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# Charbon Colliery Noise Management Plan

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Centennial Charbon Pty Ltd  
PO Box 84  
Kandos NSW 2848

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# Charbon Colliery

## Noise Management Plan

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## 1 INTRODUCTION

The Planning Assessment Commission of New South Wales (the Commission) has granted conditional approval to Centennial Charbon Pty Ltd (Charbon) for the continued operation of the Charbon Colliery (the Project Site) through further development of a portion of the remaining coal resources within and surrounding the existing Colliery by both open cut and underground mining methods.

The following report contains the Noise Management Plan (NMP) for the Project Site, detailing the noise assessment criteria, monitoring locations and procedures, and procedure for determining compliance for subsequent reporting in accordance with the Department of Planning and Infrastructure (DP&I) and the Environment Protection Authority (EPA) (formerly Department of Climate Change and Water (DECCW)) requirements.

This report refers to the Project Approval (dated 7 September 2010), and reflects recommendations provided by SLR Consulting Pty Ltd (SLR) (formerly Heggies Pty Ltd (Heggies)) in their report entitled "*Continued Operation of the Charbon Colliery – Noise and Blasting Assessment – Specialist Consultant Studies Compendium: Part 1*" – Report Number 753/03 dated September 2009 (hereafter, Charbon Colliery Noise Assessment).

This revision to the NMP accommodates additional requirements and comments from the DP&I dated 29 July 2013. It incorporates changes which have occurred since the previous revision, in particular with regard to properties acquired by and/or entering agreements with Charbon.

## 2 OBJECTIVES

The objectives of the NMP are to fulfil the requirements of Schedule 3 Condition 9 of the Charbon Colliery Project Approval and Section 3 of the Statement of Commitments contained within the Charbon Colliery Environmental Assessment (RW Corkery November 2009).

The specific objectives of the NMP are as follows:

- Ensure all relevant statutory requirements and Standards are met;
- Identify potential noise sources and their relative contribution to noise impacts from the the Project Site;
- Outline the methodologies to be used, including justification for monitoring intervals, weather conditions, seasonal variations, monitoring locations, periods and times of measurements, the design of any noise modelling or other studies, including the means for determining the noise levels emitted by the development;
- Manage and minimise the impact of noise from mining operations at nearby residences;
- Maintain reasonable levels of amenity for surrounding residents;
- Maintain an effective response mechanism to deal with issues and complaints; and
- Ensure the results of noise monitoring comply with applicable criteria.

### 3 PROJECT APPROVAL CONDITIONS

#### 3.1 Noise Management Plan Requirements

In accordance with Schedule 5, Condition 2 of the Project Approval, **Table 1** shows information to be included within the NMP and the relevant Section of the document where it has been addressed.

**Table 1 Management Plan Requirements from Schedule 5 Condition 2 of the Project Approval**

Condition	Condition Requirement	Section Addressed
2(a)	Detailed baseline data	4
2(b)	Statutory requirements, relevant limits and performance indicators	5, 16
2(c)	Measures to be implemented to comply with the relevant requirements, limits or performance indicators	7, 8, 14 and 16
2(d)	A program to monitor impacts	9
2(e)	A contingency plan to manage any unpredicted impacts and their consequences	14
2(f)	A program to investigate and implement ways to improve the environmental performance of the project over time	17 and 18
2(g)	Protocol for managing and reporting any: Incidents; Complaints; Non-compliances with statutory requirements; and Exceedances of the impact assessment criteria and/or performance criteria	14 and 15
2(h)	Periodic Review	17

**Table 2 Noise Management Requirements from Schedule 3 Condition 9 of the Project Approval**

Condition	Condition Requirement	Section Addressed
9(a)	be prepared in consultation with the DECCW by a suitably qualified expert whose appointment has been approved by the Director-General;	Whole NMP
9(b)	be submitted to the Director-General for approval within 6 months of this approval;	Whole NMP
9(c)	include a Noise Monitoring Program;	9
9(d)	include detailed procedures for identifying noise-enhancing meteorological conditions using real-time meteorological data; and	8
9(e)	include reactive control measures to manage noise impacts for sensitive receivers.	14

## 3.2 Statement of Commitments

The relevant commitments relating to noise from the *Statement of Commitments – Continued Operations of Charbon Colliery February 2010* are reproduced in **Table 3** below.

**Table 3 Statement of Commitments**

Condition	Commitment	Section Addressed
3.1	Prepare and implement a Noise Monitoring and Management Plan, including a noise monitoring protocol	Whole NMP
3.2	Prepare an updated noise model	11
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.	7
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. <sup>1</sup>	7

## 4 PROJECT BACKGROUND

### 4.1 Project Setting

The Project Site is situated in the western coalfields of NSW, approximately 3 km south of Kandos. Current operations at the Project Site consist of underground and open cut mining. Activities involved in these mining procedures include the preparation of land, land clearing, extraction and processing of coal, stockpiling and management of waste products.

The Project Site is associated with a combination of mountainous terrain and gently undulating land. Surrounding land use is composed mostly of woodlands, with some areas used for agriculture, principally grazing, manufacture of lime, rural residential and residential purposes. The location of the Project Site is illustrated in **Figure 1**. **Figure 2** illustrates the local setting and layout of the Project Site.

### 4.2 Noise Sources

The Charbon Colliery Noise Assessment identified potential noise sources from the Project Site as being the following:

- Excavation activities within extraction area;
- Drilling and blasting activities;
- Materials processing and handling;
- Train and truck loading for product distribution;
- Movement of heavy vehicles within the Project Site; and
- Indicative Mining Equipment Fleet.

Figure 1 Locality Plan

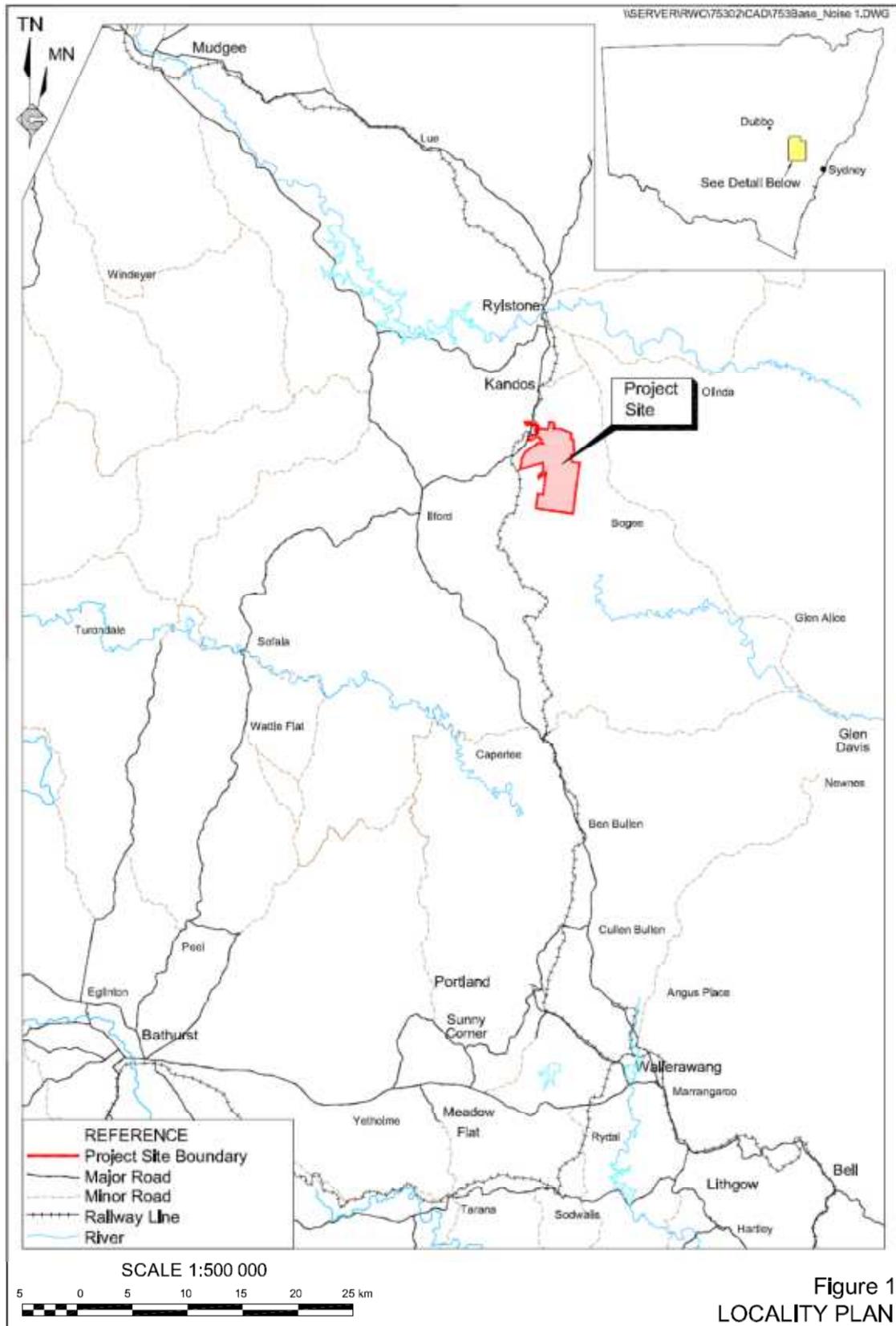


Figure 1  
LOCALITY PLAN

Source: Charbon Colliery Noise and Blasting Assessment (2009)



### 4.3 Sensitive Receivers

A number of rural residential dwellings are situated in the area surrounding the Project Site. The nearest dwellings were identified as sensitive receptor locations to be taken into account during the assessment.

These dwellings, identified as Residences A to S, are presented in **Figure 3**.

### 4.4 Review of Predicted Noise Levels

The key findings of the Charbon Colliery Noise Assessment are detailed below:

*The noise emissions associated with the Colliery's open cut mining operations are expected to exceed the Project-specific assessment criteria at two residences to the west of the Project Site during all modelled operational scenarios. Charbon Coal would implement management and mitigation measures to reduce or, where possible, prevent exceedances of the Project specific assessment criteria at residences surrounding the Project Site as a result of open cut mining operations, particularly during the evening east-southeast winds which prevail in autumn. This would include the preparation of a Noise Monitoring and Management Program prior to commencing open cut mining operations within the Southern Open Cut Extension or Western Open Cut, including real-time noise and meteorological monitoring.*

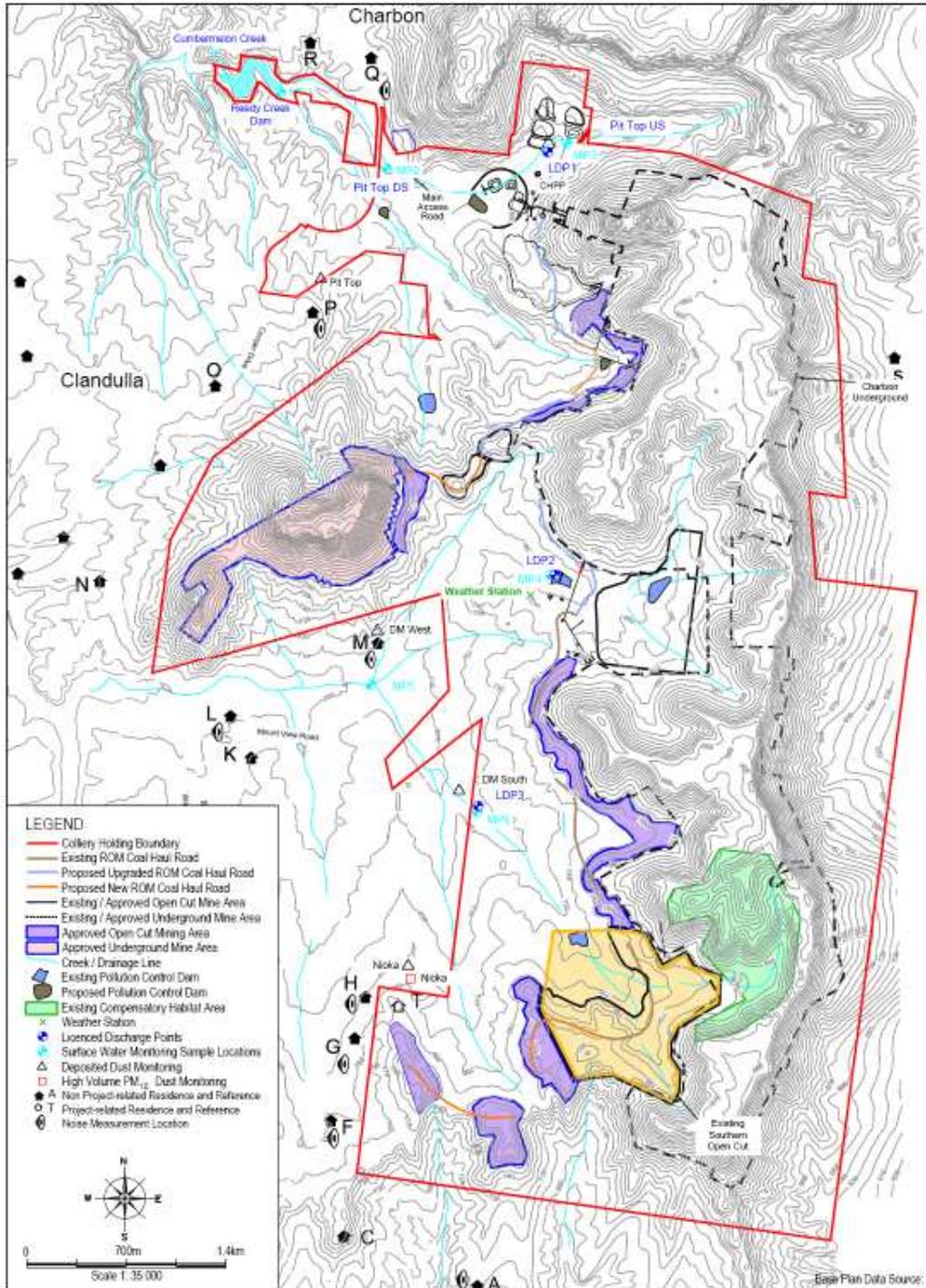
*The Noise Monitoring and Management Program would ensure that the Colliery noise emission levels at all residences surrounding the Project Site would be less than the Project specific assessment criteria with the exception of Residences M and P.*

*Residence P is expected to experience negligible to marginal noise emission exceedances during the evening and night-time period under adverse weather conditions.*

*Residence M is expected to experience negligible exceedances under calm weather conditions during daytime and evening operations during Scenario 3 (Year 7) only.*

*Due to the extensive implementation of noise mitigation measures within the Colliery, there are no residences in the noise affectation zone, where an appreciable exceedance of the Project specific assessment criteria is expected.*

**Figure 3 Sensitive Receiver Locations**



## 5 RELEVANT CONSENT CONDITIONS AND IMPACT ASSESSMENT CRITERIA

The relevant conditions relating to noise from the Charbon Colliery Project Approval are reproduced below.

### Schedule 3 NOISE

#### Impact Assessment Criteria

- The Proponent shall ensure that the noise generated by the project does not exceed the noise impact assessment criteria in Table 1 at any residence on privately owned land or on more than 25 per cent of any privately owned land.

Table 1 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
Residence M	36	37	35	45
All remaining locations	35	35	35	45

#### Notes:

- To determine compliance with the LAeq (period) noise limits, noise from the project is to be measured at the most affected point within the residential boundary, or at the most affected point within 30 metres of a dwelling (rural situations) where the dwelling is more than 30 metres from the boundary. Where it can be demonstrated that direct measurement of noise from the development is impractical, alternative means of determining compliance (see Chapter 11 of the NSW Industrial Noise Policy) may be accepted. The modification factors in Section 4 of the NSW Industrial Noise Policy shall also be applied to the measured noise levels where applicable.
- To determine compliance with the LA1 (1 minute) noise limits, noise from the project is to be measured at 1 metre from the dwelling façade. Where it can be demonstrated that direct measurement of noise from the project is impractical, alternative means of determining compliance (see Chapter 11 of the NSW Industrial Noise Policy) may be accepted.
- The noise emission limits identified in the Table above apply under meteorological conditions of:
  - Wind speeds of up to 3m/s at 10 metres above ground level; or
  - Temperature inversion conditions of up to 3°C/100m, and wind speeds of up to 2m/s at 10 metres above ground level.
Determined in accordance with the NSW Industrial Noise Policy, including that exceedances of the criteria must be "systemic".
- For the locations of residences/properties in this approval, see Appendices 1 and 4.
- 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.

#### Land Acquisition Criteria

- If the noise generated by the project exceeds the criteria in Table 2 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 conditions 4-6 of schedule 6.

Table 2 Land Acquisition Criteria dB(A) LAeq(15min)

<i>Location</i>	<i>Day</i>	<i>Evening</i>	<i>Night</i>
All residences within 150m 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 1. For this condition to apply, the exceedances of the criteria must be systematic.

### Operating Hours

3. The Proponent shall comply with the operating hours in Table 3.

Table 3 Operating Hours

<i>Activity</i>	<i>Day</i>	<i>Time</i>
Open cut mining	Monday to Friday	7.00 am to 8.00 pm <sup>1</sup>
	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 5.00pm
Vegetation clearing and soil handling	Monday to Saturday	7.00 am to 5.00pm
Truck dispatch	Any day	7.00 am to 6.00pm
Train loading and dispatch	Any day	Any time

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

### Noise Mitigation Measures

4. The proponent must achieve the modelled sound power levels for the equipment listed (or equivalent) in Table 4 below, within 6 months of the date of approval, or as otherwise agreed by the Director-General.

Table 4 Modelled Plant Sound Power Levels

<i>Plant and Equipment</i>	<i>Make and Model</i>	<i>Modelled L<sub>max</sub> sound power level (SWL)</i>
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)

5. *The Proponent shall prove a verification report to ensure that the sound power levels in condition 4 are achieved to the satisfaction of the Director-General. This report must be:*
  - *submitted to DECCW and the Department within 8 months of this approval or as otherwise agreed by the Director-General; and*
  - *prepared by a suitably qualified expert, whose appointment is approved by the Director-General.*
6. *Upon receiving a written request from:*
  - *the landowner of property P; or*
  - *the landowner of privately-owned land where noise monitoring shows the noise generated by the project exceeds the criteria in Table 5,*

*then the Proponent shall 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 Director-General for resolution.*

Table 5 Noise Mitigation Measures Criteria dB(A) LAeq(15min)

<i>Location</i>	<i>Day</i>	<i>Evening</i>	<i>Night</i>
<i>All residences within 150m of, and including Residence Q</i>	40	40	40
<i>All other locations</i>	37	37	37

*Note: Noise generated by the project is to be measured in accordance with the notes below Table 1. For this condition to apply, the exceedances of the criteria must be systematic.*

7. *Within 3 months of the date of this approval the Proponent shall notify the landowner of Property P that they are entitled to receive additional noise mitigation measures, to the satisfaction of the Director-General.*

### **Continuous Improvement**

8. *The Proponent shall:*
  - a. *Implement all feasible and reasonable noise mitigation measures;*
  - b. *investigate ways to reduce noise generated by the project, including offsite road and rail noise and maximum noise levels which may result in sleep disturbance; and*
  - c. *report on these investigations and the implementation and effectiveness of these measures in the Annual Review,*

*to the satisfaction of the Director-General.*

### **Noise Management**

9. *The Proponent shall prepare and implement a detailed Noise Management Plan for the project to the satisfaction of the Director-General. This Plan must:*
  - a. *be prepared in consultation with the DECCW by a suitably qualified expert whose appointment has been approved by the Director-General;*
  - b. *be submitted to the Director-General for approval within 6 months of this approval;*
  - c. *include a Noise Monitoring Program;*
  - d. *include detailed procedures for identifying noise-enhancing meteorological conditions using real-time meteorological data; and*

- e. *include reactive control measures to manage noise impacts for sensitive receivers.*

## **6 PROPERTIES AT WHICH NOISE LIMITS NO LONGER APPLY**

### **6.1 Properties Acquired**

In accordance with Schedule 3 Condition 2 of the Project Approval, the proponent has acquired the following properties:

- Location G.
- Location M.

### **6.2 Properties with Negotiated Agreements**

In accordance with Schedule 3 Condition 1 of the Project Approval, the Proponent has an agreement with the relevant owner/s of the residences to generate higher noise levels:

- Location D.
- Location E.
- Location F.
- Location H.

## **7 NOISE MITIGATION MEASURES**

In accordance with Schedule 3 Condition 5 of the Project Approval, the noise levels of the major items of plant and equipment will be monitored before commissioning. The sound power level of plant and equipment should not be greater than the modelled sound power levels set out in Table 4 of the Project Approval.

In accordance with Schedule 3 Condition 3 of the Project Approval, the approved hours of open cut mining operations are as follows:

- 7:00 am to 8:00 pm Monday to Friday;
- 7:00 am to 6:00 pm Saturday; and
- 7:00 am to 6:00 pm all days during the autumn months.

Whilst Charbon is approved to operate the open cut during these hours, to further mitigate noise impacts on sensitive receiver locations Charbon's open cut operations run from 7:30 am to 4:30 pm.

## **8 PROCEDURE FOR IDENTIFYING NOISE ENHANCING METEOROLOGICAL CONDITIONS**

In accordance with Schedule 3 Condition 23 of the Project Approval, an on-site weather station has been installed and situated in compliance with AS 2923-1987 "*Ambient air - Guide for measurement of horizontal wind for air quality applications*" and is currently located at the former third entry site adjacent to the workshop office and bathroom. Meteorological measurements are guided by the requirements of AS 2923-1987 and the EPA.

The weather station situated on the Charbon mine site is programmed to continuously record the meteorological parameters as shown in **Table 4**.

**Table 4 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

This data can be accessed via a website to view to the latest hour or to download previously recorded data. Previously recorded data is validated and can be downloaded in intervals of 15 minutes.

Meteorological data will be monitored to determine noise enhancing meteorological conditions and if necessary, mining operations will be modified to reduce potential impacts at the nearest noise sensitive receivers at which the noise limits apply.

## 9 NOISE MONITORING PROGRAM

The Noise Monitoring Program has been developed in consultation with the EPA and DP&I. The monitoring program is designed to ensure that noise is measured at representative locations in the vicinity of the Project Site. Data from the monitoring program will be used to determine the noise impact of Charbon Colliery's operations at the surrounding receivers, and the compliance status of the mining operations in relation to the relevant Project Approval conditions.

### 9.1 General Requirements

The noise measurement procedures employed throughout the monitoring program shall be guided by the requirements of AS 1055-1997 "*Acoustics - Description and Measurement of Environmental Noise*" and the NSW Industrial Noise Policy.

Noise monitoring should be conducted initially on a quarterly basis and consist of operator attended noise monitoring. The frequency of monitoring will be reviewed after the first 12 months of operating the monitoring program in order to determine future requirements.

### 9.2 Operator Attended Noise Surveys

Operator attended noise surveys shall be conducted at up to three (3) potentially most affected receiver locations relevant to mining operations at the time of monitoring, in order to quantify noise emissions and estimate the LAeq noise contribution from the Charbon Colliery as well as the overall ambient noise level.

The operator shall quantify and characterise the maximum (L<sub>Amax</sub>), the energy equivalent (L<sub>Aeq</sub>) and background (L<sub>A90</sub>) 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 L<sub>Aeq</sub>(15minute), L<sub>A10</sub>(15minute) and L<sub>A1</sub>(1minute) noise levels and to assist in source identification.

As stated in **Section 6**, the proponent has either acquired or entered into an agreement with a number of properties such that the noise limits contained in the Project Approval no longer apply.

It is intended that noise monitoring will involve noise measurements at the following locations identified in **Figure 3**:

- Location P;
- Location L; and
- Location A.

### **9.3 On-site Sound Power Level Measurements**

As part of the noise management strategy, the noise monitoring program will include regular (annual) noise surveillance measurements of acoustically significant plant and equipment to ensure that they remain within the specified compliance levels. Additionally, noise monitoring will be undertaken before the commissioning of any new items of acoustically significant plant and equipment at the site to ensure that they comply with the required sound power levels detailed in Table 4 of the PA.

## **10 INSTRUMENTATION AND MEASUREMENT PARAMETERS**

### **10.1 Operator-Attended Surveys**

Noise measurements required in accordance with the NMP should be undertaken by a suitably qualified and experienced acoustic expert. The noise measurement procedures employed throughout the monitoring programme should be guided by the requirements of AS 1055 1997 *Acoustics - Description and Measurement of Environmental Noise*. Noise generated by the project is to be measured in accordance with the relevant procedures and exemptions (including meteorological conditions) in the NSW Industrial Noise Policy (EPA, 2000).

All acoustic instrumentation employed throughout the monitoring program shall meet with the requirements of AS IEC 61672.1 – 2004 *Electroacoustics—Sound level meters - Specifications* 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  $\pm 0.5$  dBA.

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

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.

### **10.2 Plant and Equipment Observations and Log**

During the attended noise measurements, the operator shall record any significant mine generated noise sources (i.e. haul trucks, dozers, etc). In addition, the operator shall obtain copies of the relevant fixed plant and mobile equipment mining operating shift logs to be included in the noise monitoring report.

## **11 COMPLIANCE MODELLING METHODOLOGY**

A computer noise model was developed as part of the noise impact assessment for the Charbon Colliery. The computer model incorporated the significant noise sources and their design sound power levels associated with the proposed development and the surrounding terrain, aspects of the built environment and nearby receiver areas.

The computer model was originally prepared using Renzo Tonin Associates (RTA) Software's Environmental Noise Model (ENM for Windows, Version 3.06), and has been updated using SoundPLAN v7.1 software, developed by Braunstein and Berndt GmbH in Germany. Both are commercial software systems which have been subject to peer review and are approved by the EPA (and other regulatory bodies) as accepted practice (refer INP Section 6.2).

As per Action 3.1 of the Statement of Commitments, the Charbon Colliery noise model will be updated and maintained, containing all significant noise sources on the sites during the noise monitoring period. The purpose is to predict the contributed noise level from the operation, which can then be compared and calibrated to the actual measured (operator- attended), contributed noise level.

Additionally, the compliance noise model will allow the determination of compliance with criteria at locations where direct noise measurements have not been conducted or where noise contribution cannot be measured or detected, for example where background noise levels are higher than the consent criteria.

This will assist in developing a calibrated noise model for site which will allow an accurate forecast of any future development or significant events that may occur on the site.

## **12 DATA ANALYSIS**

### **12.1 Determining Compliance**

#### **12.1.1 Operator Attended Noise Survey Results**

The LAeq (15minute) noise level contributions from all mining operations as well as the overall ambient noise levels together with the weather and mine operating conditions shall be reported on a quarterly basis.

The contributed noise emissions from mining operations shall be evaluated and assessed against the noise level criteria given in Project Approval. 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; or
- A combination of any or all the methods shown.

#### **12.1.2 Noise Compliance Model**

The noise compliance model output will provide predicted noise levels from the current operational scenario at all relevant assessment locations, which can then be compared to the measured noise levels and estimated mine contribution levels.

## 13 REPORTING

### 13.1 Noise Monitoring Report

All routine monitoring results will be documented and reported initially on a quarterly basis. This information is also included in the Annual Environmental Management Review (AEMR) which is sent to the relevant authorities as listed in Schedule 5 Condition 3 of the Project Approval.

Quarterly reports should consist of the following information:

- Summary of all attended and unattended noise monitoring results;
- Predicted noise levels at each assessment location from the compliance noise model (if necessary);
- Measured/calculated and/or operator estimated Charbon Colliery LAeq(15minute) contributed noise levels for each monitoring location;
- Measured/ calculated and/or operator estimated Charbon Colliery LA1(1minute) contributed noise levels for each monitoring location;
- Statement of compliance/ non-compliance; and
- Details of any complaints relating to noise and their state of resolution.

### 13.2 Reporting Non-Compliances

In the event of a potential exceedance of the relevant noise emission criteria, an investigation will be undertaken. Consideration will be given to the margin of exceedance and the source of emission, if it has been identified. The noise, weather and plant operating data shall be documented so that the matter can be investigated and appropriate actions undertaken accordingly.

Additional noise measurement methods such as near field monitoring or unattended directional noise monitoring may be utilised to investigate noise emissions in relation to noise complaints, or to determine compliance with the Project Approval conditions where potential non-compliances have been measured or are difficult to quantify from operator-attended or unattended noise measurements.

The results of noise monitoring will be included in the AEMR. Details of any exceedances and results of related investigations will be reported to the relevant authorities.

The protocol for managing non-compliances is provided in **Section 14**.

### 13.3 Incident Reporting

Condition 6 of Schedule 5 of the Project Approval requires that Charbon Colliery notify the Director-General and any other relevant agencies of any incident associated with the project as soon as practicable after they become aware of an incident. A detailed incident report should be submitted to the Director-General and relevant agencies within 7 working days of the incident.

### 13.4 Annual Review

By 31<sup>st</sup> March 2011, and annually thereafter, Charbon Colliery shall submit to the Director-General a report reviewing the annual environmental performance of the project. The contents of the required report are detailed in Condition 3 ((a) to (f)) Schedule 5 of the Project Approval.

## **14 PROTOCOL FOR MANAGING COMPLAINTS AND/OR NON-COMPLIANCES**

### **14.1 Complaints Handling**

All complaints received regarding operational noise emissions from the Project should be responded to within 24 hours by appropriate Centennial personnel.

Centennial will keep a record of any complaint made to Charbon or any employee or any agent of Charbon in relation to noise from the Project site. Records will include:

- Date and time of complaint.
- Method by which the complaint was made.
- Personal details of the complainant (if provided).
- Nature of the complaint.
- Weather conditions corresponding to the time of the complaint.
- Action taken by Centennial and any follow up actions.
- If no action was taken, the reason why no action was taken.

### **14.2 Non-Compliance Response Procedure**

In the event of a measured exceedance of the relevant noise emission criteria or a complaint being received with regard to noise, the following actions should be undertaken:

- Identify the noise source that has caused the complaint/exceedance. This would be done by consultation with the complainant and/or by conducting a noise survey to quantify the relevant noise emissions. Additional methods such as near field monitoring, unattended noise monitoring or computer noise modelling may be utilised to investigate noise emissions in relation to noise complaints, or to determine compliance with the PA conditions where potential non-compliances have been measured or are difficult to quantify from operator-attended noise measurements.
- Reassess the noise reduction techniques employed at the site and implement additional noise controls including relocating and/or modifying mining activities to reduce impacts.
- Conduct a further investigation, following the adoption of noise controls, to evaluate the effectiveness of the mitigation strategy.
- Report details of any non-compliance and the results of noise monitoring/investigations to relevant agencies as soon as possible.

## **15 COMMUNITY CONSULTATION**

Condition 5 Schedule 5 of the Project Approval states that Charbon Colliery shall establish a Community Consultative Committee (CCC) for the project. The CCC must be operated in general accordance with the *Guidelines for Establishing and Operating Community Consultative Committees for Mining Projects (Department of Planning, 2007)*.

## **16 PERFORMANCE INDICATORS**

Compliance of this NMP with the Project Approval conditions and any other relevant agency requirements will be measured according to the following performance indicators:

1. Compliance with relevant noise criteria at monitoring locations;

2. The frequency and nature of complaints reported to the mine in relation to noise;
3. Contractor and employee awareness of the company's Environmental Policy and this NMP; and
4. Compliance with this NMP, as indicated by statutory reporting.

## 17 PERIODIC REVIEW

In line with Condition 8 of Schedule 5 of the Project Approval, by 31 December 2011 and every 3 years thereafter, an Independent Environmental Audit shall be carried out by Charbon Colliery.

Review of the management plan will also take place if monitoring records indicate that it is warranted or in the event of any significant change to noise quality management procedures at the Project Site.

Any modifications to the NMP will be undertaken in consultation with the appropriate government agencies.

## 18 CONTINUAL IMPROVEMENT

Schedule 3, Condition 8 of the Project Approval states the following:

### *Continuous Improvement*

10. *The Proponent shall:*

- a) *implement all reasonable and feasible mitigation measures;*
- b) *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*
- c) *report on these investigations and the implementation and effectiveness of these measures in the Annual Review,*

*to the satisfaction of the Director-General.*

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 mitigation and management measures, Charbon Colliery will continue to improve on the mine's acoustic performance with progress to be monitored against performance indicators noted in **Section 16**.

## 19 REFERENCES

- NSW Government Department of Planning, Project Approval (Charbon Coal Project) Section 75J of the *Environmental Planning & Assessment Act 1979* dated 7 September 2010
- NSW Department of Environment, Climate Change and Water, "*Approved Methods for Sampling and Analysis of Air Pollutants in New South Wales*" (2005).
- NSW Department of Environment, Climate Change and Water, "*Industrial Noise Policy*" (2001).
- NSW Department of Planning, "*Guidelines for Establishing and Operating Community Consultative Committees for Mining Projects*" (2007).
- Standards Australia
  - AS 2923-1987 "*Ambient Air-Guide for Measurements of Horizontal Wind for Air Quality Applications*".
  - AS 1055-1997 "*Acoustics - Description and Measurement of Environmental Noise*"
  - AS IEC 61672.1 – 2004 *Electroacoustics—Sound level meters - Specifications*

- AS 3580.1.1:2007 *“Methods for sampling and analysis of ambient Air - Guide to siting air monitoring equipment”*
- Centennial Coal, *“Environmental Assessment - Continued Operation of the Charbon Colliery”* (2009).
- Heggies Pty Ltd, *“Continued Operation of the Charbon Colliery – Noise and Blasting Assessment – Specialist Consultant Studies Compendium: Part 1 – Report Number 753/03”* (November 2009).

