a Social Impact Management Plan for the project to the satisfaction of the Planning Secretary and which complies with the Draft Conditions of Approval.	E	5	4	E	4	4	E	23	L23
13.0 Rehabilitation	13.04 Social Impact Management Plan - Implementation	Russell Vale Colliery does not implement the Social Impact Management Plan as approved by the Planning Secretary.	E	5	4	E	4	4	E	23	L23
14.0 Subsidence	14.08 Extraction Plan	Russell Vale Colliery does not prepare an Extraction Plan(s) for mining on site to the satisfaction of the Secretary which complies with the Draft Conditions of Approval.	E	5	4	E	4	4	E	23	L23
14.0 Subsidence	14.09 Extraction Plan - Implementation	Russell Vale Colliery does not implement the Extraction Plan(s) as approved by the Planning Secretary which complies with the Draft Conditions of Approval.	E	5	4	E	4	4	E	23	L23
16.0 Environmental Management	16.01 Environmental Management Strategy	Russell Vale Colliery does not prepare an Environmental Management Strategy for the project to the satisfaction of the Planning Secretary which complies with the Draft Conditions of Approval.	E	5	4	E	4	4	E	23	L23
16.0 Environmental Management	16.01 Environmental Management Strategy – Commencement of Mining Operations	Russell Vale Colliery commences mining operations before the Environmental Management Strategy is approved by the Planning Secretary.	E	5	4	E	4	4	E	23	L23



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16.0 Environmental Management	16.02 Environmental Management Strategy - Implementation	Russell Vale Colliery does not implement the Environmental Management Strategy as approved by the Planning Secretary.	E	5	4	E	4	4	E	23	L23
16.0 Environmental Management	16.03 Adaptive Management	Russell Vale Colliery does not assess and manage project-related risks to ensure that there are no exceedances of the criteria and/or performance measures in the Draft Conditions of Approval.	E	5	4	E	4	4	E	23	L23
16.0 Environmental Management	16.04 Management Plan Requirements – Relevant Guidelines	Management plans required under the Draft Conditions of Approval are not prepared in accordance with relevant guidelines, and includes the requirements as specified in the Draft Conditions of Approval.	E	5	4	E	4	4	E	23	L23
16.0 Environmental Management	16.05 Management Plan Requirements – Meets Conditions	Russell Vale Colliery does not ensure that management plans prepared for the project are consistent with the conditions of this approval and any EPL issued for the site.	E	5	4	E	4	4	E	23	L23
16.0 Environmental Management	16.06 Revision of Strategies, Plans and Programs - Review	Within the specified timeframes as specified in the Draft Conditions of Approval, the suitability of existing strategies, plans and programs required under this approval are not reviewed by Russell Vale Colliery.	E	5	4	E	4	4	E	23	L23
16.0 Environmental Management	16.07 Revision of Strategies, Plans and Programs - Revision	If necessary, to either improve the environmental performance of the project, cater for a modification or comply with a direction, the strategies, plans and programs required under this approval are not revised, to the satisfaction of the Planning Secretary.	E	5	4	E	4	4	E	23	L23



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4.0 Water	4.02 Water Supply	There is insufficient water for all stages of the project, and if necessary, adjust the scale of the project to match its available water supply.	E	1	4	D	5	5	E	25	L25

6.14 Table 1 Risk Assessment

Main Activity	Sub Activity	Hazard/Unwanted Outcome	Consequence Type	Exposure Frequency	Workforce Exp	Likelihood	Consequence	Total Exposure	Probability	Risk Rank	Risk Level
1.0 Noise	1.01 Construction Noise – Start-up	Non-compliance with noise generated by construction. Does not comply with the requirements of the ICNG	E	2	4	C	3	3	C	13	M13
1.0 Noise	1.01 Construction Noise – Operational Period	Non-compliance with noise generated by construction. Does not comply with the requirements of the ICNG	E	5	4	D	3	5	E	20	L20



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1.0 Noise	1.03 Operational Noise Criteria	Noise generated by the project exceeds the criteria in Table 1 of the Draft Conditions of Approval at any residence on privately-owned land or noise operating conditions.	E	5	3	C	3	5	E	20	L20
1.0 Noise	1.04 Noise Operating Conditions	Russell Vale Colliery does not meet the noise operating conditions of the Draft Conditions of Approval.	E	5	3	C	3	5	C	20	L20
1.0 Noise	1.05 Noise Management Plan	Russell Vale Colliery does not prepare a Noise Management Plan for the project to the satisfaction of the Secretary and comply with the Draft Conditions of Approval.	E	5	4	E	4	4	E	23	L23
1.0 Noise	1.06 Noise Management Plan - Implementation	Russell Vale Colliery does not implement the approved Noise Management Plan as approved by the Secretary.	E	5	4	E	4	4	E	23	L23
1.0 Noise	1.07 Off-Site Road Traffic Noise	Noise exceeds limits and community complaints received.	E	1	3	C	4	4	C	18	L18
2.0 Air Quality & Greenhouse Gas	2.01 Odour	Offensive odours, as defined under the POEO Act, are emitted from the site.	E	5	3	E	4	4	E	23	L23



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2.0 Air Quality & Greenhouse Gas	2.02 Air Quality Criteria	Particulate emissions generated by the project cause exceedances of the criteria listed in Table 2 of the Draft Conditions of Approval at any residence on privately-owned land. Operating conditions are breached.	E	1	3	C	4	4	A	10	M10
2.0 Air Quality & Greenhouse Gas	2.03 Air Quality Operating Conditions	Russell Vale Colliery does not meet the air quality operating conditions of the Draft Conditions of Approval.	E	5	3	C	3	5	C	20	L20
2.0 Air Quality & Greenhouse Gas	2.04 Air Quality and Greenhouse Gas Management Plan	Russell Vale Colliery does not prepare an Air Quality and Greenhouse Gas Management Plan for the project to the satisfaction of the Secretary which complies with the Draft Conditions of Approval.	E	5	4	E	4	4	E	23	L23
2.0 Air Quality & Greenhouse Gas	2.05 Air Quality and Greenhouse Gas Management Plan - Implementation	Russell Vale Colliery does not implement the approved Air Quality and Greenhouse Gas Management Plan as approved by the Secretary.	E	5	4	E	4	4	E	23	L23
2.0 Air Quality & Greenhouse Gas	2.06 Discharges to air	Breach of EPA Licence 12040 discharges to air	E	5	3	C	3	5	C	20	L20
3.0 Meteorological Monitoring	3.01 Monitoring Station	There is not a suitable meteorological station operating in the vicinity of the site that complies with the requirements of the Draft Conditions of Approval and EPA licence 12040.	E	1	4	D	4	4	E	23	L23



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4.0 Water	4.01 Water Licences	Russell Vale Colliery does not obtain all necessary water licences for the project.	E	5	4	D	4	4	E	23	L23
4.0 Water	4.02 Water Supply	There is insufficient water for all stages of the project, and if necessary, adjust the scale of the project to match its available water supply.	E	1	4	D	5	5	E	25	L25
4.0 Water	4.03 Water Supply - Reporting	Russell Vale Colliery does not report on water extracted from the site each year (direct and indirect) in the Annual Review, including water taken under each water licence.	E	5	4	D	4	4	E	23	L23
4.0 Water	4.04 Water Discharges	All surface discharges from the site does not comply with: (a) discharge limits (both volume and quality) set for the development in any EPL; or (b) relevant provisions of the POEO Act.	E	1	4	C	3	2	B	9	M9
4.0 Water	4.05 Water Management Performance Measures	The project causes exceedances of the performance measures in Table 3 of the Draft Conditions of Approval, to the satisfaction of the Planning Secretary which complies with the Draft Conditions of Approval.	E	1	4	C	3	2	B	9	M9
4.0 Water	4.06 Water Management Plan	Russell Vale Colliery does not prepare a Water Management Plan for the project to the satisfaction of the Secretary which complies with the Draft Conditions of Approval.	E	5	4	E	4	4	E	23	L23



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4.0 Water	4.07 Water Management Plan - Implementation	Russell Vale Colliery does not implement the Water Management Plan as approved by the Planning Secretary.	E	5	4	E	4	4	E	23	L23
4.0 Water	4.08 Adit Discharge Water Management Plan	Russell Vale Colliery does not prepare a Adit Discharge Water Management Plan for the project to the satisfaction of the Secretary which complies with the Draft Conditions of Approval.	E	5	4	E	4	4	E	23	L23
4.0 Water	4.09 Adit Discharge Water Management Plan - Implementation	Russell Vale Colliery does not implement the Adit Discharge Water Management Plan as approved by the Planning Secretary.	E	5	4	E	4	4	E	23	L23
5.0 Biodiversity	5.01 Biodiversity Management Plan	Russell Vale Colliery does not prepare a Biodiversity Management Plan for the project to the satisfaction of the Secretary which complies with the Draft Conditions of Approval.	E	5	4	E	4	4	E	23	L23
5.0 Biodiversity	5.01 Biodiversity Management Plan - Implementation	Russell Vale Colliery does not implement the Biodiversity Management Plan as approved by the Planning Secretary.	E	5	4	E	4	4	E	23	L23
6.0 Heritage	6.01 Protection of Aboriginal Heritage	The project causes any direct or indirect impact on any identified heritage items	E	4	4	E	3	5	E	20	L20

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Type	Risk Assessment	Date Published	7 th September 2020
Doc Title	ENVIRONMENT BROAD BRUSH RISK ASSESSMENT		

Main Activity	Sub Activity	Hazard/Unwanted Outcome	Consequence Type	Exposure Frequency	Workforce Exp	Likelihood	Consequence	Total Exposure	Probability	Risk Rank	Risk Level
6.0 Heritage	6.02 Protection of Aboriginal Heritage – Human Remains	Russell Vale Colliery does not comply with the requirements of the Draft Conditions of Approval for the discovery of human remains on site.	E	4	4	E	3	5	E	20	L20
6.0 Heritage	6.03 Protection of Aboriginal Heritage - Aboriginal object or place	Russell Vale Colliery does not comply with the requirements of the Draft Conditions of Approval for previously unknown Aboriginal object or Aboriginal place	E	4	4	E	3	5	E	20	L20
6.0 Heritage	6.04 Protection of Aboriginal Heritage - Recording	Russell Vale Colliery does not comply with the requirements of the Draft Conditions of Approval for recording all known Aboriginal objects or Aboriginal places on the site.	E	4	4	E	3	5	E	20	L20
6.0 Heritage	6.05 Aboriginal Cultural Heritage Management Plan	An Aboriginal Cultural Heritage Management Plan for the project is not prepared or does not meet the requirements of the Draft Conditions of Approval.	E	5	4	E	4	4	E	23	L23
6.0 Heritage	6.06 Aboriginal Cultural Heritage Management Plan - Approval	Russell Vale Colliery does not implement the Aboriginal Cultural Heritage Management Plan approved by the Planning Secretary which complies with the Draft Conditions of Approval.	E	5	4	E	4	4	E	23	L23
6.0 Heritage	6.07 Historic Heritage Management Plan	Russell Vale Colliery does not prepare a Historic Heritage Management Plan for the project, in respect of all non-Aboriginal cultural heritage items, to the satisfaction of the Planning Secretary which complies with the Draft Conditions of Approval.	E	5	4	E	4	4	E	23	L23



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6.0 Heritage	6.08 Historic Heritage Management Plan - Approval	Russell Vale Colliery does not implement the Historic Heritage Management Plan as approved by the Planning Secretary which complies with the Draft Conditions of Approval.	E	5	4	E	4	4	E	23	L23
7.0 Transport	7.01 Monitoring of Coal Transport	Russell Vale Colliery does not monitor and report on (a) the amount of coal transported from the site (on a daily basis); (b) the date and time of each truck movement from the site; and (c) make these records publicly available on its website at the end of each quarter.	E	1	4	D	4	4	E	14	M14
7.0 Transport	7.02 Traffic Management Plan	Russell Vale Colliery does not prepare a Traffic Management Plan for the project to the satisfaction of the Planning Secretary which complies with the Draft Conditions of Approval.	E	5	4	E	4	4	E	23	L23
7.0 Transport	7.02 Traffic Management Plan - Approval	Russell Vale Colliery does not implement the Traffic Management Plan as approved by the Planning Secretary which complies with the Draft Conditions of Approval.	E	5	4	E	4	4	E	23	L23
8.0 Visual	8.01 Visual Amenity and Lighting	Russell Vale Colliery does not comply with the Draft Conditions of Approval.	E	1	4	D	4	4	E	23	L23
8.0 Visual	8.02 Visual Impact Management Plan	Russell Vale Colliery does not prepare a Visual Impact Management Plan for the project to the satisfaction of the Planning Secretary and comply with the Draft Conditions of Approval.	E	5	4	E	4	4	E	23	L23



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8.0 Visual	8.03 Visual Impact Management Plan	Russell Vale Colliery does not implement the Visual Impact Management Plan as approved by the Planning Secretary.	E	5	4	E	4	4	E	23	L23
9.0 Waste	9.01 Waste - Conditions of Approval	Russell Vale Colliery does not comply with the Draft Conditions of Approval for Waste.	E	1	4	D	4	4	E	23	L23
9.0 Waste	9.01 Waste Received	Russell Vale Colliery receives waste at the site for storage, treatment, processing, reprocessing or disposal.									
10.0 Bushfire Management	10.01 Bushfire Management – Conditions of Approval	Russell Vale Colliery does not comply with the Draft Conditions of Approval for Bushfire Management.	E	1	4	D	4	4	E	23	L23
10.0 Bushfire Management	10.01 Bushfire Management Plan	Russell Vale Colliery does not prepare a Bushfire Management Plan for the project in consultation with RFS that complies with the Draft Conditions of Approval for Bushfire Management.	E	5	4	E	4	4	E	23	L23
10.0 Bushfire Management	10.01 Bushfire Management Plan - Implementation	Russell Vale Colliery does not implement the Bushfire Management Plan in consultation with RFS.	E	5	4	E	4	4	E	23	L23



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Main Activity	Sub Activity	Hazard/Unwanted Outcome	Consequence Type	Exposure Frequency	Workforce Exp	Likelihood	Consequence	Total Exposure	Probability	Risk Rank	Risk Level
11.0 Dangerous Goods	11.01 Storage, handling, and transport	Russell Vale Colliery does not comply with the Draft Conditions of Approval for the storage, handling and transport of dangerous goods.	E	1	4	D	4	4	E	23	L23
12.0 Exploration Activities And Surface Infrastructure	12.01 Gas Drainage	Russell Vale Colliery does not ensure that all gas drainage pipelines (other than connection points, monitoring points, dewatering facilities, regulation or isolation points) between gas drainage plants are buried, unless otherwise agreed with the relevant landowner or unless burial is inappropriate for safety or other reasons, to the satisfaction of the Planning Secretary.									
12.0 Exploration Activities And Surface Infrastructure	12.02 Exploration Activities and Minor Surface Infrastructure Management Plan	Russell Vale Colliery does not prepare an Exploration Activities and Minor Surface Infrastructure Management Plan for the project to the satisfaction of the Planning Secretary which complies with the Draft Conditions of Approval.	E	5	4	E	4	4	E	23	L23
12.0 Exploration Activities And Surface Infrastructure	12.02 Exploration Activities and Minor Surface Infrastructure Management Plan - Implementation	Russell Vale Colliery does not implement the Exploration Activities and Minor Surface Infrastructure Management Plan as approved by the Planning Secretary.	E	5	4	E	4	4	E	23	L23
13.0 Rehabilitation	13.01 Rehabilitation Objectives	Russell Vale Colliery does not rehabilitate the site in accordance with the conditions imposed on the mining leases(s) associated with the project under the Mining Act 1992. This rehabilitation must be generally consistent with the proposed rehabilitation strategy described in the RPR and comply with the objectives in Table 4 of the Draft Conditions of Approval.	E	5	4	D	3	3	E	20	L20

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13.0 Rehabilitation	13.02 Progressive Rehabilitation	Russell Vale Colliery does not comply with the progressive rehabilitation requirements of the Draft Conditions of Approval.	E	5	4	D	3	3	E	20	L20
13.0 Rehabilitation	13.03 Rehabilitation Management Plan	Russell Vale Colliery does not prepare and implement a Rehabilitation Management Plan in accordance with the conditions imposed on the mining lease(s) associated with the project under the Mining Act 1992 which complies with the conditions in the Draft Conditions of Approval.	E	5	4	E	4	4	E	23	L23
13.0 Rehabilitation	13.04 Social Impact Management Plan	Russell Vale Colliery does not prepare a Social Impact Management Plan for the project to the satisfaction of the Planning Secretary and which complies with the Draft Conditions of Approval.	E	5	4	E	4	4	E	23	L23
13.0 Rehabilitation	13.04 Social Impact Management Plan - Implementation	Russell Vale Colliery does not implement the Social Impact Management Plan as approved by the Planning Secretary.	E	5	4	E	4	4	E	23	L23
14.0 Subsidence	14.01 Performance Measures – Natural and Heritage Features etc.	Russell Vale Colliery does not ensure that the project does not cause any exceedances of the performance measures in Table 5 of the Draft Conditions of Approval, to the satisfaction of the Secretary.	E	4	4	E	3	5	E	20	L20
14.0 Subsidence	14.02 Measurement and monitoring	Measurement and monitoring of compliance with performance measures and performance indicators in this approval is not undertaken using generally accepted methods that are appropriate to the environment and circumstances in which the feature or characteristic is located.	E	4	4	C	3	3	D	17	L17



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Main Activity	Sub Activity	Hazard/Unwanted Outcome	Consequence Type	Exposure Frequency	Workforce Exp	Likelihood	Consequence	Total Exposure	Probability	Risk Rank	Risk Level
14.0 Subsidence	14.03 Exceedance of any Subsidence Impact Performance Measure	Exceedance of any Subsidence Impact Performance Measure (Table 5) for Watercourses or for Water Supply that is deemed by the Secretary to be substantial and not capable of being offset under condition C4.	E	4	4	E	3	3	E	20	L20
14.0 Subsidence	14.04 Offsets	If Russell Vale Colliery exceeds the performance measures in Table 5, Russell Vale Colliery cannot provide a suitable offset to compensate for the subsidence impact or environmental consequence, to the satisfaction of the Secretary.	E	4	4	E	3	3	E	20	L20
14.0 Subsidence	14.05 Offsets - biodiversity and swamps	The offset for biodiversity and swamps cannot be undertaken in accordance with the Biodiversity Offsets Scheme of the BC Act.	E	5	4	E	3	3	E	20	L20
14.0 Subsidence	14.06 Offsets – Physical environmental offsets	The offset cannot give priority to like-for-like physical environmental offsets.	E	5	4	E	3	3	E	20	L20
14.0 Subsidence	14.07 Performance Measures – Built Features	Russell Vale Colliery does not ensure that the project does not cause any exceedances of the performance measures in Table 6 of the Draft Conditions of Approval, to the satisfaction of the Secretary.	E	4	4	E	3	3	E	20	L20
14.0 Subsidence	14.08 Extraction Plan	Russell Vale Colliery does not prepare an Extraction Plan(s) for mining on site to the satisfaction of the Secretary which complies with the Draft Conditions of Approval.	E	5	4	E	4	4	E	23	L23



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Main Activity	Sub Activity	Hazard/Unwanted Outcome	Consequence Type	Exposure Frequency	Workforce Exp	Likelihood	Consequence	Total Exposure	Probability	Risk Rank	Risk Level
14.0 Subsidence	14.09 Extraction Plan - Implementation	Russell Vale Colliery does not implement the Extraction Plan(s) as approved by the Planning Secretary which complies with the Draft Conditions of Approval.	E	5	4	E	4	4	E	23	L23
14.0 Subsidence	14.09 Extraction Plan – Implementation - Payment of Reasonable Costs	Russell Vale Colliery cannot pay all reasonable costs incurred by the Department to engage suitably qualified, experienced and independent persons to review the adequacy of any aspect of an Extraction Plan.	E	5	4	E	3	2	E	16	L16
15.0 Notification Of Exceedances	15.01 Notification Of Exceedances – Effected Landowners	Russell Vale Colliery does not as soon as practicable, and no longer than 7 days after obtaining monitoring results notify effected landowners which complies with the Draft Conditions of Approval.	E	4	3	C	3	3	D	17	L17
16.0 Environmental Management	16.01 Environmental Management Strategy	Russell Vale Colliery does not prepare an Environmental Management Strategy for the project to the satisfaction of the Planning Secretary which complies with the Draft Conditions of Approval.	E	5	4	E	4	4	E	23	L23
16.0 Environmental Management	16.01 Environmental Management Strategy – Commencement of Mining Operations	Russell Vale Colliery commences mining operations before the Environmental Management Strategy is approved by the Planning Secretary.	E	5	4	E	4	4	E	23	L23
16.0 Environmental Management	16.02 Environmental Management Strategy - Implementation	Russell Vale Colliery does not implement the Environmental Management Strategy as approved by the Planning Secretary.	E	5	4	E	4	4	E	23	L23



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Main Activity	Sub Activity	Hazard/Unwanted Outcome	Consequence Type	Exposure Frequency	Workforce Exp	Likelihood	Consequence	Total Exposure	Probability	Risk Rank	Risk Level
16.0 Environmental Management	16.03 Adaptive Management	Russell Vale Colliery does not assess and manage project-related risks to ensure that there are no exceedances of the criteria and/or performance measures in the Draft Conditions of Approval.	E	5	4	E	4	4	E	23	L23
16.0 Environmental Management	16.04 Management Plan Requirements – Relevant Guidelines	Management plans required under the Draft Conditions of Approval are not prepared in accordance with relevant guidelines, and includes the requirements as specified in the Draft Conditions of Approval.	E	5	4	E	4	4	E	23	L23
16.0 Environmental Management	16.05 Management Plan Requirements – Meets Conditions	Russell Vale Colliery does not ensure that management plans prepared for the project are consistent with the conditions of this approval and any EPL issued for the site.	E	5	4	E	4	4	E	23	L23
16.0 Environmental Management	16.06 Revision of Strategies, Plans and Programs - Review	Within the specified timeframes as specified in the Draft Conditions of Approval, the suitability of existing strategies, plans and programs required under this approval are not reviewed by Russell Vale Colliery.	E	5	4	E	4	4	E	23	L23
16.0 Environmental Management	16.07 Revision of Strategies, Plans and Programs - Revision	If necessary, to either improve the environmental performance of the project, cater for a modification or comply with a direction, the strategies, plans and programs required under this approval are not revised, to the satisfaction of the Planning Secretary.	E	5	4	E	4	4	E	23	L23
17.0 Reporting	17.01 Incident Notification	Russell Vale Colliery does not immediately notify the Department and any other relevant agencies immediately after it becomes aware of an incident.	E	5	4	4	3	4	E	20	L20



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Main Activity	Sub Activity	Hazard/Unwanted Outcome	Consequence Type	Exposure Frequency	Workforce Exp	Likelihood	Consequence	Total Exposure	Probability	Risk Rank	Risk Level
17.0 Reporting	17.02 Incident Notification – Non-compliance	Within seven days of becoming aware of a non-compliance, Russell Vale Colliery does not notify the Department of the non-compliance.	E	5	4	4	3	4	E	20	L20
17.0 Reporting	17.03 Annual Review	By the end of March in each year after the commencement of the project, or other timeframe agreed by the Planning Secretary, a report is not submitted to the Department reviewing the environmental performance of the project, to the satisfaction of the Planning Secretary and which meets the requirements specified in the Draft Conditions of Approval.	E	5	4	4	3	4	E	20	L20
17.0 Reporting	17.04 Annual Review – Submission and Copies	Copies of the Annual Review are not submitted to WCC and made available to the CCC and any interested person upon request.	E	5	4	4	3	4	E	20	L20
18.0 Independent Environmental Audit	18.01 Independent Environmental Audit	Within one year of commencement of project under this approval, and every three years after, unless the Planning Secretary directs otherwise, Russell Vale Colliery does not commission and pay the full cost of an Independent Environmental Audit of the project which meet the requirements specified in the Draft Conditions of Approval.	E	5	4	4	3	4	E	20	L20
18.0 Independent Environmental Audit	18.02 Independent Environmental Audit - Submission	Within three months of commencing an Independent Environmental Audit, or other timeframe agreed by the Planning Secretary, Russell Vale Colliery does not submit a copy of the audit report to meet the requirements specified in the Draft Conditions of Approval.	E	5	4	4	3	4	E	20	L20
19.0 Access To Information	19.01 Available on Website	Before the commencement of construction until the completion of all rehabilitation required under this approval, Russell Vale Colliery does not make the required information and documents as specified in the Draft Conditions of Approval publicly available on its website.	E	5	4	B	4	4	D	21	L21



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7. CONTROL AND REVISION HISTORY

PROPERTY	VALUE
Approved by	Eladio Perez
Document Owner	Acting Group Environment & Approvals Manager
Effective Date	1 st September 2020

Revisions

VERSION	DATE REVIEWED	REVIEW TEAM (CONSULTATION)	NATURE OF THE AMENDMENT
1	01/09/2020	Dave Moore, Peter Roser, Dean Jamieson, Paul Briggs, Robert Faddy-Vrouwe, Justin Merdith, Paul Evert, Wayne Sly	New Requirement
2			
3			



Site	Russell Vale Colliery	DOC ID	
Type	Management Plan	Date Published	08/03/2021
Doc Title	Russell Vale Colliery - CEMP		

APPENDIX D - TARPS

Noise

ASPECT	MONITORING				TRIGGER				
	SITES	PARAMETERS	FREQUENCY	PURPOSE	LEVEL	ACTION/ REPORTING	RESPONSIBILITY	TIMING	PURPOSE
Regional Noise Quality	2 real-time monitoring locations M1 and M2 10 short term attended monitoring – R1, R2, R3, R4, C1, C2, C3, C4, C5 and C6 1 automatic weather station (AWS) (W1)	Desktop Analysis: Periodic noise measurement levels in L_{Aeq} , L_{A90} and L_{A1} Field Analysis: 15 minute noise measurement levels in L_{Aeq} , L_{A90} and L_{A1} AWS- meteorological conditions including wind speed at 10m; wind direction at 10m, standard deviation of wind direction (sigma-theta) at 10m, temperature at 2m and 10m, relative humidity at 2m and rainfall (gauge at ground-level) (W1)	Field: - Real-time monitor automatically 15 minutes (M1 and M2) - Quarterly attended monitoring – 15 min monitoring (R1, R2, R3, R4, C1, C2, C3, C4, C5 and C6) - W1 – meteorological conditions automatically every 15 minutes	To identify triggers for implementation of management response measures To assess the effectiveness of noise control measures To quantify changes to noise emissions affecting residences and private properties near the site To ensure the mine contributions for noise emission levels	Unattended Monitoring Real-time Noise Monitor - L_{Aeq} 40 dB(A) at M1 - L_{Aeq} 35 dB(A) at M2 Criteria - L_{Aeq} 41 dB(A) at M1 - L_{Aeq} 36 dB(A) at M2 Attended Monitoring (undertaken on a quarterly basis e.g. January, April, July and October) Criteria Noise levels and locations as identified in Table 4.1 of	Performance Indicators: Review conditions and operations during the period of monitoring to identify potential causes of exceedances and implement mitigation measures as required. Criteria: If criteria trigger value is exceeded for any event: - Review meteorological data recorded at AWS including	Group Environmental Manager	Report exceedances of criteria trigger values immediately once results are received. Investigation initiated within 1 week, with monitoring carried out within 14 days Results of investigation reported to EPA and DPE	Inform stakeholders of monitoring Identify, investigate and report on noise impacts

				<p>remain below relevant noise criteria at the nearest residences</p> <p>To obtain information to provide a basis for assessing the ongoing impact of the WCL Russell Vale Colliery operations on noise emissions; and</p> <p>To provide data suitable to demonstrate compliance with the CoA</p>	the Noise Management Plan	<p>wind speed and temperature inversions to investigate possible influence on the noise monitoring</p> <p>- Review WCL site activities undertaken during the monitoring period and investigate any irregular site activities or non-WCL related activities that might have influenced the monitoring</p> <p>- Undertake short-term operator attended noise monitoring to investigate</p>		<p>within 1 week of completion</p> <p>Commence preparation of mitigation/action plan within 1 week if required</p> <p>Monthly updates of investigation progress, if required by EPA and DPE</p> <p>Monitoring results include in annual review</p>	
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						<p>potential exceedances of noise criteria within 14 days</p> <p>- Inform EPA and DPE of exceedance</p> <p>- Investigation of possible mitigation measures in consultation with EPA and DPE</p> <p>- Prepare and implement a site mitigation/action plan in consultation with EPA and DPE if appropriate</p>			
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Air Quality

ASPECT	MONITORING				TRIGGER				
	SITES	PARAMETERS	FREQUENCY	PURPOSE	LEVEL	ACTION / REPORTING	RESPONSIBILITY	TIMING	PURPOSE
Regional Air Quality	11 dust deposition gauges (DDG) (G1, G2, G3, G4, G5, G6, G7, G9, G10, G11, G12) 2 tapered elemental oscillating microbalance (TEOM) 1 automatic weather station (AWS)	Laboratory analysis: Dust deposition gauges - deposited dust including insoluble solids, soluble solids, ash content Field analysis: TEOM – PM10 (T1, T2) AWS – meteorological conditions including wind speed at 10 metres (m); wind direction at 10 m, standard deviation of wind direction (sigma-theta) at 10 m, temperature at 2 m and 10 m, relative humidity at 2 m and rainfall (gauge at ground-level). (W1)	Laboratory analysis: • DDG (G1 to G12) monthly - every 30 days \pm 2 days Field air quality: • T1, T2 – PM10 automatically every ten minutes • W1 – meteorological conditions automatically every 15 minutes • Odour – detection during site inspections	To identify triggers for implementation of management response measures To assess the effectiveness of air quality control measures To quantify changes to air quality at residences and private properties near the site To ensure the mine contributions for dust concentrations and deposition levels remain below relevant air quality criteria at the nearest residences To obtain information to provide a basis for assessing the ongoing impact of the Russell Vale Colliery operations on air quality; and To provide data suitable to demonstrate compliance with the CoA.	DDGs – Deposited dust (Insoluble Solids) Performance Indicator Monthly insoluble solids exceeds 4/g/m ² /month Criteria Annual average insoluble solids exceeds 4/g/m ² /month	Performance Indicators: Repeat dust deposition gauge sampling of impacted and adjacent DDGs. Review conditions and operations during the period of sampling to identify potential root causes and implement mitigation measures as required. Criteria: If criteria trigger value is exceeded for the rolling 12 month average: <ul style="list-style-type: none"> • Inform EPA and DP&E of exceedance • Investigation of possible mitigation measures in consultation with EPA and DP&E • Prepare and implement a site mitigation/action plan in consultation with EPA and DP&E if appropriate 	Group Environmental Manager	Report exceedances of criteria immediately once results are received. Investigation initiated within 1 week Results of investigation reported to EPA and DP&E within 1 week of completion Commence preparation of mitigation/action plan within 1 week if required Monthly updates of investigation progress, if required by EPA and DP&E Monitoring results included in annual review	Inform stakeholders of monitoring Identify, investigate and report on impacts to air quality

ASPECT	MONITORING				TRIGGER				
	SITES	PARAMETERS	FREQUENCY	PURPOSE	LEVEL	ACTION / REPORTING	RESPONSIBILITY	TIMING	PURPOSE
					<p><u>PM₁₀</u></p> <p>Performance Indicator</p> <p>10 minute sampling PM₁₀ exceeds 150 µg/m³</p> <p>24 hour sampling PM₁₀ exceeds 30 µg/m³</p> <p>Criteria</p> <p>24 hour sampling PM₁₀ exceeds 50 µg/m³</p> <p>Annual average PM₁₀ exceeds 30 µg/m³</p>	<p>Performance Indicators</p> <p>Repeat PM₁₀ sampling. Review conditions and operations during the period of sampling to identify potential root causes and implement mitigation measures as required.</p> <p>Criteria</p> <p>If trigger value is exceeded for the rolling 12 month average:</p> <ul style="list-style-type: none"> • Inform EPA of exceedance • Investigation of possible mitigation measures in consultation with EPA • Prepare and implement a site mitigation/action plan in consultation with EPA if appropriate 	Group Environmental Manager	<p>Report exceedances of criteria immediately once results are received and an exceedance has occurred</p> <p>Investigation initiated within 1 week</p> <p>Results of investigation reported to EPA within 1 week of completion</p> <p>Commence preparation of mitigation/action plan within 1 week if required</p> <p>Monthly updates of investigation progress, if required by EPA</p> <p>Monitoring results included in annual review</p>	<p>Inform stakeholders of monitoring</p> <p>Identify, investigate and report on impacts to air quality</p>

ASPECT	MONITORING				TRIGGER				
	SITES	PARAMETERS	FREQUENCY	PURPOSE	LEVEL	ACTION / REPORTING	RESPONSIBILITY	TIMING	PURPOSE
					<u>Odour</u> Performance Indicator Detectable odour at the site boundary during site inspections.	Determine if odour is from site operations Review conditions and operations to identify potential root causes and implement mitigation measures as required	Group Environmental Manager	Investigation initiated immediately on detection of odour. Long term (>week) detections of odour to be reported to DP&E and EPA. <ul style="list-style-type: none"> Results of investigation reported to EPA within 1 week of completion Commence preparation of mitigation/action plan within 1 week if required Monthly updates of investigation progress, if required by EPA and DP&E Monitoring results included in annual review 	Inform stakeholders of monitoring Identify, investigate and report on impacts to air quality

ASPECT	MONITORING				TRIGGER				
	SITES	PARAMETERS	FREQUENCY	PURPOSE	LEVEL	ACTION / REPORTING	RESPONSIBILITY	TIMING	PURPOSE
					<u>Dust Emission</u> Performance Indicator Dust emissions from Spontaneous Combustion event	WCL to respond to spontaneous combustion event and put out fire as quick as possible in accordance with the spontaneous combustion principal hazard management plan and TARP which describes a rapid and effective sealing of the mine.	Incident Response Manager	As per event.	Inform stakeholders of monitoring Identify, investigate and report on impacts to air quality

Traffic

ASPECT	MONITORING				TRIGGER				
	SITES	PARAMETERS	FREQUENCY	PURPOSE	LEVEL	ACTION / REPORTING	RESPONSIBILITY	TIMING	PURPOSE
Transport	Russell Vale Colliery - Site wide and particularly along loading and transit areas. Bellambi Lane adjacent to Colliery as identified in Noise and Air Quality Management Plans.	<u>Logistics Manager Inspection:</u> Driver compliance with PKCT Driver's Code of Conduct. Truck cleanliness, use of covers and vehicle faults. Noise levels at the load point.		To identify triggers for implementation of management response measures; To assess the effectiveness of air quality control measures; To assess effectiveness of noise control measures; To ensure the mine contributions for dust concentrations and deposition levels remain below relevant air quality criteria at the nearest residences; To obtain information to provide a basis for assessing the ongoing impact of the Russell Vale Colliery		<u>Traffic Inspection</u> Performance Indicators: Driver required to undertake code of conduct training with periodic review Criteria: If a driver acts contrary to the code twice Performance Indicators: Driver required to undertake training with periodic review Criteria: Logistics Manager to speak to driver to determine reason for exceedance, with training to follow Performance Indicator Trucks only to be loaded from overhead bins while truck wash not operating Criteria No deposition of coal particulates along haulage route to PKCT	Russell Vale Colliery (Logistics Manager)	Report exceedances of criteria immediately once results are received Investigation initiated within 1 week Results of investigation reported to EPA and DP&E within 1 week of completion Commence preparation of mitigation/action plan within 1 week if required Monthly updates of investigation progress, if required by EPA and DP&E Monitoring results included in annual review	Inform stakeholders of monitoring Identify, investigate and report on impacts to traffic, noise and air quality
		<u>Truck inspection and driver behavior audit:</u> • Weekly audit • Spot inspections <u>Field air quality:</u> Refer to Air Quality Management Plan TARPs <u>Noise - monitoring:</u> Refer to Noise Management Plan TARPs	<u>Traffic Inspection</u> Performance Indicator 1. <u>Drivers to act in accordance with code of conduct</u> Criteria Driver acts contrary to code of conduct in the opinion of the Logistics Manager. Performance Indicator 2. <u>Truck wash not operational</u> Criteria No loading from stockpile while truck wash not operating.						

ASPECT	MONITORING				TRIGGER				
	SITES	PARAMETERS	FREQUENCY	PURPOSE	LEVEL	ACTION / REPORTING	RESPONSIBILITY	TIMING	PURPOSE
				<p>operations on air quality; and</p> <p>To provide data suitable to demonstrate compliance with the CoA.</p>	<p>Performance Indicator</p> <p>3. <u>Trucks operate in an efficient manner</u></p> <p>Criteria</p> <p>Trucks inspected to ensure in good working order, well maintained and covers fit for purpose</p> <p>Performance Indicator</p> <p>4. <u>A traffic related unintended event</u></p> <p>Criteria</p> <p>The occurrence of a traffic-related unintended event</p>	<p>Performance Indicator</p> <p>Review of truck condition undertaken by Logistics Manager on a weekly basis and identify potential causes of exceedances relating to noise or air quality and identify mitigation required</p> <p>Criteria</p> <p>If inspection reveals that trucks are in poor order the haulage contractor would be contacted immediately to rectify the problem and maintenance regime would be investigated by Logistics Manager</p> <p>Performance Indicator</p> <p>The traffic related unintended event must be reported to the Logistics Manager immediately and a report logged with DP&E where required.</p> <p>Criteria</p> <p>The occurrence of a traffic-related unintended event</p>			

ASPECT	MONITORING				TRIGGER				
	SITES	PARAMETERS	FREQUENCY	PURPOSE	LEVEL	ACTION / REPORTING	RESPONSIBILITY	TIMING	PURPOSE
					<p>Performance Indicator</p> <p>5. <u>Heavy vehicles (off the main mine access road) or plant/equipment operating</u></p> <p>Criteria</p> <p>A control zone of 2m plus 10m must be enforced, with no person entering unless provided with permission by the vehicle, plant/equipment operator after considering the persons safety and local operations.</p> <p><u>Air Quality</u></p> <p>Performance Indicator</p> <p>1. <u>Air Quality – refer to Air Quality Management Plan</u></p> <p>Criteria</p> <p>Air Quality – refer to Air Quality Management Plan</p> <p><u>Noise</u></p> <p>Performance Indicator</p> <p>1. <u>Noise – refer to Noise Management Plan</u></p> <p>Criteria</p> <p>Noise – refer to Noise Management Plan</p>	<p>Performance Indicator</p> <p>Person enters control zone while heavy vehicle, plant/machinery in energised or de-energised in an unsafe position</p> <p>Criteria</p> <p>Operator to advise person to immediately leave area.</p> <p><u>Air Quality</u></p> <p>Performance Indicator</p> <p>Air Quality – refer to Air Quality Management Plan</p> <p>Criteria</p> <p>Air Quality – refer to Air Quality Management Plan</p> <p><u>Noise</u></p> <p>Performance Indicator</p> <p>Noise – refer to Noise Management Plan</p> <p>Criteria</p> <p>Noise – refer to Noise Management Plan</p>	Group Environmental Manager		

Water

ASPECT	MONITORING				TRIGGER				
	SITES	PARAMETERS	FREQUENCY	PURPOSE	LEVEL	ACTION / REPORTING	RESPONSIBILITY	TIMING	PURPOSE
Bellambi Gully Creek Discharge	WCL Russell Vale Colliery	<p>Opportunistic visual inspection for signs of suspended solids contamination during active mining.</p> <p>Monitoring LDP2 water quality for the following parameters;</p> <ul style="list-style-type: none"> Oil and Grease; total dissolved solids (TDS); and pH. 	In accordance with the requirements of EPL12040	<p>To identify triggers for implementation of management response measures;</p> <p>To assess the effectiveness of erosion and sediment control measures;</p> <p>To quantify changes to contaminant levels within the Bellambi Gully Creek discharge waters;</p> <p>To ensure that discharge limits within EPL 12040 are complied with;</p> <p>To obtain information to provide a basis for assessing the ongoing impact of the WCL Russell Vale Colliery operations on stream health and stability; and</p> <p>To provide data to demonstrate compliance with the CoA.</p>	<p>Low</p> <p>No exceedance of EPL limits</p> <p>No deterioration in stream health and stability.</p> <p>Medium</p> <p>Exceedance of EPL pollution concentration limits at LDP 2</p> <p>Oil and Grease: 10 mg/L pH: 6.5-9.2 TSS: 50mg/L</p> <p>Deterioration in stream health and stability is identified.</p> <p>High</p> <p>Unauthorised discharge from a location other than a licenced discharge point as specified in EPL 12040.</p> <p>Immediately cease the discharge.</p>	<p>Low</p> <p>No notification required</p> <p>Continue monitoring</p> <p>Report in regular monthly reporting</p> <p>Medium</p> <p>Notify the WCL Group Environment Manager.</p> <p>Review monitoring results against historical monitoring data.</p> <p>Test water quality at LDP2 and return water to Storm Water Control Dam until within licence.</p> <p>Report any Environmental Incidents in accordance with the Project Approvals, EPL and section 7.1.</p> <p>High</p> <p>Notify the WCL Group Environment Manager.</p> <p>Report any Environmental Incidents in accordance with the Project Approvals, EPL and section 7.1.</p>	<p>WCL Russell Vale Colliery (Group Environmental Manager)</p> <p>WCL Environmental Monitoring Team</p>	<p>Report exceedances of EPL limits immediately once results are received.</p> <p>Investigation initiated within 1 week</p> <p>Results of investigation reported to EPA and DPE within 1 week of completion</p> <p>Commence preparation of mitigation/action plan within 1 week if required</p> <p>Quarterly updates of investigation progress to EPA</p> <p>Monitoring results included in annual review</p>	<p>Inform stakeholders of stream health and stability</p> <p>Identify, investigate and report any exceedances of the EPL limits and potential discharge impacts</p>

ASPECT	MONITORING				TRIGGER				
	SITES	PARAMETERS	FREQUENCY	PURPOSE	LEVEL	ACTION / REPORTING	RESPONSIBILITY	TIMING	PURPOSE
Stormwater Management	WCL Russell Vale Colliery	Routine visual inspection of stormwater diversion assets	Regularly and after significant rainfall events	<p>To confirm that Stormwater management structures are open, clean and in good working order</p> <p>To identify triggers for implementation of management response measures such as build up of sediment in dam levels;</p> <p>To assess the effectiveness of Stormwater diversion assets;</p> <p>To obtain information to provide a basis for assessing the ongoing potential of the WCL Russell Vale Colliery operations to result in erosion and subsequent impacts on water bodies; and</p> <p>To provide data to demonstrate compliance with the CoA.</p>	<p>Low</p> <p>No erosion or sedimentation compared to baseline conditions.</p> <p>All Stormwater structures clear of vegetation, debris and/or sediments.</p> <p>Medium</p> <p>Noticeable erosion or damage to structures.</p> <p>Blockage of structures by vegetation, debris or sediments.</p> <p>High</p> <p>Noticeable bypasses or overflows of Stormwater channels</p> <p>Sediments in coarse sediment control structure and dams above design level.</p>	<p>Low</p> <p>No notification required.</p> <p>Continue monitoring.</p> <p>Report in regular monthly reporting.</p> <p>Medium</p> <p>Notify the WCL Group Environment Manager.</p> <p>Organise rehabilitation of Stormwater structures.</p> <p>High</p> <p>Notify the WCL Group Environmental Manager</p> <p>Organise cleaning of Stormwater structures</p> <p>Review hydraulic capacity of swales and culverts</p> <p>Notify the WCL Group Environment Manager.</p> <p>Organise cleaning of sediment control structures and dams.</p>	<p>WCL Russell Vale Colliery (Group Environmental Manager)</p> <p>WCL Environmental Monitoring Team</p>	<p>Report erosion or damage immediately once identified.</p> <p>Investigation initiated within 1 week</p> <p>Results of investigation reported to EPA and DPE within 1 week of completion</p> <p>Commence preparation of mitigation/action plan within 1 week if required</p> <p>Quarterly updates of investigation progress to EPA</p>	<p>Inform stakeholders of effectiveness of Stormwater assets in managing erosion</p> <p>Identify, any deficiencies in Stormwater assets resulting in erosive processes.</p>