



Noise Management Plan

Charbon Colliery

February 2023

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DOCUMENT CONTROL

DOCUMENT CONTROL		
DOCUMENT DETAILS	Name:	Charbon Colliery Noise Management Plan
	Author:	Tristan Robertson
	Revision No.:	2
	Document Status	Final
APPROVAL DETAILS		
APPROVAL DETAILS	Revision No.	Details of revision
	0	For consultation
	1	Final
	2	Update after Independent Audit and Modification 2 of MP 08_0021 and Request for Information from the DPE

Abbreviations

Term	Definition
Centennial	Centennial Coal Company Limited
Charbon Coal	Charbon Coal Pty. Ltd.
Charbon	Charbon Colliery
CHPP	Coal Handling and Processing Plant
DAWE	Department of Agriculture, Water and the Environment
DPIE	Department of Planning Industry and Environment
EP&A Act	<i>NSW Environmental Planning and Assessment Act 1979</i>
EPA	Environmental Protection Authority
EPBC Act	<i>Environment Protection and Biodiversity Conservation Act 1999</i>
EPL	Environment Protection Licence
Mining Act	Mining Act 1992
Mt	Million tonnes
OEH	Office of Environment and Heritage NSW (formerly DECCW)
POEO Act	<i>NSW Protection of the Environment Operations Act 1997</i>
ROM	Run of Mine
SSD	State Significant Development

1 Introduction

Charbon Colliery (Charbon) is an underground (bord and pillar) and open cut coal mine, located approximately 87 km north-west of Lithgow and 3 km south of Kandos, as shown in **Figure 1**, in the western coalfields of NSW. The mine is operated by Charbon Coal Pty Limited (Charbon Coal).

A Project Approval for the continuation of operations at Charbon was granted by the NSW Planning Assessment Commission on behalf of the Minister for Planning under Part 3A of the NSW *Environmental Planning and Assessment Act 1979* (EP&A Act) on 7 September 2010. The current project approval has since been declared a State Significant Development (SSD) under Clause 6 of Schedule 2 to the Environmental Planning and Assessment (Savings, Transitional and Other Provisions) Regulation 2017, for the purposes of the EP&A Act. Accordingly, Charbon now operates as an SSD approval (MP 08_0211). MP 08_0211 allows for the extraction and processing of up to 1.5 Million tonnes (Mt) of Run of Mine (ROM) coal per calendar year until 31 August 2025, with no more than 250,000 tonnes of product coal to be transported from the site by public roads in a calendar year.

An approval under the Commonwealth *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act) also applies to the site as issued on 19 November 2010 by the now Department of Agriculture, Water and the Environment (DAWE) for the continuation of operations at Charbon.

Charbon operates under 15 mining tenements issued under the *NSW Mining Act 1992* (Mining Act) and Environment Protection Licence (EPL) 528 issued under the *NSW Protection of the Environment Operations Act 1997* (POEO Act).

Charbon currently covers an area of approximately 2,692 hectares and consists of open cut mining areas; underground mining areas and surface infrastructure including a rail loop, coal loading facilities and a coal handling and processing plant (CHPP). Key components of the mine are shown on **Figure 2**.

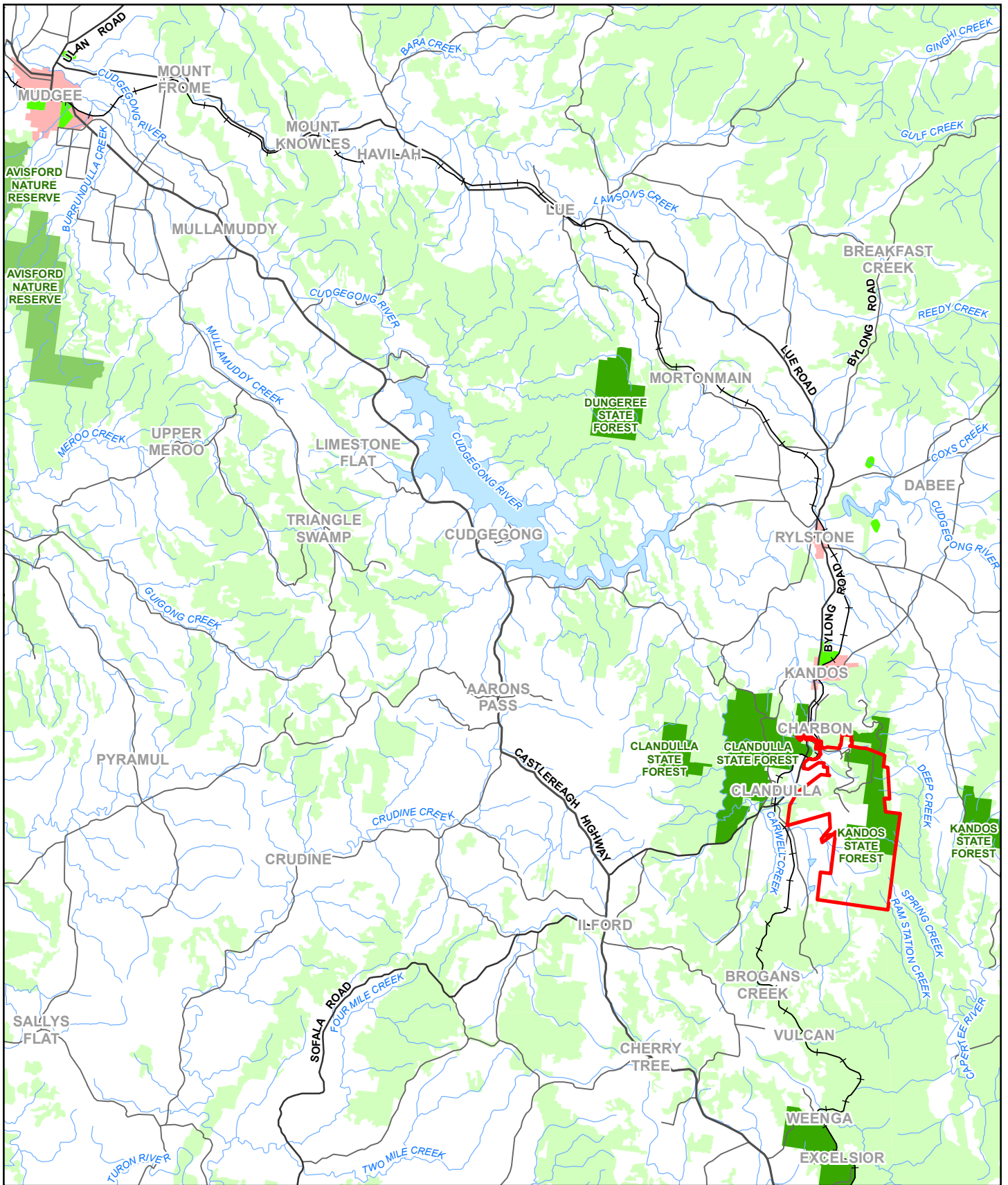
Underground mining operations were completed at Charbon on 7 March 2014 and open cut mining operations ceased on 14 August 2015. Following the cessation of open cut mining operations, the site has entered a closure and rehabilitation phase. Activities at the site since then have been limited to environmental management and monitoring in addition to ongoing rehabilitation of the site.

In accordance with Schedule 5, Condition 4 of MP 08_0211, this management plan has been revised to reflect changes to the approval under Modification 2 of MP 08_0021.

Charbon is currently operating in a closure and rehabilitation phase. The following activities will be undertaken whilst the site is in closure and rehabilitation to which this management plan applies:

- Detailed mine closure planning;
- Progressive rehabilitation of disturbed areas;
- Removal of redundant infrastructure, as required;
- Importation of coarse coal reject from Clarence Colliery;
- Water Transfers via rail to Airly Colliery;

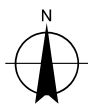
- Maintenance of equipment as required in order to satisfy Mining Act and Work Health Safety requirements (this may involve periodic short-term operation of equipment such as the CHPP); and
- Environmental management and monitoring.



LEGEND

- ▭ Project Site Boundary
- Principal Road
- Secondary Road
- Minor Road
- Existing Rail
- Waterbody
- + Built Up Area
- Recreation area
- Nature Conservation
- State Forest
- Forest Or Shrub
- Waterway

Paper Size A4
 0 0.751.5 3 4.5 6
 Kilometres
 Map Projection: Transverse Mercator
 Horizontal Datum: GDA 1994
 Grid: GDA 1994 MGA Zone 56



Centennial Coal

Charbon Colliery
 Noise Management Plan

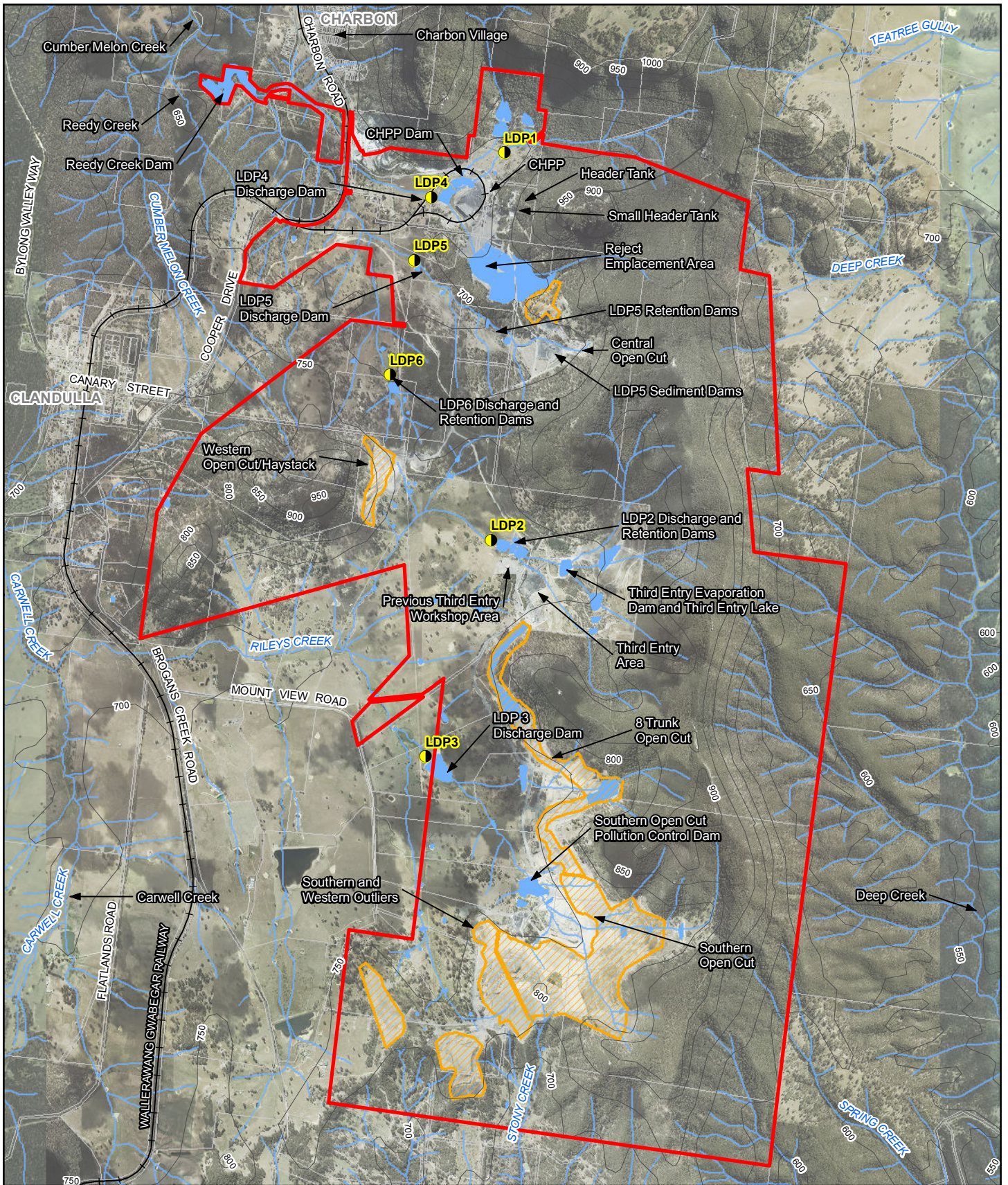
Job Number | 22-18612
 Revision | A
 Date | 13 Mar 2017

Locality plan

Figure 1

Level 3, GHD Tower, 24 Honeysuckle Drive, Newcastle NSW 2300 T 61 2 4979 9999 F 61 2 4979 9988 E ntmial@ghd.com W www.ghd.com.au
 © 2017. Whilst every care has been taken to prepare this map, GHD, Geoscience Australia and Centennial make no representations or warranties about its accuracy, reliability, completeness or suitability for any particular purpose and cannot accept liability and responsibility of any kind (whether in contract, tort or otherwise) for any expenses, losses, damages and/or costs (including indirect or consequential damage) which are or may be incurred by any party as a result of the map being inaccurate, incomplete or unsuitable in any way and for any reason.

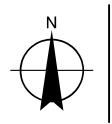
Data source: Commonwealth of Australia (Geoscience Australia): 250K Topographic Data Series 3 2006; Centennial: Site locations, 2013. Created by: fmackay



LEGEND

- Project Site Boundary
- Historical Surface Extraction Area
- Licensed Discharge Point
- +— Railway
- ~ Contour (50m)
- Waterway
- Waterbody
- + Cadastre

Paper Size A4
 0.0 0.125 0.25 0.5 0.75 1
 Kilometres
 Map Projection: Transverse Mercator
 Horizontal Datum: GDA 1994
 Grid: GDA 1994 MGA Zone 56



Charbon Colliery
 Noise Management Plan

Job Number | 22-18612
 Revision | A
 Date | 13 Mar 2017

Project Site Layout

Figure 2

Level 3, GHD Tower, 24 Honeysuckle Drive, Newcastle NSW 2300 T 61 2 4979 9999 F 61 2 4979 9988 E ntmail@ghd.com W www.ghd.com.au
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 Data source: Commonwealth of Australia (Geoscience Australia): 250K Topographic Data Series 3 2006; LPI: DCDB/DTDB, 2012 Centennial: Project Boundary, 2012, Aerial Imagery, 2016. Created by: fmackay

1.1 Purpose

This noise management plan has been developed in accordance with the requirements of Schedule 3, Condition 9 of MP 08_0211.

1.2 Monitoring program requirement

MP 08_0211, as modified, defines a number of conditions relevant to the preparation and implementation of an Noise Management Plan at Charbon. Conditions related specifically to the Noise Management Plan are summarised in **Table 1**.

Table 1 - Management plan requirements

Condition	Condition Requirement	Section Addressed
Schedule 3, Condition 9	The proponent shall prepare and implement a detailed Noise Management Plan for the project to the satisfaction of the Planning Secretary. This Plan must:	This document
Schedule 3, Condition 9 (a)	be prepared in consultation with EPA by a suitably qualified expert whose appointment has been approved by the Planning Secretary;	1.3 and 1.4
Schedule 3, Condition (b)	be submitted to the Planning Secretary for approval within 6 months of this approval;	Version 0 of the Noise Management Plan approved on 23.12.2016
Schedule 3, Condition 9 (c)	include a Noise Monitoring Program;	4
Schedule 3, Condition 9 (d)	include detailed procedures for identifying noise-enhancing meteorological conditions using real-time meteorological data; and	4.4
Schedule 3, Condition 9 (e)	include reactive noise control measures to manage noise impacts for sensitive receivers	7

1.3 Management plan consultation

In accordance with Condition Schedule 3, Condition 9(a) of MP 08_0211, this Noise Management Plan has been developed in consultation with the NSW Environmental Protection Authority (EPA).

Feedback received from the EPA during the consultation period is provided in **Appendix 1**.

1.4 Management plan authors

In accordance with Schedule 3, Condition 9 (a) of MP 08_0211, this management plan was prepared by a suitably qualified expert whose appointment was approved by the Planning Secretary.

This Noise Management Plan, was prepared by Tristan Robertson of GHD. Correspondence from the Department of Planning, Industry and Environment (DPIE) endorsing Tristan Robertson to prepare this Noise Management Plan is provided in **Appendix 1**.

2 Relevant approval conditions

2.1 Project Approval MP 08_0211

The relevant conditions relating to noise at Charbon as presented in Project Approval MP 08_0211 are reproduced below.

2.1.1 Impact Assessment Criteria

In accordance with Schedule 3 Condition 1 of MP 08_0211, the Proponent must ensure that the noise generated by the project does not exceed the noise impact assessment criteria in **Table 2** at any residence on privately owned land or on more than 25 per cent of any privately owned land.

Table 2 - Noise impact assessment criteria dB(A) LAeq(15min)

Location	Day	Evening	Night	Night LA1(1min)
Residence P	35	39	39	45
All residences within 150m of, and including Residence Q	38	38	38	45
All remaining locations	35	35	35	45

Notes:

- *Noise generated by the development must be monitored in accordance with the relevant procedures and exemptions (including certain meteorological conditions) of the NSW Noise Policy for Industry (EPA,2017)*
- *For the locations of residences/properties in this approval, see Appendices 1 and 4 of MP 08_0021.*
- *These limits do not apply if the Proponent has an agreement with the relevant owner/s of these residences to generate higher noise levels, and the Proponent has advised the Department in writing of the terms of this agreement.*

2.1.2 Land Acquisition Criteria

In accordance with Schedule 3 Condition 2 of MP 08_0211, if the noise generated by the project exceeds the criteria in **Table 3** at any residence on privately owned land or on more than 25 per cent of any privately owned land, the Proponent shall, upon receiving a written request for acquisition from the landowner, acquire the land in accordance with the procedures in Schedule 6 Conditions 4-6 of the Project Approval.

Table 3 - Land Acquisition Criteria dB(A) LAeq(15min)

Location	Day	Evening	Night
All residences within 150 m of, and including Residence Q	43	43	43
All other locations	40	40	40

Note: Noise generated by the project is to be measured in accordance with the notes below Table 2. For this condition to apply, the exceedances of the criteria must be systematic.

2.1.3 Operating Hours (Schedule 3, Condition 3)

In accordance with Schedule 3 Condition 3 of MP 08_0211, the Proponent must comply with the operating hours in **Table 4**.

Table 4 - Operating Hours

Activity	Day	Time
Open cut mining	Monday to Friday	7.00 am to 8.00 pm ¹
	Saturday	7.00 am to 6.00 pm
	Sunday and Public Holidays	None
Underground mining, coal processing, run-of-mine coal management and maintenance	Any day	Any time
Blasting	Monday to Friday	9.00 am to 5.00 pm
Truck dispatch	Any day	7.00 am to 6.00 pm
Train loading and dispatch	Any day	Any time
Train movements on the rail loop	Monday- Saturday	7.00am-6.00pm

Construction activities	Monday- Saturday	7.00am-6.00pm
Rehabilitation activities	Monday- Saturday	7.00am-6.00pm

Note: Open cut mining operations on Monday-Friday must cease at 6.00 pm during Autumn months.

2.1.4 Noise Mitigation Measures

In accordance with Schedule 3 Conditions 4-7, the proponent must achieve the modelled sound power levels for the equipment listed (or equivalent) in **Table 5** below, within 6 months of the date of approval, or as otherwise agreed by the Planning Secretary.

Table 5 - Modelled Plant Sound Power Levels

Plant and Equipment	Make and Model	Modelled L _{Amax} sound power level (SWL)
Coal Processing Plant	N/A	107 dB(A)
Haul Truck	CAT 775	116 dB(A)
Dozer	CAT D11	122 dB(A)
Front-end Loader	CAT 992	121 dB(A)
Drill 10	N/A	116 dB(A)

The Proponent must provide a verification report to ensure that the sound power levels in Schedule 3, Condition 4 are achieved to the satisfaction of the Planning Secretary. This report must be:

- Submitted to EPA and DPIE within 8 months of this approval or as otherwise agreed by the Planning Secretary; and
- Prepared by a suitably qualified expert, whose appointment is approved by the Planning Secretary.

Upon receiving a written request from:

- The landowner of property P; and
- The landowner of privately-owned land where noise monitoring shows the noise generated by the project exceeds the criteria in Table 6, then the Proponent must implement additional noise mitigation measures such as double glazing, insulation, and/or air conditioning at any residence on the property in consultation with the landowner.

These additional mitigation measures must be reasonable and feasible.

If within 3 months of receiving this request from the landowner, the Proponent and the landowner 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 Planning Secretary for resolution.

Table 6 - Noise Mitigation Measures Criteria dB(A) LAeq(15min)

Location	Day	Evening	Night
All residences within 150 m of, and including Residence Q	40	40	40
All other locations, excluding Residence P	37	37	37

Note: Noise generated by the project is to be measured in accordance with the notes below. For this condition to apply, the exceedances of the criteria must be systematic.

Within 3 months of the date of this approval the Proponent must notify the landowner of Property P that they are entitled to receive additional noise mitigation measures, to the satisfaction of the Planning Secretary.

2.1.5 Continuous Improvement

In accordance with Schedule 3 Condition 8 of MP 08_0211, the Proponent must:

- Implement all reasonable and feasible noise mitigation measures;
- Investigate ways to reduce the noise generated by the project, including off-site road and rail noise and maximum noise levels which may result in sleep disturbance; and
- Report on these investigations and the implementation and effectiveness of these measures in the Annual review.

to the satisfaction of the Planning Secretary.

2.2 Environmental Protection Licence (EPL) 528

The relevant conditions relating to noise from the Charbon EPL 528 are reproduced below.

L4 Noise limits

L4.1 Noise from the premises must not exceed the limits specified in the following table:

EPL Point Reference	Day (dBA LAeq (15 minute))	Evening (dBA LAeq (15 minute))	Night (dBA LAeq (15 minute))	Night (dBA LAeq (1 minute))
Point 7	35	39	39	45
Point 8	38	38	38	45
Point 9	36	37	35	45

Point 10	35	35	35	45
----------	----	----	----	----

Note: The above limits do not apply at properties where the licensee has written agreement with the landowner to exceed the noise limits.

L4.2 For the purpose of the table above:

- a) Day is defined as the period from 7am to 6pm Monday to Saturday and 8am to 6pm Sundays and Public Holidays.
- b) Evening is defined as the period from 6pm to 10pm.
- c) Night is defined as the period from 10pm to 7am Monday to Saturday and 10pm to 8am Sundays and Public Holidays.

L4.3 To determine compliance with condition(s) L4.1 noise must be measured at, or computed for, the locations listed in the above table. A modifying factor correction must be applied for tonal, impulsive or intermittent noise in accordance with the "Environmental Noise Management - NSW Industrial Noise Policy (January 2000)".

L4.4 The noise emission limits identified in this licence apply under all meteorological conditions except:

- a) during rain and wind speeds (at 10m height) greater than 3m/s.
- b) under "non-significant weather conditions".

Note: Field meteorological indicators for non-significant weather conditions are described in the NSW Industrial Noise Policy, Chapter 5 and Appendix E in relation to wind and temperature inversions.

2.3 Statement of Commitments

The relevant commitments relating to noise from the Project Approval MP 08_0211 are reproduced in **Table 7** below.

Table 7 - Statement of Commitments

Condition	Commitment	Section Addressed
3.1	Prepare and implement a Noise Monitoring and Management Plan, including a noise monitoring protocol.	This document
3.2	Prepare an updated noise model.	The revised noise impact assessment was completed in September 2011.

3.3	Limit the hours of open cut mining operations to 7:00 am to 10:00 pm to avoid noise impacts on surrounding residences during the night and thereby minimise sleep disturbance and intrusion during the quietest part of the day.	Open cut mining has ceased and therefore not applicable
3.4	Limit the hours of open cut mining during the autumn months to 7:00 am to 6:00 pm unless a real time noise monitoring program is developed as part of the Noise Monitoring and Management Plan.	Open cut mining has ceased and therefore not applicable

3 Baseline Data

Schedule 5, Condition 3 of PA 08_0211 specifies that all management plans required under the approval include relevant baseline data. The following sections present the noise baseline data for Charbon from 2015, when the site was placed on care and maintenance.

3.1 Quarterly Noise Monitoring

The results of noise monitoring conducted during 2016 and 2015 are presented in **Table 8** and **Table 9**, respectively.

Table 8 - Quarterly Noise Monitoring Results 2016

Location	Monitoring Date	Period	Lamax	LA1	LA10	LA90	Laeq	Estimated Mine Contributions Laeq (15minute) dBA	Criteria	Compliance
F	23/03/2016	Day	56	49	41	30	38	Inaudible	35	N/A
I			45	43	40	31	36	Inaudible	35	N/A
L			51	42	32	24	31	Inaudible	35	yes
P			53	42	37	26	33	Inaudible	35	yes
F	28/06/2016	Day	62	57	45	26	44	Inaudible	35	N/A
I			67	57	51	34	47	Inaudible	35	N/A
L			59	54	40	26	40	Inaudible	35	yes
P			47	44	40	28	36	Inaudible	39	yes

Note 1: Not applicable, negotiated agreement in place

Table 9 - Quarterly Noise Monitoring Results 2015

Location	Monitoring Date	Period	Lamax	LA1	LA10	LA90	Laeq	Estimated Mine Contributions Laeq (15minute) dBA	Criteria	Compliance
F	5/03/2015	Day	59	42	39	32	36	32	35	Yes
I			81	69	46	30	56	30	35	Yes
L			59	42	39	32	36	32	35	Yes
P			81	69	46	30	56	30	35	Yes
F	5/03/2015	Evening	49	41	40	37	39	<30	35	Yes
I			61	49	40	37	40	<33	35	Yes
L			82	54	43	40	52	<32	35	Yes
P			76	68	52	30	55	<30	39	Yes
F	5/03/2015	Night	48	37	36	32	34	<30	35	Yes
I			54	38	34	30	33	<30	35	Yes
L			49	40	49	35	38	<30	35	Yes
P			74	62	36	24	50	<30	39	Yes
F	12/06/2015	Day	68	52	49	42	46	~43	35	N/A ¹
I			64	44	40	35	38	~37	35	N/A ¹
L			60	53	39	34	40	~35	35	yes
P			76	71	47	35	56	~35	35	yes
F	12/06/2015	Evening	64	46	35	25	35	<30	35	N/A ¹
I			-	-	-	-	-	<30	35	N/A ¹
L			46	33	27	19	25	<30	35	yes
P			51	40	36	31	34	36	39	yes
F	12/06/2015	Night	43	32	25	18	23	<30	35	N/A ¹

Charbon Colliery Noise Management Plan

Location	Monitoring Date	Period	Lamax	LA1	LA10	LA90	Laeq	Estimated Mine Contributions Laeq (15minute) dBA	Criteria	Compliance
I			-	-	-	-	-	<30	35	N/A ¹
L			55	40	30	21	29	<30	35	yes
P			80	71	39	30	57	35	39	yes
F	16/09/2016	Day	74	54	39	31	47	<30	35	N/A ¹
I			43	40	34	26	31	<30	35	N/A ¹
L			52	47	43	30	39	<30	35	yes
P			81	75	52	33	59	<30	35	yes
F	16/09/2016	Evening	56	45	36	24	34	<30	35	N/A ¹
I			48	38	31	23	29	<30	35	N/A ¹
L			40	37	33	29	31	<30	35	yes
P			70	54	35	28	44	<30	39	yes
F	16/09/2016	Night	39	37	35	30	33	<30	35	N/A ¹
I			53	48	40	23	36	<30	35	N/A ¹
L			44	38	32	26	30	<30	35	yes
P			80	55	37	28	51	<30	39	yes
F	17/12/2016	Day	71	46	37	27	44	<30	35	N/A ¹
I			58	46	37	26	35	<30	35	N/A ¹
L			63	43	31	26	32	<30	35	yes
P			78	70	50	31	56	<30	35	yes
F	17/12/2016	Evening	60	39	31	24	30	<30	35	N/A ¹
I			66	56	37	28	41	<30	35	N/A ¹
L			70	49	37	23	37	<30	35	yes

Location	Monitoring Date	Period	Lamax	LA1	LA10	LA90	Laeq	Estimated Mine Contributions Laeq (15minute) dBA	Criteria	Compliance
P			78	71	51	34	57	<30	39	yes
F	17/12/2016	Night	59	39	34	31	33	<30	35	N/A ¹
I			62	38	34	29	34	<30	35	N/A ¹
L			49	38	31	25	29	<30	35	yes
P			78	66	39	28	55	<30	39	yes

Note 1: Not applicable, negotiated agreement in place

3.2 Annual Noise Monitoring

Previous to the 2017 version of EPL528, the measurement frequency of noise monitoring was removed from condition L4.1 and therefore, after 2018, the noise monitoring program was changed to annual attended noise monitoring.

3.3 Meteorological Weather

A summary of temperature and rainfall data recorded at the on-site meteorological monitoring station for 2016 and 2015, relevant for baseline monitoring is shown graphically in **Figure 3** and **Figure 4**.

Figure 3 - Meteorological Data for Charbon 2016

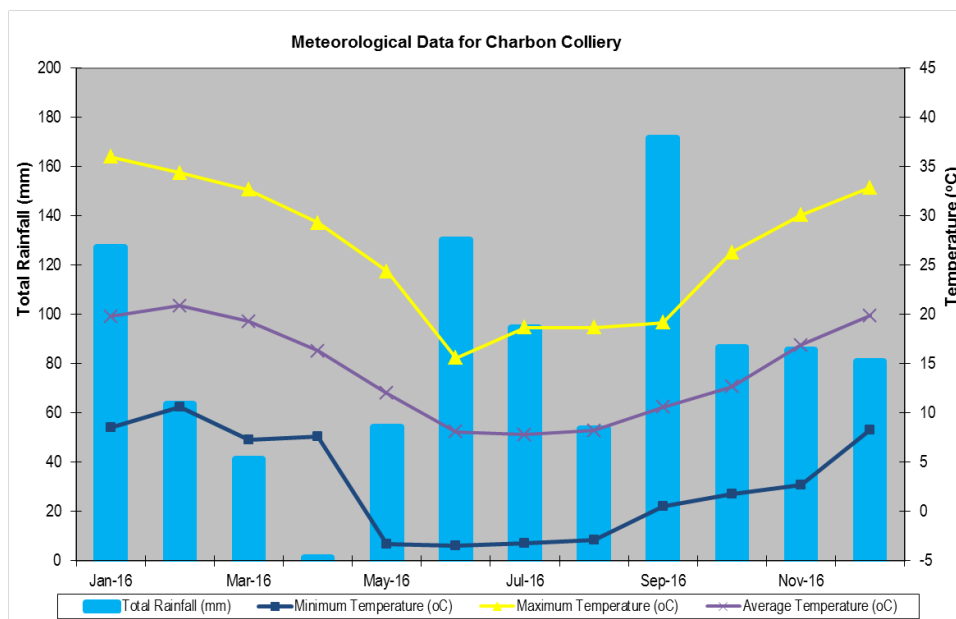
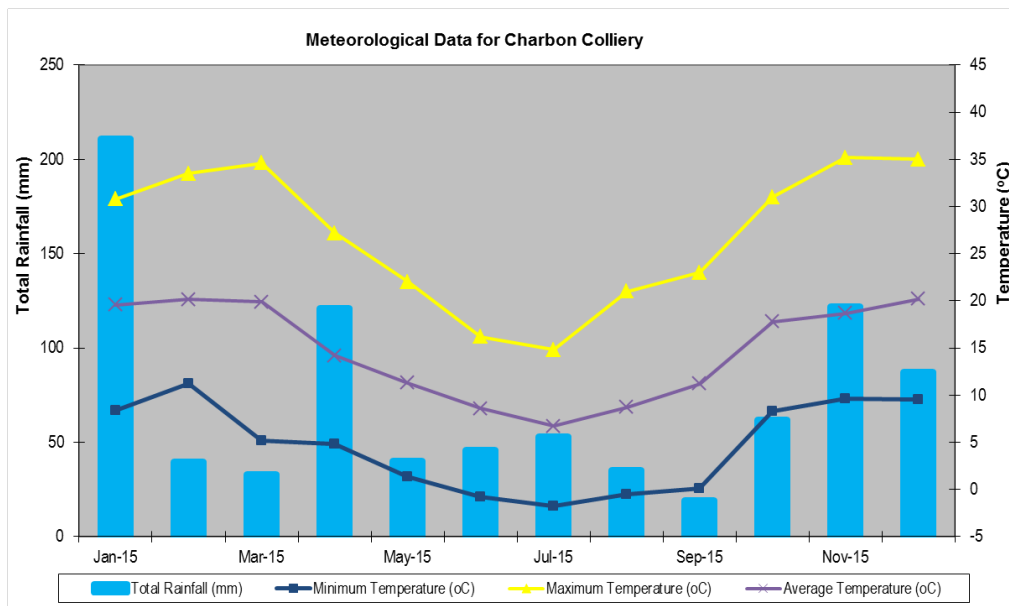


Figure 4 - Meteorological Data for Charbon 2015

4 Noise Monitoring Program

As outlined above, mining operations have ceased at Charbon and the site is currently operating under Closure and Rehabilitation. Noise from Charbon will therefore be associated with periodic closure and rehabilitation works, such as landform shaping and seeding.

The Noise Monitoring Program for Charbon presented below has therefore been revised to reflect the reduced activities at site, whilst ensuring data from the monitoring program is used to determine compliance with the relevant Project Approval conditions.

4.1 Plant and Equipment

Closure and rehabilitation works at Charbon will require the following activities and equipment. The activities would be conducted in a progressive manner with only one key activity (i.e. shaping or water management) occurring at any one time:

- Reshaping
 - Small scale reshaping - Dozer OR Truck and excavator/loader/shovel;
 - Large scale reshaping - Medium sized trucks, excavator or loader, grader, dozer and watercart plus light vehicles OR Dozer alone, two to three D11s or 475s and a D7 for tidy up.
- Water management
 - Excavator, a small rubber tyre dump truck and D7 or D65 dozer for minor bulldozer reshaping works.
- Topsoil spreading, Erosion control works and Seeding
 - Excavator/seeder and/or hydromulcher
 - D7 up to D10 for topsoil spreading from truck dumped topsoil

- Dozer push-load scraper spread out of topsoil e.g. 657s
- D7 or D65 Dozer for in-slope berms and stilling basins
- D7 or D65 Dozer for deep ripping to a minimum of 800mm
- Chopper seeding and fertilizer spread

4.2 Operator Attended Noise Surveys

As shown on **Figure 3**, operator attended noise surveys are conducted at the following four (4) locations annually.

- Location H (EPL Point 10)
- Location L – Risk Based monitoring for receptors- No corresponding EPL point
- Location P (EPL Point 7)
- Location Q (EPL Point 8)
- Location M (EPL Point 9) has been acquired and EPL limits do not apply.

The monitoring is designed to quantify noise emissions and estimate the LAeq noise contribution from Charbon as well as the overall ambient noise level to determine compliance with the Project Approval and EPL conditions.

The attended noise monitoring program will quantify and characterise the maximum (LAmax), the energy equivalent (LAeq) and background (LA90) noise levels from ambient noise sources and mining operations over a 15 minute measurement period.

During attended monitoring, digital recordings will be conducted to allow for additional post analysis of the mine contributed LAeq(15minute), LA10(15minute) and LA1(1minute) noise levels and to assist in source identification.

All acoustic instrumentation shall meet the requirements of AS IEC 61672 2019 “Electroacoustics – Specification, AS IEC 61672.3:2019 and carry current NATA and manufacturer calibration certificates. Instrument calibration shall be checked before and after each measurement survey, with the variation in calibrated levels not exceeding ± 0.5 dBA.

Portable sound level meters used for operator attended noise monitoring will be capable of conducting real time third octave analysis.

During the attended noise measurements, any significant mine generated noise sources (i.e. dozers, excavators, haul trucks, loaders, graders etc.) will be recorded. In addition, copies of the relevant fixed plant and mobile equipment operating shift logs will be provided to the consultant to accurately inform monitoring noise reports.

4.3 Sound Power Level Measurements

Noise surveillance measurements of acoustically significant plant and equipment (such as those listed in Section 4.1) will be undertaken annually to ensure that they remain within the specified compliance levels.

4.4 Meteorological Parameters

All noise measurements shall be accompanied by both qualitative description (including cloud cover) and quantitative measurements of prevailing local weather conditions throughout the survey period.

Meteorological measurements shall be guided by the requirements of *AS/NZS 3580.14:2014 Methods for sampling and analysis of ambient air - Meteorological monitoring for ambient air quality monitoring applications* and the EPA.

In accordance with Schedule 3 Condition 23 of the Project Approval MP 08_0211, an on-site weather station has been installed and situated in compliance with Australian Standard and is currently located at the former third entry site adjacent to the workshop office.

The weather station is programmed to continuously record the meteorological parameters as shown in **Table 10**.

Table 10 - Meteorological Measurement Parameters

Measured Parameter	Unit	Sample Interval
Mean wind speed	m/s	15 minute
Mean wind direction	Degrees	15 minute
Aggregate rainfall	mm	15 minute
Mean air temperature (including sigma-theta)	C°	15 minute

4.5 Identifying noise-enhancing meteorological conditions

Noise levels from open cut mining operations are predicted to exceed the evening consent criteria under ESE wind conditions which prevail in the evening during the autumn months. Notwithstanding this, currently operations cease before 6:00 pm.

Even though Charbon is not predicted to exceed the consent conditions, the noise enhancing meteorological conditions for Charbon is defined as wind speeds of 3m/s at 10m in a ESE direction. Since Charbon can only undertake train movements in the rail loop, construction activities and rehabilitation activities from 7am to 6pm Monday to Saturday, alarms from the real-time meteorological station will be limited to within those timeframes only.

5 Noise Model

The Statement of Commitments requires Charbon to update and maintain the noise model. The noise model was updated as part of the submission for Modification 2. The modification is not predicted to change existing operational noise emissions associated with approved rehabilitation activities.

Nonetheless, suggested operational noise levels are predicted to satisfy the project noise trigger levels at all assessment locations for operations associated with the proposed modification.

As mining operations have ceased and the site is in rehabilitation and closure phase, updating and maintaining the noise model is no longer required as emission sources have reduced substantially after mining.

6 Noise control measures

The active noise control measures detailed in **Table 11** are recommended where reasonable and feasible to reduce the impact on the surrounding receivers and sensitive land uses.

Table 11 - Active noise control Measures

Action required	Details
Management measures	
Site inductions	<ul style="list-style-type: none"> • All employees, contractors and subcontractors are to receive an environmental induction. The induction should include: <ul style="list-style-type: none"> ○ All relevant project specific and standard noise mitigation measures ○ Relevant licence and approval conditions ○ Permissible hours of work ○ Location of nearest sensitive receivers ○ Employee parking areas ○ Designated loading/ unloading areas and procedures ○ Site opening/closing times (including deliveries) ○ Environmental incident procedures
Behavioural practices	<ul style="list-style-type: none"> • No swearing or unnecessary shouting or loud stereos/radios on site. • No dropping of materials from height, throwing of metal items and slamming of doors.
Source Controls	
Equipment selection	Use quieter emitting construction methods where reasonable and feasible.

Action required	Details
Use and siting of plant	<p>Simultaneous operation of noisy plant within discernible range of a sensitive receivers is to be avoided.</p> <p>Plant used intermittently to be throttled down or shut down. Noise-emitting plant to be directed away from sensitive receivers.</p>
Plan worksites and activities to minimise noise	Plan traffic flow, parking and loading unloading areas to minimise reversing movements within the site.
Minimise disturbance arising from delivery of goods to sites	<p>Loading and unloading of materials/deliveries is to occur as far as possible from sensitive receivers.</p> <p>Select site access points and roads as far as possible away from sensitive receivers.</p> <p>Dedicated loading/unloading areas to be shielded if close to sensitive receivers.</p>
Non-tonal reversing alarms	Non-tonal reversing beepers (or an equivalent mechanism) must be fitted and used on all construction vehicles and mobile plant regularly used on site and for any out of hours work.

7 Response procedures

7.1 Incident Reporting

Should an incident occur that has or is likely to cause 'material harm to the environment', as defined in Section 147 of the POEO Act, or breaches or exceeds the limits or performance measures/ criteria in MP 08_0211 the incident must be reported immediately to all Appropriate Regulatory Authorities in accordance with Schedule 5, Condition 6 and 6A and EPL 528 Condition R2. A written report to DPIE, the EPA, and any other ARA's, is to be provided within 7 days of the date on which the incident occurred. Where an incident may give rise to a public danger, then State Emergency Services will be notified, and any directives followed.

7.1.1 Incident resulting in non-compliance

Should an incident result in a non-compliance, a detailed report of the incident to the Planning Secretary and any other relevant agencies within 7 days in accordance with Schedule 5, Condition 6A and the Environmental Management System.

7.2 Contingency Plan

Where noise levels consistently exceed the relevant criteria, mitigation measures for excessive noise events will be implemented including:

- Relocating or rescheduling activities
- Stopping work until the meteorological conditions improve

In addition, further noise control measures will be investigated, and operations moderated until noise levels return to an acceptable level and/or the source of the exceedances can be determined and managed appropriately.

7.3 Complaints Handling

All complaints received regarding operational noise will be responded to in accordance with Charbon's *Procedure for Recording and Reporting Community Complaints*. The procedure is detailed in the Charbon Environmental Management Strategy and details Centennial's obligations in regard to receiving, handling, responding to, and recording details of all community complaints.

7.4 Landowner Notification and independent Review

If noise monitoring results exceed the relevant assessment criteria specified within this Noise Management Plan, Charbon will, within 7 days of obtaining monitoring results, notify the Planning Secretary and the affected landowners. Charbon will then provide quarterly monitoring results to the Planning Secretary and landowners until results show compliance with the relevant criteria.

Condition 2, Schedule 3 of the Project Approval defines a procedure where the owners of privately-owned land consider that the Project impacts are exceeding the relevant impact assessment criteria.

7.5 Land Acquisition

Within 3 months of receiving written request from a landowner with acquisition rights, Charbon shall make an offer based on Condition 2, Schedule 3 of the Project Approval.

8 Data Analysis and Reporting

8.1 Data analysis for compliance

The LAeq (15minute) noise level contributions from all closure and rehabilitation works as well as the overall ambient noise levels together with the weather conditions shall be reported on a six-monthly basis.

The contributed noise emissions from closure and rehabilitation works shall be evaluated and assessed against the noise level criteria given in Project Approval MP 08_0211. Compliance may be determined by:

- Direct measurement of the consent criteria - LAeq(15minute);
- Operator estimated LAeq(15minute) contribution;
- Operator estimated LA1(1minute) contribution;
- By calculation from near field measurements;
- From post analysis of audio recordings;
- By measurement at a representative location;

- Predictions from the compliance noise model; and
- A combination of any or all the methods shown.

8.2 Reporting

Monitoring results from locations required for statutory compliance will be placed on the Centennial website and updated annually, contained within in the monthly Environmental Monitoring Report.

Monitoring results will also be reported within the EPL Annual Return and the Annual Review in accordance with relevant Project Approval and EPL conditions.

8.3 Incident Reporting

Condition 6, Schedule 5 of the Project Approval requires that Centennial notify DPIE and any other relevant agencies after Centennial becomes aware of an incident. The notification must be in writing via the DPIE major Project's website and identify the development (including the development application number and name) and set out the location and nature of the incident.

Condition 6A, Schedule 5 requires Centennial to notify DPIE within seven days of becoming aware of a non-compliance. The notification must be in writing via the DPIE Major Projects Website and identify the development (including the development application number and name), 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.

9 Review and improvement

9.1 Performance Indicators

Compliance of this Noise Management Plan with the Project Approval MP 08_0211 conditions and any other relevant agency requirements will be measured according to the following performance indicators:

- Compliance with relevant noise criteria at monitoring locations;
- The frequency and nature of complaints reported to the mine in relation to noise;
- Contractor and employee awareness of the company's Environmental Policy and this Noise Management Plan; and
- Compliance with this Noise Management Plan, as indicated by statutory reporting.

9.2 Periodic review

This plan will be reviewed and if necessary revised, to the satisfaction of the Planning Secretary under the following circumstances as required in Schedule 5, Condition 4 of the Approval:

Within 3 months of approval of any modification to the conditions of this approval (unless the conditions require otherwise), or within 3 months of the submission of an:

- (a) audit report under condition 8 of schedule 5;
- (b) incident report under condition 6 or 6A of schedule 5; or
- (c) annual review under condition 3 of schedule 5, the Proponent must review,

Any modifications to the noise monitoring locations will be undertaken in consultation with the EPA.

9.3 Continual improvement

Through the effective application of best practice principles to mining operations including, where cost-effective and practicable, the adoption of best practice technologies and noise control measures, Centennial will continue to improve on the mine's environmental performance with progress to be monitored against performance indicators noted in **Section 9.1**.

APPENDICES

Appendix 1 – Agency Consultation



Mr James Wearne
Group Manager Approvals
Centennial Coal
100 Miller Road
FASSIFERN NSW 2283

Dear Mr Wearne

**Charbon Colliery (08_0211)
Management Plans**

I refer to your letter dated 7 February 2017, requesting endorsement of experts to prepare revised management plans to reflect the current mine closure and rehabilitation phase for Charbon Colliery in accordance with condition 2 of Schedule 5 of Project Approval (08_0211).

The Department has reviewed the information you provided, and is satisfied that the nominated experts are suitably qualified to prepare the relevant management plans.

Accordingly, the Secretary has endorsed the following experts to undertake the work:

- Mr Lachlan Hammersley;
- Mr Tristan Roberts;
- Mr Barry Cook;
- Ms Michelle Collins-Roe;
- Mr Elliot Holland;
- Mr Nathan Archer;
- Ms Abby Neubauer.

The Department is satisfied with Centennial's proposal to integrate the Landscape Management Plan, Rehabilitation Offsets Management Plan and the Mine Closure Plan into the Mining Operations Plan, required under the mining lease.

In order to allow you to produce one document which satisfies both the conditions of approval and the mining lease, the Department requests that the management plans and Mine Closure Plan are submitted to the Department for approval.

If you have any further enquiries about this matter, please contact Anthony Ko on the above contact details.

Yours sincerely

 20/2/17

Clay Preshaw
A/Director
Resource Assessments
as nominee of the Secretary



14 March 2017

Mr Darryl Clift
Head Regional Operations Unit
NSW Environment Protection Authority
South - Bathurst
PO Box 1388
Bathurst NSW 2795

Dear Mr Clift

Charbon Colliery – Revised Management Plans for Review

Charbon Colliery (Charbon) is an underground (bord and pillar) and open cut coal mine, located approximately 87km north-west of Lithgow and 3km south of Kandos. Project Approval for the operations was granted by the NSW Planning and Assessment Commission on behalf of the Minister for Planning under Part 3A of the NSW Environmental Planning and Assessment Act 1979 (EP&A) on 7 September 2010 (PA 08_0211).

Underground mining operations were completed at Charbon on 7 March 2014 and Open Cut mining operations ceased on 14 August 2015. Following cessation of Open Cut mining operations, the site has entered a Closure and Rehabilitation phase.

To reflect the current closure and rehabilitation phase of operations at Charbon, Charbon Coal Pty Limited (Charbon Coal) has recently completed a review of all the sites environmental management plans. In accordance with the conditions of approval, a copy of the draft revised Noise Management Plan, Air Quality Management Plan and Blast Monitoring Program is attached for your review.

Charbon Coal requests any comments on the draft revised management plans be provided no later than 5pm on Wednesday 29 March 2017 to:

James Wearne
Group Approvals Manager
Centennial Coal
PO Box 1000 Toronto NSW 2283
Email: james.wearne@centennialcoal.com.au

The revised management plans are required to be finalised and submitted to the Department of Planning and Environment for approval by no later than 30 March 2017.

Yours sincerely

James Wearne
Group Approvals Manager

Enclosed –

- Charbon Colliery - Draft revised Noise Management Plan
- Charbon Colliery - Draft revised Air Quality Management Plan
- Charbon Colliery - Draft revised Blast Monitoring Program



Your reference :
Our reference : SF17/10746; DOC17/193384
Contact : Ms Sheridan Ledger, (02) 6332 7608

Mr James Wearne
Group Approvals Manager
Centennial Coal
PO Box 1000
TORONTO NSW 2283

29 March 2017

Dear Mr Wearne

CHARBON COLLIERY – REVISED MANAGEMENT PLANS

I refer to the revised air quality and noise management plans (the Plans) and the blast monitoring program (the Program) for the Charbon Coal Mine (the Mine) received by the Environment Protection Authority (EPA) on 14 March 2017.

Thank you for forwarding a copy of the Plans and the Program to the EPA. The EPA notes the Mine has entered a closure and rehabilitation phase and that the Plans and the Program have been developed having regard to this. The EPA encourages the development of Environmental Management Plans/Programs to ensure that proponents have determined how they will meet their statutory obligations and environmental objectives as specified by any Project/Development Approval and/or the conditions of an environment protection licence. Please note the EPA does not review these plans/programs (unless in circumstances deemed necessary) as the role of the EPA is to set conditions/criteria for environmental protection and management, not to be directly involved in the development of strategies to comply with such conditions/criteria. As such the EPA will not be reviewing or endorsing the Plans.

As a management tool, such plans should assist the Mine in meeting their commitment to statutory compliance and wider environmental management and where appropriate should be integrated with other operational or management plans. The EPA recommends that such plans be audited to an industry standard or certified to the ISO 14001 standard (if applicable) as part of any overall environmental management system.

Should you have any queries regarding this matter, please contact Ms Sheridan Ledger at the Central West (Bathurst) Office of the EPA by telephoning (02) 6332 7608 or email central.west@epa.nsw.gov.au.

Yours sincerely

A handwritten signature in black ink, appearing to read 'Darryl Clift'.

DARRYL CLIFT
Head Regional Operations Unit
Environment Protection Authority