



# NOISE MANAGEMENT PLAN

Version	Issue Date	Section Revised	Reason for Revision	Review Team
1	Mar 2010	All	Original Noise Management Plan	S. Peart
2	June 2013	All	Updated to include Open Cut 2 and Open Cut 3	Environmental Department
3	May 2015	All	To include management and mitigation measures for both Stage 1 and Stage 2 of the Project	MCO, SLR Consulting Australia Pty Ltd
4	Jun 20	All	To Incorporate approved modifications to Stage 1 (Mod 14) and Stage 2 (Mod 3)	MCO

Approved: \_\_\_\_\_ Date: \_\_\_\_\_

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## DEFINITIONS

Compliance	The process of checking that source noise levels meet with the noise limits in a statutory context
Cumulative Noise Level	The total level of noise from all sources
Day	The period from 0700 to 1800 h (Monday to Saturday) and 0800 to 1800 h (Sundays and Public Holidays)
dB	Abbreviation for decibel – a unit of sound measurement. It is equivalent to 10 times the logarithm (to base 10) of the ratio of a given sound pressure to a reference pressure
dba	Unit used to measure 'A-weighted' sound pressure levels. A-weighting is an adjustment made to sound-level measurement to approximate the response of the human ear
Exceedance	When an attended monitoring noise level is greater than the criteria contained in the NSW Project Approvals (05_0117 and 08_0135)
Evening	The period from 1800 to 2200 h
Incident	An incident has been defined as a non-compliance for the purposes of the NMP
L <sub>A1</sub>	The noise level which is exceeded for 1% of the measurement period. During the measurement period, the noise level is below the L <sub>A1</sub> level for 99% of the time
L <sub>A10</sub>	The noise exceeded by 10% of the measurement period. Commonly referred to as the average maximum noise level
L <sub>Aeq</sub>	The equivalent continuous noise level – the level of noise equivalent to the energy-average of noise levels occurring over a measurement period
Low frequency	Noise containing major components in the low-frequency range (20 Hz to 250 Hz) of the frequency spectrum
Low pass noise	Noise that has been filtered to remove higher frequencies that are generally not attributable to mining related noise sources
Meteorological conditions	Wind and temperature-inversion conditions
Night	The period from 2200 to 0700 h (Monday to Saturday) and 2200 to 0800 h (Sundays and Public Holidays)
Noise Affected Night	Night where first and second attended noise readings at a location are non-compliances and weather conditions do not exclude the readings
Non-Compliance	A non-compliance is a breach of the NSW Project Approvals. In the context of this NMP, an incident is also a non-compliance.
Sound power level	Ten times the logarithm to the base 10 of the ratio of the sound power of the source to the reference sound power

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## 1.0 INTRODUCTION

The Moolarben Coal Complex is located approximately 40 kilometres (km) north of Mudgee in the Western Coalfield of New South Wales (NSW) (Figure 1).

Moolarben Coal Operations Pty Ltd (MCO) is the operator of the Moolarben Coal Complex on behalf of the Moolarben Joint Venture (Moolarben Coal Mines Pty Ltd [MCM], Sojitz Moolarben Resources Pty Ltd and a consortium of Korean power companies). MCO and MCM are wholly owned subsidiaries of Yancoal Australia Limited (Yancoal).

Mining operations at the Moolarben Coal Complex are currently approved until 31 December 2038 and would continue to be carried out in accordance with NSW Project Approval (05\_0117) (Moolarben Coal Project Stage 1) (as modified) and NSW Project Approval (08\_0135) (Moolarben Coal Project Stage 2) (as modified).

Mining operations at the Moolarben Coal Complex are undertaken in accordance with the various approvals under the Commonwealth *Environmental Protection and Biodiversity Conservation Act, 1999* (EPBC Act).

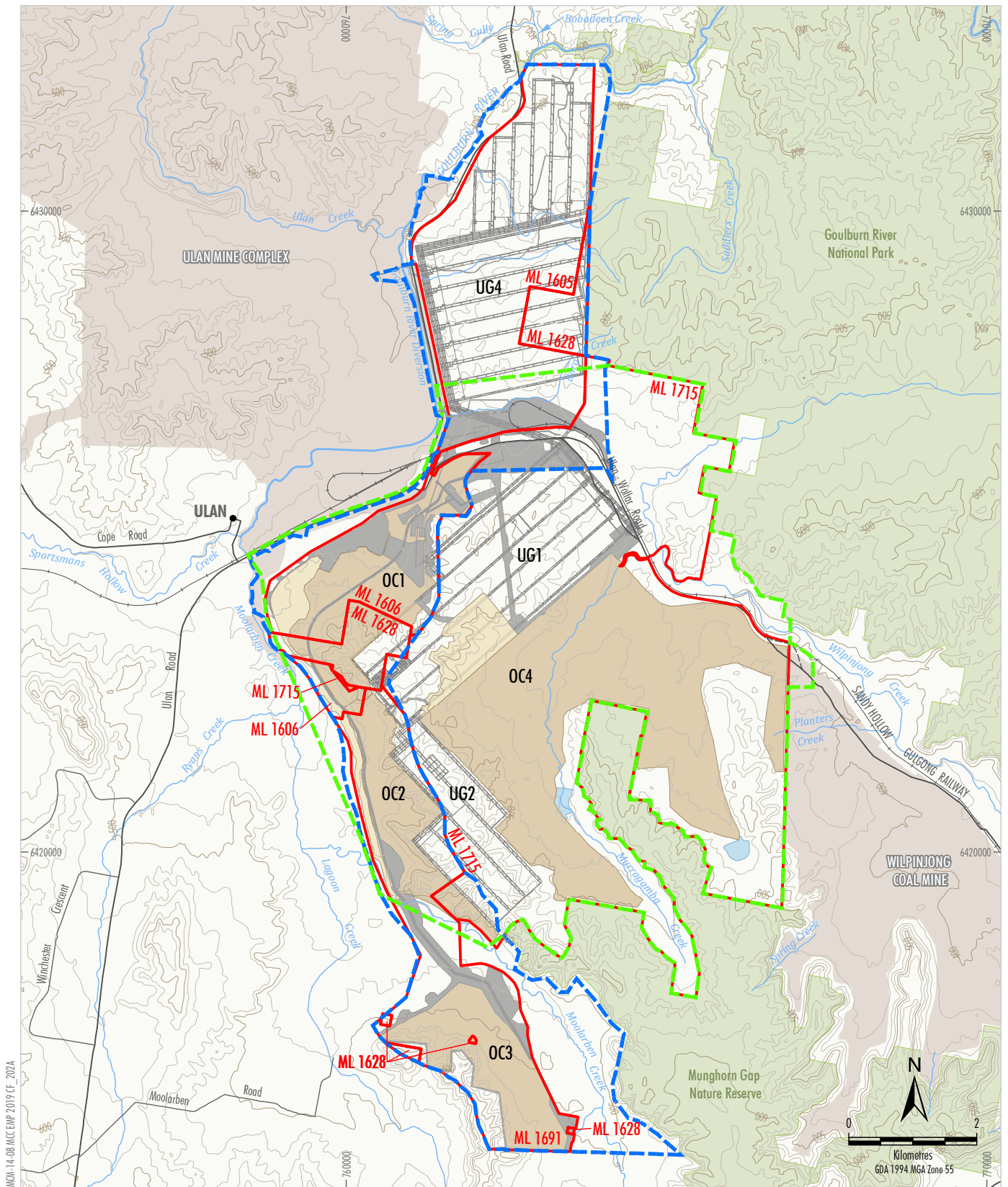
The current mining operations at the Moolarben Coal Complex are conducted in accordance with the requirements of the conditions of Mining Lease (ML) 1605, ML 1606, ML 1628, ML 1691 and ML 1715 granted under the *Mining Act, 1992*.

Stage 1 at the Moolarben Coal Complex has been operating for several years and at full development will comprise three open cut mines (OC1, OC2 and OC3), a longwall underground mine (UG4), and mining related infrastructure (including coal processing and transport facilities) (Figure 2).

Stage 2 at of the Moolarben Coal Complex has commenced and at full development will comprise one open cut mine (OC4), two longwall underground mines (UG1 and UG2), and mining related infrastructure (Figure 2).

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#### LEGEND

- NSW National Parks and Wildlife Service
- Other Mining Operations
- Mining Lease Boundary
- Existing/Approved Development
- Open Cut Mining Area
- Out-of-pit Emplacement
- Surface Infrastructure Area
- Clean Water Diversion Infrastructure
- Underground Longwall Layout
- Haul Road
- Road Realignment (not yet constructed)

- Approved Stage 1 Project Boundary
- Approved Stage 2 Project Boundary

Source: MCO (June 2017); NSW Dept of Industry (2017);  
NSW Land & Property Information (2017);  
Office of Environment and Heritage NSW (2017)

**MOOLARBEN COAL**  
**MOOLARBEN COAL COMPLEX**  
**Approved Moolarben Coal Project**  
**(Stage 1 and Stage 2)**  
**General Arrangement**

**Figure 2**

Stages 1 and 2 at the Moolarben Coal Complex operate concurrently in accordance with the limits stipulated in NSW Project Approval (05\_0117) and NSW Project Approval (08\_0135), and are summarised as follows:

- The total run-of-mine (ROM) coal extracted from the Moolarben Coal Complex (open cut and underground mining) is no more than 24 million tonnes in any calendar year, comprising:
  - No more than 16 million tonnes of ROM coal from the open cut mining operations in any calendar year, considering:
    - No more than 10 million tonnes of ROM coal from Stage 1 open cut mining operations in any calendar year.
    - No more than 16 million tonnes of ROM coal from Stage 2 open cut mining operations in any calendar year.
  - No more than 8 million tonnes of ROM coal from the underground mining operations in any calendar year.
- No more than 16 million tonnes of coal from the Moolarben Coal Complex can be processed (washed) in any calendar year.
- No more than 22 million tonnes of coal can be transported from the Moolarben Coal Complex in any calendar year.
- All product coal is transported from the Moolarben Coal Complex by rail with:
  - No more than 8 laden trains leaving the site each day (on average when calculated over any calendar year); and
  - No more than 11 laden trains leaving the site each day.

## 1.1 SCOPE AND PURPOSE

This Noise Management Plan (NMP) has been prepared by MCO (with input from experienced and qualified noise experts [SLR Consulting Australia Pty Ltd]) to satisfy the requirements of NSW Project Approvals (05\_0117 and 08\_0135).

The purpose of the NMP is to describe the management of noise at the Moolarben Coal Complex (i.e. Stage 1 and Stage 2 of the Moolarben Coal Complex) in accordance with the above listed Project Approvals.

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## **1.2 STRUCTURE OF THE NMP**

The remainder of the NMP is structured as follows:

Section 2: Outlines the statutory requirements applicable to the NMP.

Section 3: Outlines the noise generating activities relevant to Moolarben Coal Complex operations.

Section 4: Outlines the relevant noise criteria applicable to Moolarben Coal Complex operations.

Section 5: Provides baseline data.

Section 6: Outlines noise management measures.

Section 7: Outlines the noise monitoring program.

Section 8: Provides a contingency plan to manage any unprecedented impacts and their consequences.

Section 9: Provides details for the review and improvement of environmental performance process.

Section 10: Describes the management and reporting of incidents, complaints and non-compliances.

Section 11: Provides the references cited in the NMP.

## **1.3 CONSULTATION**

The NMP was prepared in consultation with the NSW Environment Protection Authority (EPA) in accordance with Condition 7(a) of Schedule 3 of the Stage 1 Project Approval (05\_0117) and Condition 8(a) of Schedule 3 of the Stage 2 Project Approval (08\_0135). Feedback from the EPA has been incorporated into the NMP.

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## 2.0 STATUTORY REQUIREMENTS

MCO's statutory obligations are contained in:

- i. the conditions of the NSW Project Approvals (05\_0117 and 08\_0135);
- ii. relevant licences and permits, including conditions attached to the Environment Protection Licence (EPL) and mining leases; and
- iii. other relevant legislation.

Obligations relevant to this NMP are described below.

### 2.1 EP&A ACT PROJECT APPROVAL

The conditions of the NSW Project Approvals (05\_0117 and 08\_0135) relevant to the NMP are described below. A comprehensive list of all conditions in the NSW Project Approvals (05\_0117 and 08\_0135) relevant to noise is provided in Appendix A. A summary of all commitments relevant to noise in Appendix 3 of the NSW Project Approvals (05\_0117 and 08\_0135), including where they are referenced in the NMP, is also provided in Appendix A.

#### 2.1.1 Noise Management Plan

Condition 7, Schedule 3 of the NSW Project Approval (05\_0117) requires the preparation of a NMP. Condition 7 states:

**Noise Management Plan**

7. *The Proponent shall prepare and implement a Noise Management Plan for the project to the satisfaction of the Secretary. This plan must:*

- (a) *be prepared in consultation with the EPA and be submitted to the Secretary for approval by 31 March 2015;*
- (b) *describe the measures that would be implemented to ensure compliance with the noise criteria and operating conditions in this approval;*
- (c) *describe the proposed noise management system in detail;*
- (d) *include a monitoring program that:*
  - *uses attended noise monitoring to evaluate compliance of the project against the noise criteria in this approval;*
  - *includes a program to calibrate and validate the real-time noise monitoring results with the attended monitoring results over time (so the real-time noise monitoring program can be used as a better indicator of compliance with the noise criteria in this approval and trigger for further attended monitoring);*

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- *evaluates and reports on:*
  - *the effectiveness of the noise management system; and*
  - *compliance against the noise operating conditions; and*
- *defines what constitutes a noise incident, and includes a protocol for identifying and notifying the Department and relevant stakeholders of any noise incidents.*

Condition 8, Schedule 3 of the NSW Project Approval (08\_0135) requires the preparation of a NMP. Condition 8 states:

**Noise Management Plan**

8. *The Proponent shall prepare and implement a Noise Management Plan for the project to the satisfaction of the Secretary. This plan must:*

- (a) *be prepared in consultation with the EPA, and submitted to the Secretary for approval prior to the commencement of any development on site under this approval;*
- (b) *describe the measures that would be implemented to ensure compliance with the noise criteria and operating conditions in this approval;*
- (c) *describe the proposed noise management system in detail; and*
- (d) *include a monitoring program that:*
  - *evaluates and reports on:*
    - *the effectiveness of the noise management system;*
    - *compliance against the noise criteria in this approval; and*
    - *compliance against the noise operating conditions;*
  - *includes a program to calibrate and validate the real-time noise monitoring results with the attended monitoring results over time (so the real-time noise monitoring program can be used as a better indicator of compliance with the noise criteria in this approval and trigger for further attended monitoring); and*
  - *defines what constitutes a noise incident, and includes a protocol for identifying and notifying the Department and relevant stakeholders of any noise incidents.*

**2.1.2 Management Plan Requirements**

Condition 3, Schedule 5 and Condition 3, Schedule 6 of the NSW Project Approvals (05\_0117 and 08\_0135, respectively) outline general management plan requirements that are applicable to the preparation of the NMP. Table 1 presents these requirements and indicates where they are addressed within this NMP.

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**Table 1: Management Plan Requirements**

NSW Project Approval Condition	NMP Section
3. The Proponent shall ensure that the management plans required under this approval are prepared in accordance with any relevant guidelines, and include:	
(a) detailed baseline data;	Section 5
(b) a description of:	
• the relevant statutory requirements (including any relevant approval, licence or lease conditions);	Section 2
• any relevant limits or performance measures/criteria;	Section 4
• the specific performance indicators that are proposed to be used to judge the performance of, or guide the implementation of, the project or any management measures;	Section 6.4
(c) a description of the measures that would be implemented to comply with the relevant statutory requirements, limits, or performance measures/criteria;	Section 6
(d) a program to monitor and report on the:	
• impacts and environmental performance of the project;	Section 7
• effectiveness of any management measures (see c above);	Section 7
(e) a contingency plan to manage any unpredicted impacts and their consequences;	Section 8
(f) a program to investigate and implement ways to improve the environmental performance of the project over time;	Section 9
(g) a protocol for managing and reporting any:	Section 10
• incidents;	
• complaints;	
• non-compliances with statutory requirements; and	
• exceedances of the impact assessment criteria and/or performance criteria; and	
(h) a protocol for periodic review of the plan.	Section 9

## 2.2 LICENCES, PERMITS AND LEASES

In addition to the NSW Project Approvals (05\_0117 and 08\_0135) and Commonwealth Approvals (EPBC 2007/3297, 2013/6926, 2017/7974 and 2008/4444), all activities at the Moolarben Coal Complex will be conducted in accordance with a number of licences, permits and leases which have been issued or are pending issue.

Key licences, permits and leases pertaining to noise at the Moolarben Coal Complex include:

- EPL 12932 issued under Part 3 of the *NSW Protection of the Environment Operations Act, 1997* by the NSW Environment Protection Authority (EPA) as amended from time to time.
- Mining Operations Plan approved by the Resources Regulator as amended from time to time.

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The Policies, Plans and Notes that may be applicable to the Moolarben Coal Complex include, but are not limited to, the:

- NSW *Industrial Noise Policy* (INP) (EPA, 2000); and
- NSW Noise Policy for Industry (NPfI) (EPA, 2017).

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### 3.0 NOISE GENERATING ACTIVITIES

#### 3.1 CONSTRUCTION/DEVELOPMENT ACTIVITIES

Construction/development activities are currently focused on works to facilitate open cut mining progression and development and progression of underground mining operations of the Moolarben Coal Complex.

Construction works in support of open cut mining progression include mine infrastructure areas, offices, water management works, haul roads, diversions, water storages, exploration within ML areas and other ancillary works.

Construction in support of underground mining progression include mine infrastructure areas, materials handling and processing, water management infrastructure, exploration within ML areas and underground mining surface facilities.

#### 3.2 MINE OPERATION

Since the commencement of mining operations in 2010, mining activities have occurred within OC1, OC2, OC4 and UG1 (Figure 2). Mining will continue to progress to OC3 and UG4 in the near future. The key noise generating activities/equipment from the operation of the Moolarben Coal Complex include:

- drills;
- blasting;
- excavators;
- loaders;
- haul trucks;
- dozers;
- scrapers;
- other mobile fleet;
- exploration activities;
- ventilation fans;
- fixed plant (e.g. CHPP/conveyors); and
- rail loading facilities.

The approved hours of operation for these activities are shown in Table 2.

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**Table 2: Hours of Operation for Mining Phases**

Operation	Description	Currently Approved <sup>1</sup>
On-Site	Mine maintenance, operation, coal handling	24 hours, 7 days per week
	Blasting <sup>2</sup>	0900 hours to 1700 hours A maximum of 2 blasts per day and 9 blasts per week on average over a calendar year
Off-Site	Train Traffic	24 hours, 7 days per week
	Road Traffic	24 hours, 7 days per week

Note: <sup>1</sup> As per Moolarben Coal Complex Stage 1 Project Approval (05\_0117) and Moolarben Coal Complex Stage 2 Project Approval (08\_0135).

<sup>2</sup> No blasting is allowed on Sundays, public holidays, or at any other time without the written approval of the Secretary.

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## 4.0 NOISE CRITERIA AND PERFORMANCE INDICATORS

### 4.1 PROJECT APPROVAL CONDITIONS

The noise criteria outlined in Condition 1, Schedule 3 and Condition 3, Schedule 3 of the NSW Project Approvals (05\_0117 and 08\_0135, respectively) are provided in Table 3.

**Table 3: Noise Criteria dB(A)**

Land Number	Day $L_{Aeq}(15min)$	Evening $L_{Aeq}(15min)$	Night		EPL Identification Number
			$L_{Aeq}(15min)$	$L_{A1}(1min)$	
63	39	39	39	45	40
70	37	37	37	45	41
75	36	36	36	45	42
All other privately owned residences	35	35	35	45	43
Ulan Primary School	35 (internal) when in use			-	44
Ulan Anglican Church	35 (internal) when in use			-	
Goulburn River National Park Munghorn Gap Nature Reserve	50 when in use			-	46

The noise criteria in Table 3 do not apply under the following adverse meteorological conditions:

- Wind speeds greater than 3 metres/second at 10 metres above ground level; or
- Stability category F temperature inversion conditions and wind speeds greater than 2 metres/second at 10 metres above ground level; or
- Stability category G temperature inversion conditions.

Noise acquisition criteria and noise mitigation criteria are provided in Conditions 2-4, Schedule 3 of the NSW Project Approvals (05\_0117 and 08\_0135) (Appendix A).

### 4.2 LICENCE CONDITIONS

The noise limits outlined in the EPL 12932 are consistent with the NSW Project Approvals (05\_0117 and 08\_0135).

The NSW Project Approvals (05\_0117 and 08\_0135) require that monitoring be undertaken in accordance with the new NPfl. However, the EPL continues to refer to the former INP with exception of applying modifying factors in accordance with Fact Sheet C of new NPfl.

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To ensure consistent monitoring and reporting across the site, MCO proposes to retain the same monitoring methodology, as approved in version 3 of this NMP, except for applying the new modifying factors in the NPfl. This aligns with the requirements under the EPL.

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## 5.0 BASELINE DATA

### 5.1 BACKGROUND NOISE

Background noise monitoring results to characterise and quantify the pre-mine noise environment in the area surrounding the Moolarben Coal Complex were conducted in July 2005 for the *Noise and Vibration Impact Assessment Proposed Moolarben Coal Mine Ulan, NSW* (Spectrum Acoustics, 2006), which are summarised in Table 4 and shown on Figure 3.

**Table 4: Measured Rating Background Levels (RBL) (LAeq and LA90) - July 2005**

Location*	LAeq, period			LA90, period		
	Day	Evening	Night	Day	Evening	Night
P. Renshaw (N6)	49	48	46	30	31	30
G. Tuck-Lee (N4)	55	44	44	33	36	34
D. Rayner (N1)	43	37	42	30	30	30
M. Powers (Ulan) (N5)	55	53	51	42	41	40
T. Roberts (N3)	49	45	39	34	33	32
B. Reid (N2)	47	40	37	30	30	30

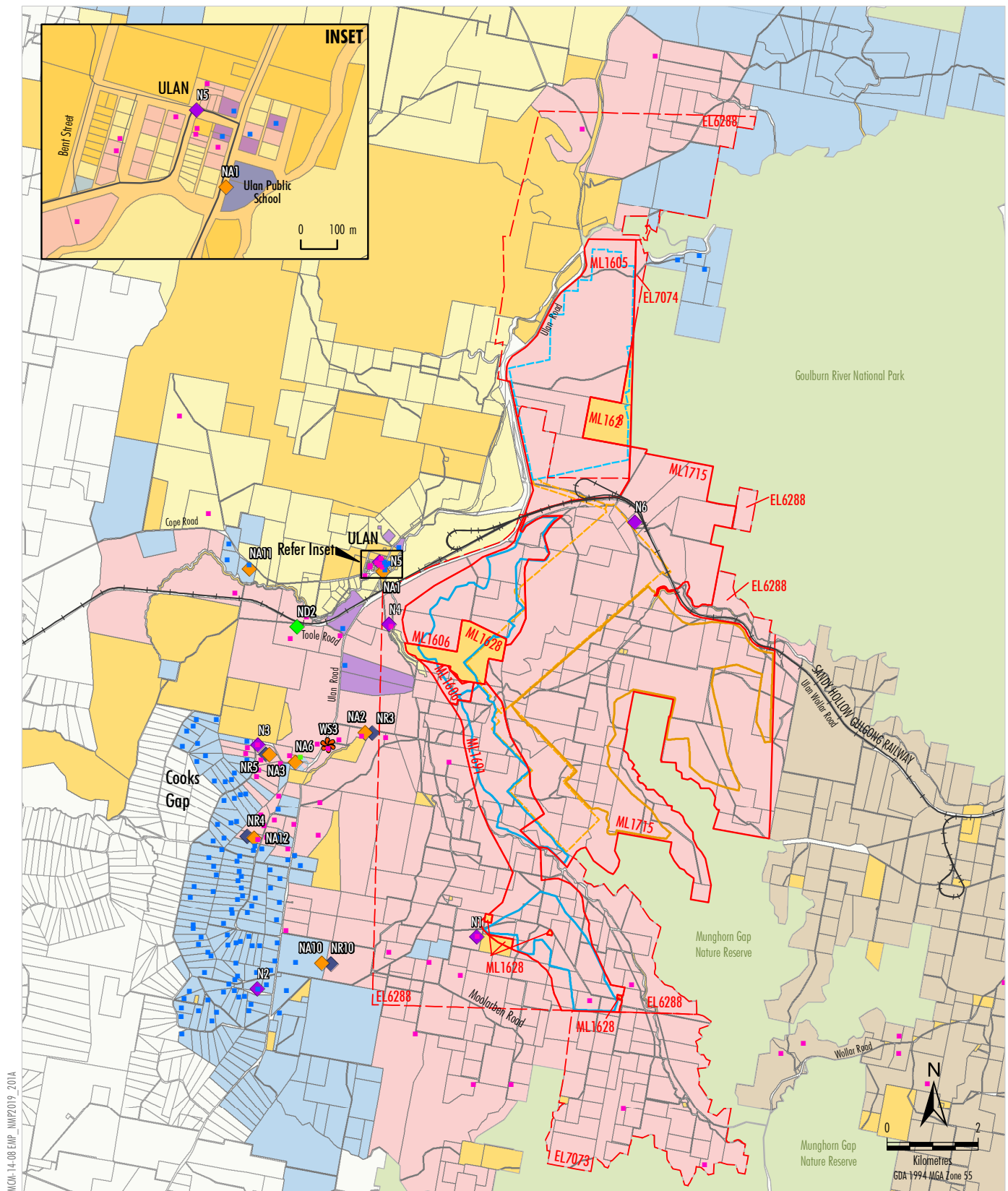
Note: \* Monitoring locations are shown on Figure 3.

### 5.2 SENSITIVE RECEPTORS

Receptors sensitive to noise impacts from operational activities associated with the Moolarben Coal Complex are listed in Appendix 5 of the NSW Project Approvals (05\_0117 and 08\_0135) and shown on Figure 3.

Potential noise impacts at these receptors have been modelled as a component of the environmental assessments for the Moolarben Coal Project Stage 1 and Moolarben Coal Project Stage 2.

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#### LEGEND

- NSW National Parks and Wildlife Service
- Railway
- Exploration Licence Boundary
- Mining Lease Boundary
- Stage 1 Open Cut Mining Area
- Stage 1 Underground Mining Area
- Stage 2 Open Cut Mining Area
- Stage 2 Underground Mining Area
- Road Realignment (not yet constructed)

#### Land Ownership

- Moolarben Coal Operations Pty Ltd
- Moolarben Coal Operations Pty Ltd – Under Contract/Purchase Agreement
- Ulan Coal Mines Limited
- Wilpinjong Coal Mine
- Commercial
- Minister for Education
- Crown/State of NSW
- Privately Owned
- Unidentified Land
- Mine Owned Receiver
- Private Receiver (Under Contract to MCC)
- Private Receiver

#### Environment Monitoring

- Attended Noise Monitoring Site
- Directional Receiver
- Real-time Noise Monitoring Site
- 2005 Background Noise Monitoring Site
- Meteorological Station

Source: MCC (2019); NSW Department of Planning, Industry and Environment (2019)

**MOOLARBEN COAL**  
**MOOLARBEN COAL COMPLEX**  
**Noise Monitoring Sites**

**Figure 3**

## 6.0 NOISE MANAGEMENT MEASURES

MCO has implemented management and control measures to identify and manage noise impacts to ensure noise from Moolarben Coal Complex is managed to acceptable levels, through a combination of the following:

- ensuring best management practices are implemented onsite by all staff and contractors;
- implementing noise controls to reduce noise from the source and attenuate noise transmission; and
- if necessary, implementing additional mitigation measures to minimise noise at receivers.

The effectiveness of noise management measures at the Moolarben Coal Complex will be assessed and continually improved through real-time and attended noise monitoring (refer to Section 7.0 of this NMP).

### 6.1 MANAGEMENT PRACTICES

The following noise management measures will be implemented at the Moolarben Coal Complex:

- An awareness and understanding of noise issues will be included in site inductions for all staff, and contractors to the Moolarben Coal Complex.
- Meteorological conditions will be monitored (as per Section 7.4) and where adverse conditions are experienced or predicted, operational changes will be reviewed to avoid or reduce noise impacts.
- All machinery and plant used on site will be maintained regularly to minimise noise generation.
- Operation of some support fleet during the daytime only.
- Specification of plant and equipment Sound Power Levels (SWLs) in supply contracts.
- Attenuated principal equipment will be procured, where feasible.
- Utilisation of available Dura Tray fleet (rubber lined truck bodies) in relatively more exposed mine areas.
- Use of targeted acoustic bunding around the site (specifically targeting haul roads).
- Multilevel dumping schedules will be adopted, where feasible.
- Broadband reversing and low nuisance start up alarms will be used on mobile equipment, where feasible.
- Noise monitoring will include a combination of real-time and attended monitoring of mine-generated noise.
- An AWS (Automatic Weather Station) will be operated to aid in implementing additional noise mitigation measures during noise enhancing conditions (refer to Section 7.4).

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- An awareness of industry developments will be maintained in relation to noise mitigation engineering for individual plant items in order to assess inherent cost and practicality; and.
- The use of locomotives and rolling stock that are approved to operate on the NSW rail network in accordance with the Australian Rail Track Corporation EPL.

In accordance with Condition 20C, Schedule 3 and Condition 23, Schedule 3 of the NSW Project Approvals (05\_0117 and 08\_0135, respectively) MCO will consult with the NSW Department of Education and Communities and, if requested:

- implement agreed reasonable and feasible measures to ameliorate potential noise and/or dust impacts to Ulan Public School; or
- on a reasonable basis relating to the adverse effect of noise and/or dust from the project, contribute to or meet reasonable costs toward relocating the school.

## 6.2 SOURCE AND TRANSMISSION NOISE CONTROLS

The following noise controls will continue to be used to reduce noise from the source and attenuate noise transmission:

- Enclosure of high noise emission risk stationary equipment at the CHPP such as conveyors, crushers and reject bins to an adequate level to maintain compliance with relevant criteria, where noise monitoring and noise modelling indicate attenuation would be required.
- Attenuation of mobile equipment such as haul trucks, shovels and excavators, dozers and drills to an adequate level to maintain compliance with relevant criteria, where noise monitoring and noise modelling indicate attenuation would be required.
- Use of rubber lined truck bodies (Dura-Tray), where feasible.
- Selective placement of waste rock materials to the west of the OC2 in order to provide an acoustic barrier.
- Use of a temporary power supply generator located near the borefield pipeline outlet, at least 4 kilometres from the nearest private residence, unless power is provided from the electricity network (note a suitably acoustically screened portable power supply may be used for bore testing purposes).
- Fitting northern borefield (Figure 3) water supply/dewatering bores with submersible pumps.
- Limiting northern borefield (Figure 3) construction hours from 7:00 am to 6:00 pm, Monday to Friday (inclusive).

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### 6.3 PREDICTIVE MODELLING

In accordance with Condition 6, Schedule 3 and Condition 7, Schedule 3 of the NSW Project Approvals (05\_0117 and 08\_0135, respectively) MCO operates a predictive meteorological forecasting model (Environmental Forecasting System) in conjunction with real-time response protocols (Section 7.4) as part of the comprehensive noise management system at the Moolarben Coal Complex. The Environmental Forecasting System predicts the presence of favourable or unfavourable noise conditions based on meteorological data and provides predictions of noise risk levels at nearby receivers.

### 6.4 REAL-TIME TRIGGERS AND RESPONSE PROTOCOLS

Real-time response triggers (a series of escalating triggers based on risk) have been developed to identify when operational noise is trending towards a potential exceedance of the noise criteria, and therefore when additional controls may need to be implemented to maintain compliance.

The real-time response trigger levels are shown in Table 5 with the responses shown in Table 6. A flow chart of the response is shown in Figure 4. SMS alarms will be directed to key staff/operational personnel. The adequacy of these alarms will be reviewed on an annual basis with any changes reported in the Annual Review and subsequent revisions of this NMP.

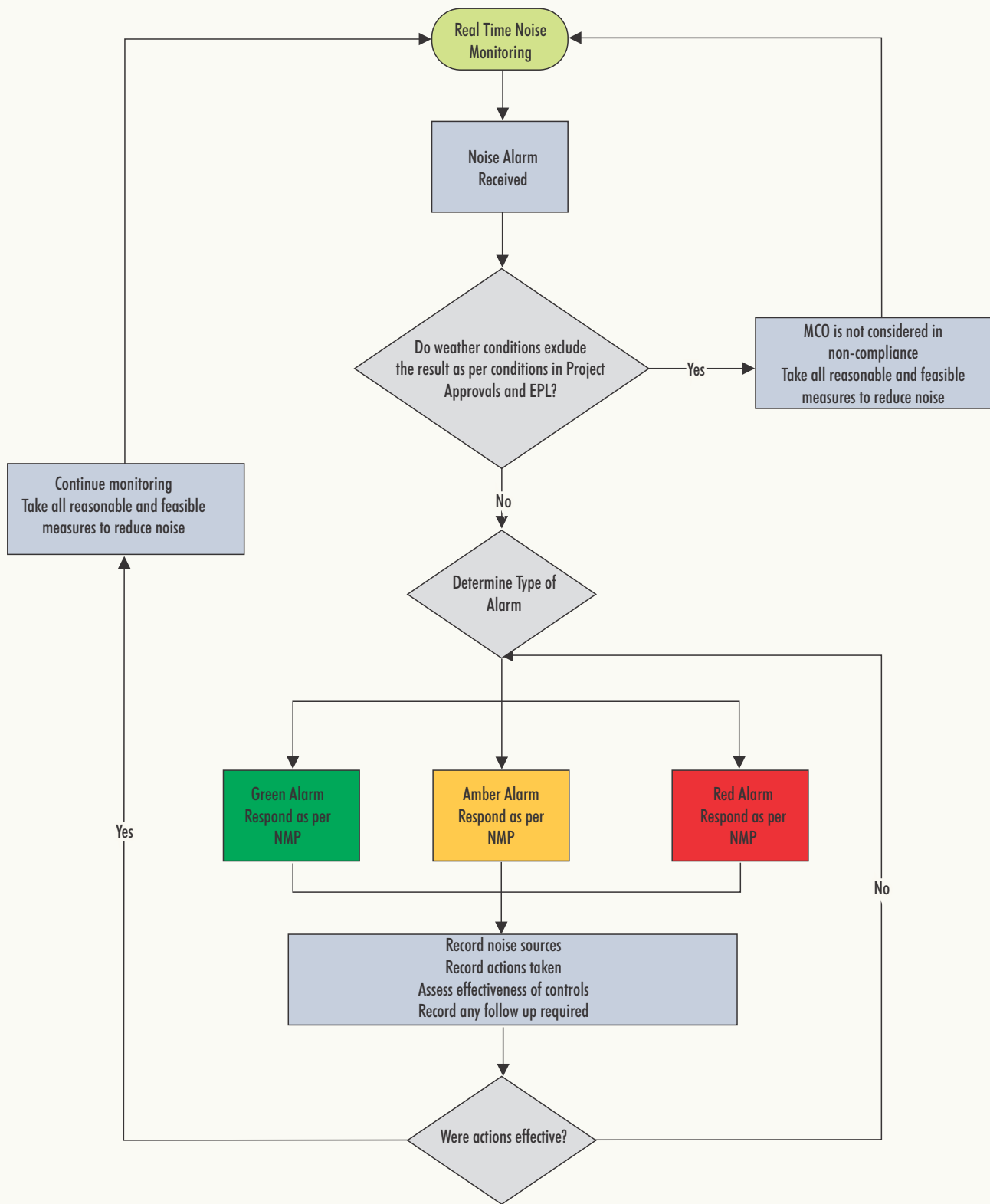
**Table 5: Real Time Response Trigger Levels (i.e. Performance Indicators)**

Time Period	Location	Green	Amber	Red
8pm to 5am	Lagoons Road (NR3)	Low pass noise >36 dBA for 12 consecutive 5 minute periods	Low pass noise >38 dBA for 6 consecutive 5 minute periods	Low pass noise >40 dBA for 6 consecutive 5 minute periods
8pm-5am	Ridge Road (NR5)	Low frequency noise LAeq >31 dBA for 12 consecutive 5 minute periods	Low frequency noise LAeq >33 dBA for 6 consecutive 5 minute periods	Low frequency noise LAeq >35 dBA for 6 consecutive 5 minute periods
	Winchester Crescent (NR4)			
	Moolarben Road (NR10)*	Low pass noise >31 dBA for 12 consecutive 5 minute periods	Low pass noise >33 dBA for 6 consecutive 5 minute periods	Low pass noise >35 dBA for 6 consecutive 5 minute periods

Note: For all triggers wind speed is <3m/s and there is no rainfall.

\* NR10 noise triggers will be reviewed following the collection of 12 months of coincident attended monitoring data and amended as necessary

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**Figure 4**

**Table 6: Real-Time Response Management Actions**

Colour	Management/Control Action	Responsibility
Green	<ul style="list-style-type: none"> <li>Review the audio to determine noise source<sup>1</sup>. Record observations.</li> <li>If MCO noise is audible and there are no other significant noise sources (e.g. wind/traffic): <ul style="list-style-type: none"> <li>Review predicted weather conditions to identify if noise enhancing conditions are forecast for the rest of the shift. Review conditions against the Environmental Forecasting System to confirm if conditions have changed.</li> <li>Review predicted noise risk levels for the shift against actual observations.</li> </ul> </li> <li>Monitor changes in noise levels.</li> <li>Record management strategies. This includes details of investigation, type of response (if any required), real time monitoring results and actions taken.</li> </ul>	Production Department
Amber	<ul style="list-style-type: none"> <li>Drive to alarm location to determine noise source and conduct supplementary noise monitoring<sup>1</sup> to assess validity of the real-time monitoring. Record observations.</li> <li>Subject to the assessment of validity: <ul style="list-style-type: none"> <li>The Production Department Representative (or delegate) alerts the Open Cut Examiner (OCE) of the noise observations.</li> <li>Review noise generating activities and make preparations for moving into a protected area or temporarily shutting down equipment if noise levels remain elevated.</li> <li>Review predicted weather conditions to identify if noise enhancing conditions are forecast for the rest of the shift.</li> <li>Review predicted noise risk levels for the shift against actual observations.</li> </ul> </li> <li>Monitor changes in noise levels.</li> <li>Record management strategies. This includes details of investigation, type of response (if any required), real time monitoring results and actions taken.</li> </ul>	Production Department
Red	<ul style="list-style-type: none"> <li>Drive to alarm location to determine noise source and conduct supplementary noise monitoring<sup>1</sup> to assess validity of the real-time monitoring. Record observations.</li> <li>Subject to the assessment of validity: <ul style="list-style-type: none"> <li>The Production Department Representative (or delegate) alerts the OCE of the noise observations.</li> <li>Implement mitigation measures such as moving equipment into protected areas or temporarily shutting down equipment.</li> </ul> </li> <li>Monitor changes in noise levels against operational changes: <ul style="list-style-type: none"> <li>Review predicted weather conditions to identify if noise enhancing conditions are forecast for the rest of the shift.</li> <li>Review predicted noise risk levels for the shift against actual observations.</li> </ul> </li> <li>Record management strategies. This includes details of investigation, type of response (if any required), real time monitoring results and actions taken.</li> </ul>	Production Department

<sup>1</sup> MCO staff will not review audio or drive to an alarm location if:

- staff have been to the alarm location in the previous 2 hours and it has been established noise from MCO is not significant; and
- there has been no material change in operations or meteorological conditions since the validity assessment was conducted.

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## **6.5 RECEIVER NOISE CONTROL**

In accordance with Condition 4, Schedule 3 and Condition 1(a)(b), Schedule 4 of NSW Project Approval (05\_0117) and Condition 6, Schedule 3 and Condition 1(a), Schedule 5 of NSW Project Approval (08\_0135), if requested MCO will implement additional noise mitigation measures at any residence exceeding the criteria in Table 3A of Schedule 3 and Table 6 of Schedule 3 of the NSW Project Approvals (05\_0117 and 08\_0135, respectively).

## **6.6 CUMULATIVE NOISE MANAGEMENT**

Condition 6(e), Schedule 3 and Condition 7(e), Schedule 3 of the NSW Project Approvals (05\_0117 and 08\_0135, respectively) require MCO to coordinate noise management with the noise management at Ulan Coal Mine and WCM.

MCO has implemented a data sharing protocol with Ulan Coal Mine and WCM to assist in cumulative noise management. Noise monitoring locations used to manage cumulative mine noise are described in Section 7.1.

MCO has entered into a data sharing agreement with Ulan Coal Mine to access data from a directional monitor on Toole Road (ND2) in order to determine and manage its contribution to cumulative mine noise at Receiver 258 (Figure 3).

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## 7.0 NOISE MONITORING PROGRAM

### 7.1 GENERAL REQUIREMENTS

As per the requirements of the NSW Project Approvals, the MCO noise monitoring program comprises both attended and real-time monitoring.

The results of attended monitoring are used to assess compliance with relevant noise criteria (Appendix A) and to validate real-time monitoring. Real-time monitoring is used as a management tool to assist MCO to take pre-emptive management actions to avoid potential non-compliances.

Monitoring locations have been selected to ensure they are representative of surrounding sensitive receptors (Table 7).

**Table 7: Location of Monitoring Equipment**

Location	Site ID	Type	Frequency	Justification
Ulan Public School	NA1	Compliance - Attended	Monthly	Attended monitoring at Ulan Public School. Representative of nearest non-mine owned residences to the north west of OC1.
Cope Road/Toole Road (Receiver 258) <sup>1</sup>	NA11	Management - Attended	Quarterly	Attended noise monitoring at Receiver 258 to determine and manage cumulative mine noise from Moolarben Coal Complex and Ulan Mine.
	ND2 <sup>2</sup>	Management - Real-time Directional (audio analysis available)	Continuous	Real-time directional noise monitoring operated by Ulan Coal Mine.
Lagoons Road	NA2	Validation - Attended	Annually	Used to verify the results of real-time noise monitoring (i.e. not a compliance monitor as it is not proximal to private residences).
	NR3	Management - Real-time (audio analysis available)	Continuous	Real-time monitoring at Lagoons Road. Representative of noise levels west of mining operations.
Winchester Crescent	NA12	Compliance/Validation - Attended	Monthly	Representative of non-mine owned residences to the south west of the mining operations in the Winchester Crescent/Ulan Road residential area. Used to verify the results of real-time noise monitoring.
	NR4	Management - Real-time (audio analysis available)	Continuous	Real-time monitoring at Winchester Crescent. Representative of noise levels west of mining operations.
Upper Ridge Road (Receiver 176)	NA3	Validation - Attended	Annually	Used to verify the results of real-time noise monitoring. (i.e. not a compliance monitor, as compliance is covered by nearby monitor NA6).

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Location	Site ID	Type	Frequency	Justification
	NR5	Management - Real-time (audio analysis available)	Continuous	Representative of non-mine owned residences in the lower Ridge Road residential area.
Lower Ridge Road	NA6	Compliance - Attended	Monthly	Representative of non-mine owned residences in the lower Ridge Road residential area.
Moolarben Road	NA10	Validation - Attended	Annually	Used to verify the results of real-time noise monitoring (i.e. not a compliance monitor as it is not proximal to private residences).
	NR10	Management - Real-time (audio analysis available)	Continuous	Representative of non-mine owned residences to the south-west of mining operations in OC3.
Ulan Road	Weather Station (WS3)*	Full Meteorological Complement	Continuous	Permanent meteorological station representative of conditions near non-mine owned residences to the south-west of the operation.
Goulburn River National Park	GRNP	Compliance - Attended	Annual	Attended monitoring within 50m of the Goulburn River National Park (at a representative location where accessible) to validate Moolarben Mine Complex noise emission levels at public recreation areas within the park.
Munghorn Gap Nature Reserve	MGNR	Compliance - Attended	Annual	Attended monitoring within 50m of the Munghorn Gap Nature Reserve (at a representative location where accessible) to validate Moolarben Mine Complex noise emission levels at public recreation areas within the reserve.

\* Full Meteorological complement consists of sensors and calculations that provide the following:

- 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).

Note: <sup>1</sup> If the results of attended noise monitoring determine that there is no significant noise impact from Moolarben Coal Complex (i.e. > 30 dBA), MCO will cease attended noise monitoring at Receiver 258 in consultation with the DPIE and EPA.

<sup>2</sup> MCO has entered into a data sharing agreement with Ulan Coal Mine to access data from this directional monitor in order to determine and manage the contribution to cumulative mine noise at Receiver 258.

Noise monitoring locations will be reviewed and where necessary modified to ensure they are fit for purpose and reflect changes to the operation or land ownership. If significant changes are considered necessary, MCO will update the NMP and seek re-approval from the NSW Department of Planning, Industry and Environment (DPIE). Ulan Coal Mine and Wilpinjong Coal Mine (WCM) will also be informed of the changes in accordance with the data sharing agreement protocols.

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## 7.2 ATTENDED NOISE MONITORING

The attended compliance noise monitoring will continue to be conducted on a monthly basis, in accordance with Australian Standard (AS) 1055:1997 Acoustics - Description and Measurement of Environmental Noise.

Attended noise monitoring is undertaken during night time periods, except for Ulan Public School where monitoring is undertaken during school hours only and Goulburn River National Park and Munghorn Gap Nature Reserve where monitoring is undertaken during the day time (when in use).

### Measurement

Measurement will be undertaken by a suitably experienced and capable person. Acoustic instrumentation used in attended monitoring will comply with AS 1259.2:1990 *“Sound Level Meters”* and carry current National Association of Testing Authorities or manufacturer calibration certificates.

The following information will be recorded for each monitoring survey:

- operator’s name;
- time and date;
- locations of attended or unattended noise instruments;
- recording intervals;
- meteorological conditions for each measurement location (wind direction, wind speed, air temperature and relative humidity) as collected by a hand-held meter;
- statistical noise level descriptors together with notes identifying the principal noise sources (mine or other sources);
- project operating conditions including train loading times together with mobile and ancillary equipment operation and predominant location; and
- instrument calibration details.

Modifying factors from Fact Sheet C of the NPfI will be used where applicable. Tonality and low frequency will be assessed by analysis of the measured LAeq spectrum.

Details of corrective actions to address any noise criteria exceedances, and confirmation of its successful implementation will also be recorded.

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### 7.2.1 Compliance Assessment Protocol

Attended noise surveys are the primary method for determining the sites compliance against the relevant noise criteria as it allows for an accurate determination of MCO's contribution to the measured ambient noise levels.

To determine compliance with noise limits, attended noise surveys will measure LAeq(15minute) and LA1(1minute) noise levels at the representative monitoring locations in Table 7. Recorded results will be compared with the criteria in Appendix A. A minimum of one LA1(1minute) survey will be conducted per each LAeq(15 minute) survey.

The compliance assessment protocol is illustrated in Figure 5.

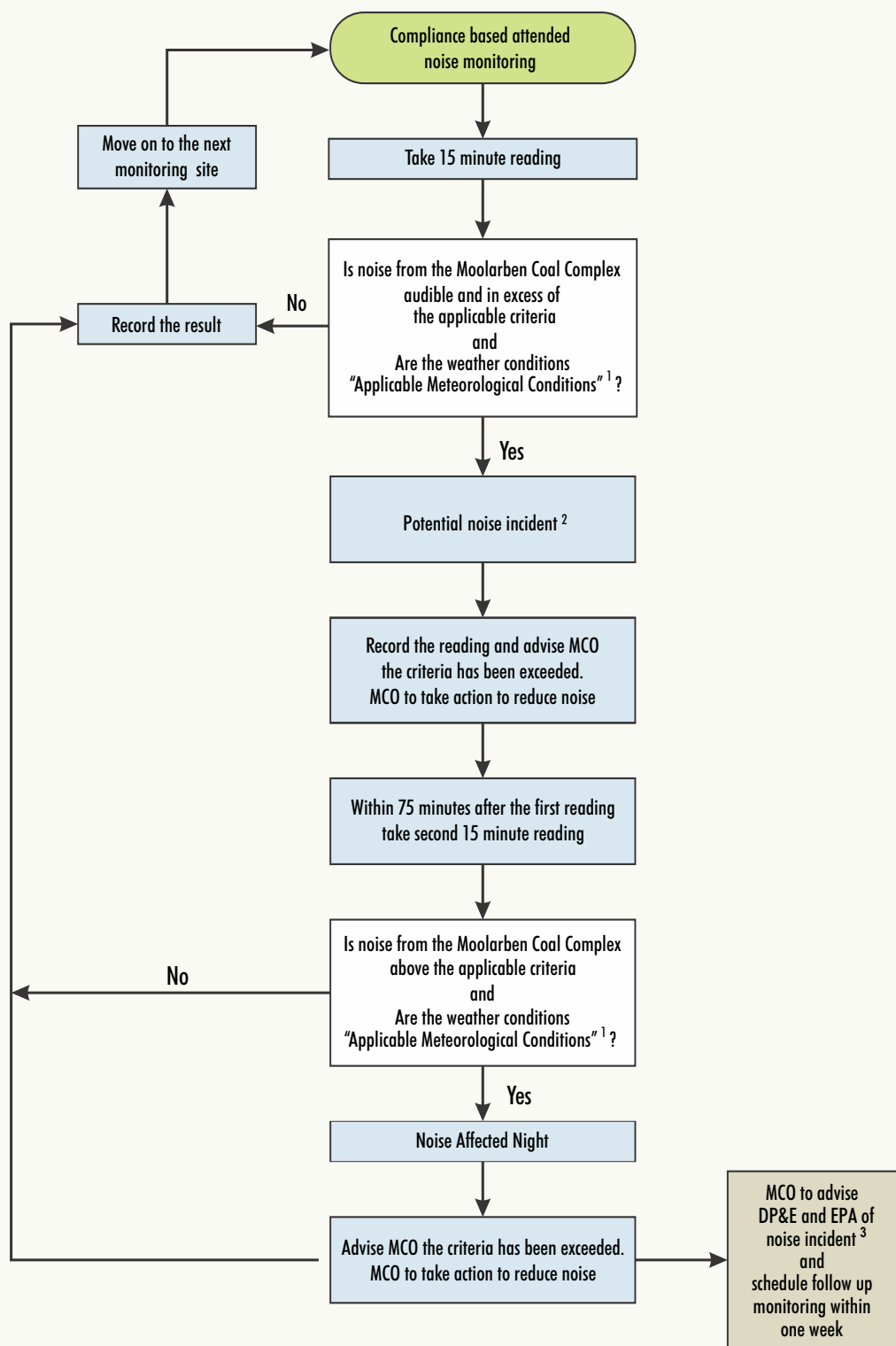
In the event of a potential noise criteria exceedance, an assessment will be conducted to determine whether the exceedance is attributable to the Moolarben Coal Complex and if the reading was valid i.e. undertaken during applicable meteorological conditions. Notwithstanding, even if the criteria does not apply due to adverse meteorological conditions, operational changes will be reviewed to avoid or reduce noise impacts.

In determining the noise emission contribution from the Moolarben Coal Complex, an assessment of the following factors is undertaken:

- the prevailing meteorological conditions;
- neighbouring mining activities;
- Ulan Road traffic influence;
- other non-mine related activities, such as:
  - adjacent non-mining related construction activities;
  - adjacent agricultural activities; and
  - adjacent residential activities (i.e. mowing lawns);
- intermittent, tonal or low frequency sound modification factors; and
- reasonableness of data.

If the above assessment determines that the potential noise criteria exceedance is due to Moolarben Coal Complex-related noise during applicable meteorological conditions, then a second reading will be undertaken at the location within 75 minutes to confirm the exceedance.

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## REFERENCE

- <sup>1</sup> As defined in Appendix 6 of Project Approvals (08\_0135 and 05\_0117).
- <sup>2</sup> For the purpose of this NMP, a noise incident is not considered to have the potential to cause, or threaten to cause, material harm to the environment that is not trivial.
- <sup>3</sup> Potential noise non-compliance/incident and "Noise Affected Night" to be reported to DP&E and EPA as soon as practicable after MCO becomes aware of the noise incident.



MOOLARBEN COAL COMPLEX  
Compliance Review and Evaluation Process

Figure 5

If the noise exceedance is confirmed in the second reading, then:

- the noise incident will be deemed to be a “noise affected night”;
- the noise incident will be notified as soon as practicable to DPIE and EPA, along with all affected landowners (see Section 10.1);
- MCO will investigate the cause and opportunities for improvement to avoid recurrence;
- follow up monitoring will be conducted at the location within one week of the incident;
- a detailed incident report will be prepared for the regulators; and
- the incident will be reported in the Monthly Environmental Monitoring Report and the Annual Review.

### 7.2.2 Cumulative Noise

Attended noise monitoring results will include identification of noise from all industrial sources, as well as all traffic and environmental sources. The total identified industrial noise level will be compared with the cumulative noise goals (in consideration of noise levels outlined in the Ulan Coal Mine Project Approval [08\_0184]).

Where an analysis of the short-term (i.e. 15-minute) attended monitoring results indicates that noise from the Moolarben Coal Complex may contribute to a potential exceedance of the Ulan Coal Mine cumulative noise criteria then MCO will use its best endeavours to coordinate noise management with the noise management at the Ulan Coal Mine to minimise cumulative noise impacts.

## 7.3 REAL-TIME NOISE MONITORING

Real-time noise monitoring will be used as a noise management tool to assist in the implementation of pre-emptive management actions to avoid potential non-compliances. As described in Section 6.4.

The approximate real-time monitoring locations are summarised in Table 7 and shown in Figure 3.

The real-time noise monitors will include the following general specifications:

- Recording of 15 minute statistical noise data (including LA1, LA10, LA90);
- LAeq(15minute) and LAeq period noise levels;
- LAeq(1minute) data in 1/3 octave;
- LAeq(15minute) in the 20 to 630 Hz range (LAeq,LF);
- 15 minute audio files 24 hours per day, seven days per week; and
- 15 minute wind direction, wind speed, temperature, humidity and rainfall.

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### Noise Investigation Triggers

The system also enables remote triggering to start or stop recording LA1(1minute) statistical noise levels to assist in the assessment of sleep disturbance.

### Validation

Attended validation monitoring will be conducted annually to determine the nature of the relationship between the real-time continuous data and the long-term attended monitoring as well as to validate the real-time continuous monitor.

## 7.4 METEOROLOGICAL MONITORING

Meteorological monitoring is undertaken at MCO, in accordance with NSW Project Approval and EPL requirements. MCO has an AWS which measures a full meteorological complement (Table 5) (Figure 3). The weather station is located on a property on Ulan Road, and is referred to as WS3. WS3 is linked into the real-time monitoring system and is the main weather station for reporting purposes. Additional weather stations may be used to supplement weather data as required.

Consistent with EPL 12932, temperature inversion classes (stability categories) are determined using the sigma-theta method referred to in Part E4 of Appendix E of the INP, based on data collected by WS3.

A summary of meteorological conditions at the Moolarben Coal Complex are reported in the MCO Annual Review.

## 7.5 PLANT AND EQUIPMENT SOUND POWER LEVEL MONITORING

A program has been implemented to test the SWLs of all mobile equipment on a rolling three yearly basis. The results of this testing will be maintained by MCO in their monitoring database and will be used to inform ongoing servicing and maintenance of mobile equipment. The noise model will be rerun every three years and will use the updated results from the SWL testing. The results of this modelling will be used to inform further attenuation or mine planning (if required).

MCO has developed an equipment noise specification which details equipment SWLs. Noise specification forms part of the MCO equipment procurement process so that the necessary SWLs are achieved. The plant and equipment SWL targets are shown in Appendix B. These levels will be used as indicative SWLs with ongoing attended noise monitoring to update the predictive noise model and assist in the implementation of pre-emptive management actions to avoid potential non-compliances.

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### 7.5.1 Methodology

The plant and equipment SWL monitoring will be conducted on a three yearly basis, in accordance with a testing methodology based on the following standards:

- AS 2012.1-1990 *“Acoustics - Measurement of airborne noise emitted by earth-moving machinery and agricultural tractors – Stationary test condition - Determination of Compliance With Limits for External Noise”*;
- ISO 3744-2010 *“Acoustics - Determination of sound power levels and sound energy levels of noise sources using sound pressure – Engineering methods for an essentially free field over a reflecting plane”*;
- ISO 3746-2010 *“Acoustics - Determination of sound power levels and sound energy levels of noise sources using sound pressure — Survey method for an essentially free field over a reflecting plane”*;
- ISO 6393-2008(E) *“Earth-moving machinery – Determination of sound power level - Stationary test conditions”*; and
- ISO 6395-2008(E) *“Earth-moving machinery – Determination of sound power level noise emissions – Dynamic test conditions”*.

### Field Notes

The following information will be recorded for each SWL survey:

- operator’s name, time and date;
- equipment ID, type, make and model;
- location and operating mode of the equipment (e.g. OC2 haul road, waste, loaded, upgrade);
- meteorological conditions during the survey period;
- LAeq; and
- instrument calibration details.

When one piece of equipment measures >3 dB(L) against operational specifications, the equipment will be inspected and appropriate maintenance scheduled.

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## 8.0 CONTINGENCY PLAN

In the event that a noise non-compliance is considered to have occurred, as per the Protocol described in Section 7.2.1, MCO will implement the following contingency plan:

- The Environment and Community Coordinator will report the potential noise non-compliance or noise incident to the Environment and Community Manager (or delegate) within 24 hours of assessment completion.
- The Environment and Community Manager (or delegate) will report potential noise non-compliances and noise incidents in accordance with Section 10.
- MCO will identify an appropriate course of action with respect to the identified impact(s), in consultation with specialists, DPIE and the EPA, as necessary. For example, contingency measures, such as, but not limited to, those described in Section 8.1 of this NMP.
- MCO will, on request, submit the proposed course of action to the DPIE for approval.
- MCO will implement the approved course of action to the satisfaction of the DPIE.

### 8.1 POTENTIAL CONTINGENCY MEASURES

Potential contingency measures will be reviewed during revisions of this NMP. Key potential contingency measures to be implemented (following a non-compliance and completion of compliance assessment protocol as described in Section 7.2.1) may include the following:

- MCO will notify affected landholder and tenants of the exceedance as soon as practicable and provide them with monthly noise monitoring results, until the results show that the MCO is complying with the noise criteria.
- MCO will, on request, implement reasonable and feasible at-receiver noise controls in accordance with Conditions 4 and 5, Schedule 3 and Conditions 2 and 6, Schedule 3 of the NSW Project Approvals (05\_0117 and 08\_0135, respectively).
- MCO will investigate strategic long term pit design to provide alternative dump locations and review long term operational sequencing with a view to minimise noise, if noise results indicate this is required.
- MCO will acquire affected properties on request in accordance with Conditions 2 and 3, Schedule 3 and Conditions 4 and 5, Schedule 3 of the NSW Project Approvals (05\_0117 and 08\_0135, respectively).

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## 9.0 ANNUAL REVIEW AND IMPROVEMENT OF NOISE MANAGEMENT PLAN

### 9.1 ANNUAL REVIEW

In accordance with Condition 4, Schedule 5 and Condition 4, Schedule 6 of the Project Approvals (05\_0117 and 08\_0135, respectively) MCO will conduct an annual review of MCO operations prior to 31 March for the preceding calendar year.

This annual review will specifically address the following aspects of Condition 4, which directly relate to noise:

- Include a comprehensive review of the monitoring results and complaints records of MCO operations over the previous calendar year, which includes a comparison of these results against the:
  - relevant statutory requirements, limits or performance measures/criteria;
  - monitoring results of previous years; and
  - relevant predictions in the EA.
- Identify any non-compliance over the last year, and describe what actions were (or are being) taken to ensure compliance.
- Identify any trends in the monitoring data over the life of the project.
- Identify any discrepancies between the predicted and actual impacts of MCO operations, and analyse the potential cause of any significant discrepancies.

The annual review will be made publicly available on the Moolarben Coal website in accordance with Condition 11, Schedule 5 and Condition 11, Schedule 6 of the Project Approvals (05\_0117 and 08\_0135, respectively).

### 9.2 PLAN REVIEW AND REVISION

In accordance with Condition 5, Schedule 5 and Condition 5, Schedule 6 of the Project Approvals (05\_0117 and 08\_0135, respectively) this NMP will be reviewed, and if necessary revised to the satisfaction of the Secretary, within 3 months of the submission of:

- (a) An Annual Review; in accordance with Condition 5, Schedule 5 and Condition 5, Schedule 6 of the Project Approvals (05\_0117 and 08\_0135, respectively);
- (b) An incident report in accordance with Condition 7, Schedule 5 and Condition 7, Schedule 6 of the Project Approvals (05\_0117 and 08\_0135, respectively);
- (c) An audit in accordance with Condition 9, Schedule 5 and Condition 9, Schedule 6 of the Project Approvals (05\_0117 and 08\_0135, respectively); and
- (d) Any modification to the conditions of the Project Approvals.

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This NMP will be made publicly available on the Moolarben Coal website, in accordance with Condition 11, Schedule 5 and Condition 11, Schedule 6 of the Project Approvals (05\_0117 and 08\_0135, respectively).

As outlined in Section 7.1, when changes are made to noise monitoring locations based on land ownership or operational changes DPIE and the EPA will be informed of the changes and provided with justification as to why the change was made and this NMP will be revised accordingly.

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## 10.0 REPORTING SYSTEMS AND COMMUNICATION

Noise monitoring and management is reported as part of the Annual Review described in Section 9.1.

In accordance with EPL 12932, MCO submits to the EPA:

- a 6-monthly report comprising monitoring data, a statement of compliance, a complaints summary and an outline of any management actions taken within the period to address any non-compliances; and

MCO will prepare Monthly Environmental Monitoring Reports which contain the following information relevant to noise:

- monitoring location;
- time and date;
- measured noise level (for 1 minute period and equivalent continuous level);
- clear identification of the contribution of Moolarben Coal Complex to the measured noise level;
- weather conditions;
- observations; and
- whether the observation was a non-compliance.

These monthly reports will be made publicly available on the Moolarben Coal website.

Noise-related complaints will be managed and reported in accordance with MCO's Community Complaints Response Process as set out in the Moolarben Coal Complex *Environmental Management Strategy*. A complaints register is publicly available on the Moolarben Coal website.

### 10.1 INCIDENT REPORTING

The Environment and Community Manager (or delegate) will advise the DPIE and EPA as soon as practicable after becoming aware of a potential noise incident.

Within seven days of notifying the DPIE and EPA of a potential noise incident, MCO will submit a written report that:

- (a) Describes the date, time, and nature of the potential noise incident;
- (b) Identifies the cause (or likely cause) of the potential noise incident;
- (c) Describes what action has been taken to date; and
- (d) Describes the proposed measures to address the potential noise incident.

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MCO will also notify affected landowners, and will provide them with monthly monitoring results until the results show that the project is complying with relevant criteria.

For the purpose of this NMP, a noise incident is not considered to have the potential to cause, or threaten to cause, material harm to the environment that is not trivial. Accordingly, a potential noise incident will not trigger activation of the Pollution Incident Response Management Plan.

## **10.2 NOTIFICATION**

MCO will advise tenants of their rights prior to entering a tenancy agreement in accordance with the requirements of Condition 2 Schedule 4 and Condition 2 Schedule 5 of the NSW Project Approvals (05\_0117 and 08\_0135, respectively).

The requirements of Condition 1, Schedule 4 and Condition 1, Schedule 5 of the NSW Project Approvals (05\_0117 and 08\_0135, respectively) have already been met.

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## 11.0 REFERENCES

Environment Protection Authority (2000) *NSW Industrial Noise Policy*.

Environment Protection Authority (2000) *NSW Noise Policy for Industry*.

Moolarben Coal Operations Pty Limited (2015) *Moolarben Coal Complex UG1 Optimisation Modification Environmental Assessment*.

Moolarben Coal Operations Pty Limited (2017) *Moolarben Coal Complex Open Cut Optimisation Modification Environmental Assessment*.

Spectrum Acoustics (2006) *Noise and Vibration Impact Assessment Proposed Moolarben Coal Mine Ulan, NSW*.

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**Appendix A - Relevant NSW Project Approval Conditions  
(05\_0117 and 08\_0135)**

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**Table A-1 Noise Management Plan Requirements**

Stage 1 - NSW Project Approval (05_0117)	NMP Section
<p><b>Noise Management Plan</b></p> <p>7. The Proponent shall prepare and implement a Noise Management Plan for the project to the satisfaction of the Secretary. This plan must:</p> <p>(a) be prepared in consultation with the EPA and be submitted to the Secretary for approval by 31 March 2015;</p> <p>(b) describe the measures that would be implemented to ensure compliance with the noise criteria and operating conditions in this approval;</p> <p>(c) describe the proposed noise management system in detail;</p> <p>(d) include a monitoring program that:</p> <ul style="list-style-type: none"> <li>uses attended noise monitoring to evaluate compliance of the project against the noise criteria in this approval;</li> <li>includes a program to calibrate and validate the real-time noise monitoring results with the attended monitoring results over time (so the real-time noise monitoring program can be used as a better indicator of compliance with the noise criteria in this approval and trigger for further attended monitoring);</li> <li>evaluates and reports on: <ul style="list-style-type: none"> <li>the effectiveness of the noise management system; and</li> <li>compliance against the noise operating conditions; and</li> </ul> </li> <li>defines what constitutes a noise incident, and includes a protocol for identifying and notifying the Department and relevant stakeholders of any noise incidents.</li> </ul>	<p>Section 6</p> <p>Section 6</p> <p>Section 7.2</p> <p>Section 7.3</p> <p>Sections 7</p> <p>Sections 9 and 10</p> <p>Section 10.1</p>

Document	Version	Issue	Effective	Review	Author	Approved
MCO_ENV_PLN_0024	4	Jun 20			MCO	S Archinal

**Table A-2 Noise Management Plan Requirements**

Stage 2 - NSW Project Approval (08_0135)	NMP Section
<b>Noise Management Plan</b>	
8. The Proponent shall prepare and implement a Noise Management Plan for the project to the satisfaction of the Secretary. This plan must:	
(a) be prepared in consultation with the EPA, and submitted to the Secretary for approval prior to the commencement of any development on site under this approval;	
(b) describe the measures that would be implemented to ensure compliance with the noise criteria and operating conditions in this approval;	Section 6
(c) describe the proposed noise management system in detail; and	Section 6
(d) include a monitoring program that:	
• evaluates and reports on:	
- the effectiveness of the noise management system;	Sections 7 and 10
- compliance against the noise criteria in this approval; and	Sections 7 and 10
- compliance against the noise operating conditions;	Sections 7 and 10
• includes a program to calibrate and validate the real-time noise monitoring results with the attended monitoring results over time (so the real-time noise monitoring program can be used as a better indicator of compliance with the noise criteria in this approval and trigger for further attended monitoring); and	Section 7.3
• defines what constitutes a noise incident, and includes a protocol for identifying and notifying the Department and relevant stakeholders of any noise incidents.	Section 10.1

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**Table A-3 NSW Project Approval Conditions Relating to Noise**

NSW Project Approval (05_0117)					NSW Project Approval (08_0135)				
Schedule 3					Schedule 3				
NOISE					NOISE				
Noise Criteria					Noise Criteria				
1. The Proponent shall ensure that the noise generated by the Moolarben mine complex does not exceed the noise criteria in Table 1 at any residence on privately-owned land or the other specified locations.					3. The Proponent shall ensure that the noise generated by the Moolarben mine complex does not exceed the criteria in Table 3 at any residence on privately-owned land or the other specified locations.				
Table 1: Noise criteria dB(A)					Table 3: Noise criteria dB(A)				
Land Number	Day LAeq(15min)	Evening LAeq(15min)	Night		Land Number	Day LAeq(15min)	Evening LAeq(15min)	Night	
			LAeq(15min)	LA1(1min)				LAeq(15min)	LA1(1min)
63	39	39	39	45	63	39	39	39	45
70	37	37	37	45	70	37	37	37	45
75	36	36	36	45	75	36	36	36	45
All other privately owned residences	35	35	35	45	All other privately owned residences	35	35	35	45
Ulan Primary School	35 (internal) when in use			-	Ulan Primary School	35 (internal) when in use			-
Ulan Anglican Church	35 (internal) when in use			-	Ulan Anglican Church	35 (internal) when in use			-
Goulburn River National Park Munghorn Gap Nature Reserve	50 when in use			-	Goulburn River National Park Munghorn Gap Nature Reserve	50 when in use			-
Note: To interpret the land referred to in Table 1 see the applicable figures in Appendix 5.					Note: To interpret the land referred to in Table 3, see the applicable figures in Appendix 5.				
Noise generated by the Moolarben mine complex is to be measured in accordance with the relevant requirements of the NSW Noise Policy for Industry. Appendix 6 sets out the meteorological conditions under which these criteria apply, and the requirements for evaluating compliance with these criteria.					Noise generated by the Moolarben mine complex is to be measured in accordance with the relevant requirements of the NSW Noise Policy for Industry. Appendix 6 sets out the meteorological conditions under which these criteria apply, and the requirements for evaluating compliance with these criteria.				
However, these noise criteria do not apply if the Proponent has an agreement with the owner/s of the relevant residence or land to generate higher noise levels, and the Proponent has advised the Department in writing of the terms of this agreement.					However, these noise criteria do not apply if the Proponent has an agreement with the owner/s of the relevant residence or land to generate higher noise levels, and the Proponent has advised the Department in writing of the terms of this agreement.				

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NSW Project Approval (05\_0117)

Land Acquisition Criteria

2.

If the noise generated by the Moolarben mine complex exceeds the criteria in Table 2A at any residence on privately-owned land, then upon receiving a written request for acquisition from an owner of the land listed in Table 2A, the Proponent shall acquire the land in accordance with the procedures in conditions 10 and 11 of Schedule 4.

Table 2A: Acquisition criteria dB(A) LAeq (15min)

Receiver ID	Day (LAeq(15min))	Evening (LAeq(15min))	Night (LAeq(15min))
63	43	43	42
All other privately-owned residences	40	40	40

Note: To interpret the land referred to Table 2A, see the applicable figures in Appendix 5.

3.

If the noise generated by the Moolarben mine complex contributes to exceedances of the relevant criteria in Table 2 on more than 25% of any privately-owned land (and a dwelling could be built on that land under existing planning controls), the Proponent shall, upon receiving a written request for acquisition from the landowner, acquire the land in accordance with the procedures in conditions 10-11 of Schedule 4.

Table 2: Land acquisition criteria

Day/Evening/Night LAeq(period)	Receiver
55/50/45	All privately-owned land

Note: Noise generated by the complex is to be measured in accordance with the relevant requirements of the NSW Industrial Noise Policy. Appendix 6 sets out the meteorological conditions under which these criteria apply, and the requirements for evaluating compliance with these criteria.

However, these noise criteria do not apply if the Proponent has an agreement with the owner/s of the relevant residence or land to generate higher noise levels, and the Proponent has advised the Department in writing of the terms of this agreement.

NSW Project Approval (08\_0135)

Land Acquisition Criteria

4.

If the noise generated by the Moolarben mine complex exceeds the criteria in Table 4 at any residence on privately-owned land, then upon receiving a written request for acquisition from an owner of the land listed in Table 4, the Proponent shall acquire the land in accordance with the procedures in conditions 5 and 6 of Schedule 5.

Table 4: Acquisition criteria dB(A) LAeq (15min)

Receiver ID	Day (LAeq(15min))	Evening (LAeq(15min))	Night (LAeq(15min))
63	43	43	42
All other privately-owned residences	40	40	40

Note: To interpret the land referred to Table 4, see the applicable figures in Appendix 5.

5.

If the noise generated by the Moolarben mine complex contributes to exceedances of the relevant criteria in Table 5 on more than 25% of any privately-owned land (and a dwelling could be built on that land under existing planning controls), the Proponent shall, upon receiving a written request for acquisition from the landowner, acquire the land in accordance with the procedures in conditions 5 and 6 of Schedule 5.

Table 5: Land acquisition criteria

Day/Evening/Night LAeq(period)	Receiver
55/50/45	All privately-owned land

Note: Noise generated by the project is to be measured in accordance with the relevant requirements of the NSW Industrial Noise Policy. Appendix 6 sets out the meteorological conditions under which these criteria apply, and the requirements for evaluating compliance with these criteria.

However, these noise criteria do not apply if the Proponent has an agreement with the owner/s of the relevant residence or land to generate higher noise levels, and the Proponent has advised the Department in writing of the terms of this agreement.

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NSW Project Approval (05_0117)	NSW Project Approval (08_0135)																								
<p><b>Noise Mitigation Criteria</b></p> <p>4. If the noise generated by the Moolarben mine complex exceeds the criteria in Table 3A at any privately owned residence, then upon receiving a written request the Proponent shall implement additional noise mitigation measures (such as double-glazing, insulation and/or air conditioning) at the residence in consultation with the landowner. These measures must be reasonable and feasible, and directed towards reducing the noise impacts of the project on the residence.</p> <p>If within 3 months of receiving this request from the owner, the Proponent and the owner cannot agree on the measures to be implemented, or there is a dispute about the implementation of these measures, then either party may refer the matter to the Secretary for resolution.</p> <p><i>Table 3A: Mitigation criteria dB(A) LAeq (15min)</i></p> <table><tr><th>Receiver ID</th><th>Day (LAeq (period))</th><th>Evening (LAeq (15min))</th><th>Night (LAeq (15min))</th></tr><tr><td>63</td><td>40</td><td>40</td><td>39</td></tr><tr><td>All other privately owned residences</td><td>37</td><td>37</td><td>37</td></tr></table> <p><i>Note: To interpret the land referred to Table 3A, see the applicable figures in Appendix 5.</i></p>	Receiver ID	Day (LAeq (period))	Evening (LAeq (15min))	Night (LAeq (15min))	63	40	40	39	All other privately owned residences	37	37	37	<p><b>Noise Mitigation Criteria</b></p> <p>6. If the noise generated by the Moolarben mine complex exceeds the criteria in Table 6 at any privately owned residence, then upon receiving a written request the Proponent shall implement additional noise mitigation measures (such as double-glazing, insulation and/or air conditioning) at the residence in consultation with the landowner. These measures must be reasonable and feasible, and directed towards reducing the noise impacts of the project on the residence.</p> <p>If within 3 months of receiving this request from the owner, the Proponent and the owner cannot agree on the measures to be implemented, or there is a dispute about the implementation of these measures, then either party may refer the matter to the Secretary for resolution.</p> <p><i>Table 6 Mitigation criteria dB(A) LAeq (15min)</i></p> <table><tr><th>Receiver ID</th><th>Day (LAeq (period))</th><th>Evening (LAeq (15min))</th><th>Night (LAeq (15min))</th></tr><tr><td>63</td><td>40</td><td>40</td><td>39</td></tr><tr><td>All other privately owned residences other than those in Table 2</td><td>37</td><td>37</td><td>37</td></tr></table> <p><i>Note: To interpret the land referred to Table 6, see the applicable figures in Appendix 5.</i></p>	Receiver ID	Day (LAeq (period))	Evening (LAeq (15min))	Night (LAeq (15min))	63	40	40	39	All other privately owned residences other than those in Table 2	37	37	37
Receiver ID	Day (LAeq (period))	Evening (LAeq (15min))	Night (LAeq (15min))																						
63	40	40	39																						
All other privately owned residences	37	37	37																						
Receiver ID	Day (LAeq (period))	Evening (LAeq (15min))	Night (LAeq (15min))																						
63	40	40	39																						
All other privately owned residences other than those in Table 2	37	37	37																						

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NSW Project Approval (05_0117)	NSW Project Approval (08_0135)
<p><b>Operating Conditions</b></p> <p>6. The Proponent shall:</p> <ul style="list-style-type: none"> <li>(a) implement best management practice to minimise the operational, road and rail noise of the project;</li> <li>(b) operate a comprehensive noise management system on site that uses a combination of predictive meteorological forecasting and real-time noise monitoring data to guide the day to day planning of mining operations, and the implementation of both proactive and reactive noise mitigation measures to ensure compliance with the relevant conditions of this approval;</li> <li>(c) minimise the noise impacts of the project during meteorological conditions when the noise limits in this approval do not apply (see Appendix 6);</li> <li>(d) only use locomotives and rolling stock that are approved to operate on the NSW rail network in accordance with the noise limits in ARTC's EPL;</li> <li>(e) co-ordinate noise management with the noise management at Ulan and Wilpinjong mines to minimise cumulative noise impacts; and</li> <li>(f) carry out regular monitoring to determine whether the project is complying with the relevant conditions of this approval,</li> </ul> <p>to the satisfaction of the Secretary.</p>	<p><b>Operating Conditions</b></p> <p>7. The Proponent shall:</p> <ul style="list-style-type: none"> <li>(a) implement best management practice to minimise the operational and road noise of the project;</li> <li>(b) operate a comprehensive noise management system that uses a combination of predictive meteorological forecasting and real-time noise monitoring data to guide the day to day planning of mining operations, and the implementation of both proactive and reactive noise mitigation measures to ensure compliance with the relevant conditions of this approval;</li> <li>(c) minimise the noise impacts of the project during meteorological conditions when the noise limits in this approval do not apply (see Appendix 6);</li> <li>(d) only use locomotives and rolling stock that are approved to operate on the NSW rail network in accordance with the noise limits in ARTC's EPL;</li> <li>(e) co-ordinate noise management at the Moolarben mine complex with the noise management at Ulan and Wilpinjong mines to minimise cumulative noise impacts; and</li> <li>(f) carry out regular monitoring to determine whether the Moolarben mine complex is complying with the relevant conditions of this approval,</li> </ul> <p>to the satisfaction of the Secretary.</p>

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NSW Project Approval (05_0117)	NSW Project Approval (08_0135)
<b>Meteorological Monitoring</b>  20B. For the life of the project, the Proponent shall ensure that there is a meteorological station in the vicinity of the site that: (a) complies with the requirements in the Approved Methods for Sampling of Air Pollutants in New South Wales guideline; and (b) is capable of continuous real-time measurement of temperature lapse rate in accordance with the NSW Industrial Noise Policy, unless a suitable alternative is approved by the Secretary following consultation with the EPA.	<b>Meteorological Monitoring</b>  24. For the life of the project, the Proponent shall ensure that there is a meteorological station in the vicinity of the site that: <ul style="list-style-type: none"> <li>(a) complies with the requirements in the Approved Methods for Sampling of Air Pollutants in New South Wales guideline; and</li> <li>(b) is capable of continuous real-time measurement of temperature lapse rate in accordance with the NSW Industrial Noise Policy, unless a suitable alternative is approved by the Secretary following consultation with the EPA.</li> </ul>
<b>Ulan Public School</b>  20C. The Proponent shall consult with DEC and, if requested: (a) implement agreed reasonable and feasible measures to ameliorate potential noise and/or dust impacts to Ulan Public School; or (b) on a reasonable basis relating to the adverse effect of noise and/or dust from the project, contribute to or meet reasonable costs toward relocating the school.	<b>Ulan Public School</b>  23. The Proponent shall consult with DEC and, if requested: <ul style="list-style-type: none"> <li>(a) implement agreed reasonable and feasible measures to ameliorate potential noise and/or dust impacts to Ulan Public School; or</li> <li>(b) on a reasonable basis relating to the adverse effect of noise and/or dust from the project, contribute to or meet reasonable costs toward relocating the school.</li> </ul>
<b>Schedule 4</b>	<b>Schedule 5</b>
<b>Notification of Landowners/Tenants</b>	<b>Notification of Landowners/Tenants</b>
1. By the end of March 2015, the Proponent shall: <ul style="list-style-type: none"> <li>(a) notify in writing the owners of:               <ul style="list-style-type: none"> <li>(a) any land in Table 1A and any land or residence exceeding the criteria in Tables 2A and 2 (respectively) of Schedule 3 that they have the right to require the Proponent to acquire their land at any stage during the project;</li> <li>(b) any residence on the land listed in Table 3 and any residence exceeding the criteria in Table 3A of Schedule 3 that they have the right to request the Proponent for additional noise mitigation measures to be installed at their residence at any stage during the project; and                   <ul style="list-style-type: none"> <li>• any privately-owned land within 2 kilometres of the approved open cut mining pit/s that they are entitled to ask for an inspection to establish the baseline condition of any buildings or structures on their land, or to have a previous property inspection report updated;</li> </ul> </li> </ul> </li> </ul>	1. Within 1 month of the date of this approval, the Proponent shall: <ul style="list-style-type: none"> <li>(a) notify in writing the owners of:               <ul style="list-style-type: none"> <li>• any land listed in Table 1 and any residence or land exceeding the criteria in Tables 4 or 5 (respectively) of Schedule 3 that they have the right to require the Proponent to acquire their land at any stage during the project;</li> <li>• any residence on the land listed in Table 2 and any residence exceeding the criteria in Table 6 of Schedule 3 that they have the right to request the Proponent for additional noise mitigation measures to be installed at their residence at any stage during the project; and</li> <li>• any privately-owned land within 2 kilometres of the approved open cut mining pit/s that they are entitled to ask for an inspection to establish the baseline condition of any buildings or structures on their land, or to have a previous property inspection report updated;</li> </ul> </li> </ul>

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<p>(b) notify the tenants of any mine-owned land of their rights under this approval; and</p> <p>(c) send a copy of the NSW Health fact sheet entitled "Mine Dust and You" (as may be updated from time to time) to the owners and/or existing tenants of any land (including mine-owned land) where the predictions in the EA identify that dust emissions generated by the project are likely to be greater than the relevant air quality criteria in Schedule 3 at any time during the life of the project.</p>	<p>(b) notify the tenants of any mine-owned land of their rights under this approval; and</p> <p>(c) send a copy of the NSW Health fact sheet entitled "Mine Dust and You" (as may be updated from time to time) to the owners and/or existing tenants of any land (including mine-owned land) where the predictions in the EA identify that dust emissions generated by the project are likely to be greater than the relevant air quality criteria in Schedule 3 at any time during the life of the project.</p>
<p>2. Prior to entering into any tenancy agreement for any land owned by the Proponent that is predicted to experience exceedances of the recommended dust and/or noise criteria, or for any of the land listed in Table 3 that is subsequently purchased by the Proponent, the Proponent shall:</p> <p>(a) advise the prospective tenants of the potential health and amenity impacts associated with living on the land, and give them a copy of the NSW Health fact sheet entitled "Mine Dust and You" (as may be updated from time to time); and</p> <p>(b) advise the prospective tenants of the rights they would have under this approval, to the satisfaction of the Secretary.</p>	<p>2. Prior to entering into any tenancy agreement for any land owned by the Proponent that is predicted to experience exceedances of the recommended dust and/or noise criteria, or for any of the land listed in Table 3 that is subsequently purchased by the Proponent, the Proponent shall:</p> <p>(a) advise the prospective tenants of the potential health and amenity impacts associated with living on the land, and give them a copy of the NSW Health fact sheet entitled "Mine Dust and You" (as may be updated from time to time); and</p> <p>(b) advise the prospective tenants of the rights they would have under this approval, to the satisfaction of the Secretary.</p>
<p>3. As soon as practicable after obtaining monitoring results showing:</p> <p>(a) an exceedance of any relevant criteria in Schedule 3, the Proponent shall notify affected landowners in writing of the exceedance, and provide regular monitoring results to each affected landowner until the project is again complying with the relevant criteria; and</p> <p>(b) an exceedance of the relevant air quality criteria in Schedule 3, the Proponent shall send a copy of the NSW Health fact sheet entitled "Mine Dust and You" (as may be updated from time to time) to the affected landowners and/or existing tenants of the land (including the tenants of any mine-owned land).</p>	<p>3. As soon as practicable after obtaining monitoring results showing:</p> <p>(a) an exceedance of any relevant criteria in Schedule 3, the Proponent shall notify affected landowners in writing of the exceedance, and provide regular monitoring results to each affected landowner until the project is again complying with the relevant criteria; and</p> <p>(b) an exceedance of the relevant air quality criteria in Schedule 3, the Proponent shall send a copy of the NSW Health fact sheet entitled "Mine Dust and You" (as may be updated from time to time) to the affected landowners and/or existing tenants of the land (including the tenants of any mine-owned land).</p>

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NSW Project Approval (05_0117)	NSW Project Approval (08_0135)
<b>Appendix 6</b>	<b>Appendix 6</b>
<b>Applicable Meteorological Conditions</b> 1. The noise criteria in Table 2 of the conditions are to apply under all meteorological conditions except the following: <ul style="list-style-type: none"> <li>(a) wind speeds greater than 3 m/s at 10 metres above ground level; or</li> <li>(b) stability category F temperature inversion conditions and wind speeds greater than 2 m/s at 10 m above ground level; or</li> <li>(c) stability category G temperature inversion conditions.</li> </ul>	<b>Applicable Meteorological Conditions</b> 1. The noise criteria in Table 3 of the conditions are to apply under all meteorological conditions except the following: <ul style="list-style-type: none"> <li>(a) wind speeds greater than 3 m/s at 10 metres above ground level; or</li> <li>(b) stability category F temperature inversion conditions and wind speeds greater than 2 m/s at 10 m above ground level; or</li> <li>(c) stability category G temperature inversion conditions.</li> </ul>
<b>Determination of Meteorological Conditions</b> 1. Except for wind speed at microphone height, the data to be used for determining meteorological conditions shall be that recorded by the meteorological station located on the site.	<b>Determination of Meteorological Conditions</b> 2. Except for wind speed at microphone height, the data to be used for determining meteorological conditions shall be that recorded by the meteorological station located on the site.
<b>Compliance Monitoring</b> 2. Attended monitoring is to be used to evaluate compliance with the relevant conditions of this approval. 3. This monitoring must be carried out at least 12 times a year, unless the Secretary directs otherwise. 4. Unless the Secretary agrees otherwise, this monitoring is to be carried out in accordance with the relevant requirements for reviewing performance set out in the <i>NSW Noise Policy for Industry</i> (as amended from time to time), in particular the requirements relating to: <ul style="list-style-type: none"> <li>(a) monitoring locations for the collection of representative noise data;</li> <li>(b) meteorological conditions during which collection of noise data is not appropriate;</li> <li>(c) equipment used to collect noise data, and conformity with Australian Standards relevant to such equipment; and</li> <li>(d) modifications to noise data collected, including for the exclusion of extraneous noise and/or penalties for modifying factors apart from adjustments for duration.</li> </ul>	<b>Compliance Monitoring</b> 3. Attended monitoring is to be used to evaluate compliance with the relevant conditions of this consent. 4. This monitoring must be carried out at least 12 times a year, unless the Secretary directs otherwise. 5. Unless the Secretary agrees otherwise, this monitoring is to be carried out in accordance with the relevant requirements for reviewing performance set out in the <i>NSW Noise Policy for Industry</i> (as amended from time to time), in particular the requirements relating to: <ul style="list-style-type: none"> <li>(a) monitoring locations for the collection of representative noise data;</li> <li>(b) meteorological conditions during which collection of noise data is not appropriate;</li> <li>(c) equipment used to collect noise data, and conformity with Australian Standards relevant to such equipment; and</li> <li>(d) modifications to noise data collected, including for the exclusion of extraneous noise and/or penalties for modifying factors apart from adjustments for duration.</li> </ul>

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MCO_ENV_PLN_0024	4	Jun 20			MCO	S Archinal

**Table A-4 Relevant Commitments Relating to Noise  
in Appendix 3 of Stage 1 NSW Project Approval Conditions**

Stage 1 - NSW Project Approval (05_0117)	NMP Section
<b>Appendix 3: Statement of Commitments</b>	
<p>(5) Noise in School Rooms</p> <p>Moolarben in consultation with the Ulan Public School and the Department of Education will undertake agreed works to ameliorate potential noise and dust impacts associated with the Moolarben Coal Project upon classrooms and general school operations.</p> <p>OR</p> <p>Moolarben will, should the Department of Education request, on a reasonable basis relating to the effect of noise and dust from the Moolarben Coal Project, negotiate to contribute to or meet reasonable costs toward relocating the school.</p> <p>...</p>	Section 7.1
<p>(18) Additional Management and Mitigation – Modification of Stage 1</p> <ul style="list-style-type: none"> <li>Management and monitoring of noise will continue to be undertaken in accordance with an approved Noise Management Plan, including proactive and reactive management.</li> <li>MCO further commits to: <ul style="list-style-type: none"> <li>Limiting northern borefield construction hours from 7am to 6pm Monday to Friday (inclusive).</li> <li>Limiting surface water management infrastructure upgrade construction hours from 7:00am to 5:00pm Monday to Saturday (inclusive).</li> <li>Fitting haul trucks with noise attenuation equipment to meet sound power levels assumed in the Stage 1 EA and subsequent noise Impact assessments</li> <li>Specifying sound power levels in supply contracts for mobile plant and equipment, where appropriate.</li> <li>Fitting northern borefield water supply/dewatering bores with submersible pumps.</li> <li>Use of a temporary power supply generator located near the borefield pipeline outlet, at least 4km from the nearest private residence, unless power is provided from the electricity network.</li> <li>Maintaining awareness of best practice noise mitigation technologies and alternative operating methodologies, and continuing to investigate the potential for further noise reductions to the haul truck fleet through potential additional noise attenuation and mitigation opportunities (such as Duratray).</li> <li>Designing and locating the haul roads behind earthen bunds as far as practically possible.</li> </ul> </li> </ul>	<p>Section 7</p> <p>Section 6.2</p> <p>Section 7.2</p> <p>Section 6.2</p> <p>Section 7.5 and 6.1</p> <p>Section 6.2</p> <p>Section 6.2</p> <p>Section 6.1</p> <p>Section 6.2 and 8.1</p>

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MCO_ENV_PLN_0024	4	Jun 20			MCO	S Archinal

**Table A-5 Relevant Commitments Relating to Noise  
in Appendix 3 of Stage 2 NSW Project Approval Conditions**

Stage 2 - NSW Project Approval (08_0135)	NMP Section
<b>Appendix 3: Statement of Commitments</b>	
<p>(4) MCM will revise the Stage 1 Environmental Management System to incorporate the MCC Stage 2 project in consultation with relevant regulators and stakeholders (where appropriate). This may require revision or preparation of monitoring and management plans as prescribed by the Project Approval, such as (where relevant):</p> <ul style="list-style-type: none"> <li>• Environmental Monitoring Program;</li> <li>• Air Quality and Greenhouse Gas Management Plan (including energy savings actions);</li> <li>• Spontaneous Combustion Management Plan;</li> <li>• Noise Management Plan;</li> <li>• Blast Management Plan;</li> <li>• Water Management Plan (including groundwater and surface water);</li> <li>• Creek and Aquatic Rehabilitation Plan;</li> <li>• Rehabilitation Management Plan;</li> <li>• Biodiversity Management Plan;</li> <li>• Subsidence Management Plan;</li> <li>• Aboriginal Cultural Heritage Management Plan;</li> <li>• Non Aboriginal Heritage Management Plan;</li> <li>• Erosion and Sediment Control Plan;</li> <li>• Social Engagement and Issue Response Strategy;</li> <li>• Bushfire Management Plan; and</li> <li>• Waste Management Plan.</li> </ul> <p>(Note where applicable or appropriate some of these plans may be combined).</p>	This NMP
(11) MCM will use its best endeavours to implement industry best practice noise control and management measures to minimise the noise impacts of the MCC.	Section 6.1
(12) MCM will proactively manage its operations to ensure noise impacts are within the worst case predicted noise envelope.	Section 7
(13) MCM will ensure noise monitoring is implemented to determine and manage the contribution to cumulative mine noise from the MCC at Property 258, including implementing at least quarterly attended noise monitoring and installing a directional noise monitor in the vicinity of the property in conjunction with the Ulan Mine, unless monitoring indicates there is no noise impact from the MCC at this property.	Section 6.6 and Section 7.1
(15) The sound power of the conveyor used in the NIA will be provided to equipment manufacturers and suppliers to help ensure that the conveyor is maintained at these levels during operations	Section 7.5 and 6.1

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MCO_ENV_PLN_0024	4	Jun 20			MCO	S Archinal

**Appendix B - Target Sound Power Levels (dBA re 1 pW)**

Document	Version	Issue	Effective	Review	Author	Approved
MCO_ENV_PLN_0024	4	Jun 20			MCO	S Archinal

Equipment	Type/Capacity	SWL per Item
Drill	Atlas Copco DML60	117
	Pit Viper 275	115
Excavator	Liebherr 996	117
	Liebherr 996B	111
	Liebherr 9800	114
	CAT 6050	118
Front-end Loader	Komatsu WA1200	121
	Komatsu WD900	120
	CAT 854	114
Truck	Komatsu 830E/930E	115
	Komatsu 730E/CAT 789	114
Dozer	Komatsu D475	113
	Komatsu D375	113
	CAT D11T	116
	CAT D10T	114
Water Truck	Komatsu HD785	115
Grader	Komatsu GD825	110
	CAT 24M	110
	CAT 16M	108
Support Loader	Komatsu WA580-6	115
Support Excavator	Komatsu PC450	105
Support Scraper	CAT 657G	117
Service Truck	Komatsu HD785	115
Service Truck	CAT 773F	114
CHPP		118
Reject Bin		104
Feeder		114
Crusher		114
Transfer Station		115
Sizing Station		116
Stacker		105
Conveyor		101 (per 100 m)
Conveyor Drive		98
Ventilation Fans		112
Loadout Bin		113
Locomotive		109
Dozer	Komatsu D475	114
Sizing Station		116
Conveyor		101 (per 100 m)
Conveyor Drives		95/98/101
Rear Air Intake	Shaft and Fan	112

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MCO_ENV_PLN_0024	4	Jun 20			MCO	S Archinal