

# **NOISE MANAGEMENT PLAN**

WAMBO COAL PTY LIMITED

February 2014

# Wambo Coal Pty Limited Environmental Management System

Noise Management Plan

# **Document Control**

Document No	EMP011	
Title	Noise Management Plan	
General Description	Noise Management at WCPL	
Key Support Documents	WCPL Environmental Management System	
	Development Consent – DA 305-7-2003, DA177-8-2004	

# Revisions

Rev No	Date	Description	Ву	Checked
0	June 2005	Original Draft	Resource Strategies	JT/TS
1	June 2005	Final Draft	Resource	JT/TS
2	Sept 2005	Revision 1	Resource Strategies	JT/TS
3	May 2007	Consolidation of Rail & Mine Plans	Hansen Bailey	SW
4	May 2012	Rail consent modification	WCPL	LJC
5	Sept 2013	DA305-7-2003 MOD13	WCPL	TF
6	Feb 2014	DA305-7-2003 MOD13	WCPL	TF

The nominated Coordinator for this document is	Manager: Environment and Community
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# Terminology

Descriptor	Definition
LA	The A-weighted root mean squared (RMS) noise level at any instant
LA10	The noise level which is exceeded for 10 per cent of the time, which is
	approximately the average of the maximum noise levels
LA90	The level exceeded for 90 per cent of the time, which is approximately the
	average of the minimum noise levels. The LA90 level is often referred to as
	the "background" noise level and is commonly used to determine noise
	criteria for assessment purposes
LAeq	The average noise energy during a measurement period
Lpk	The unweighted peak noise level at any instant
dB(A)	Noise level measurement units are decibels (dB). The "A" weighting scale
	is used to describe human response to noise
SPL	Sound pressure level (SPL), fluctuations in pressure measured as 10 times a
	logarithmic scale, the reference pressure being 20 micropascals
SEL	Sound exposure level (SEL), the A-weighted noise energy during a
	measurement period normalised to one second
Hertz (Hz)	Cycles per second, the frequency of fluctuations in pressure, sound is
	usually a combination of many frequencies together
ABL	Assessment background level (ABL), the 10th percentile background noise
	level for a single period (day, evening or night) of a 24 hour monitoring
	period
RBL	Rating background level (RBL), the background noise level for a period
	(day, evening or night) determined from ABL data
Day	This is the period 7:00am to 6:00pm
Evening	This is the period 6:00pm to 10:00pm
Night	The period 10:00pm to 7:00am

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# 1.0 INTRODUCTION

# 1.1 BACKGROUND

The Wambo Mining Complex (WMC) is owned and operated by Wambo Coal Pty Limited (WCPL) a subsidiary of Peabody Energy Australia Pty Limited.

The WMC is an open cut and underground coal mining operation and is situated approximately 15 kilometres west of Singleton, near the village of Warkworth, New South Wales (see **Figure 1**). Mining under the current Development Consent (DA 305-7-2003) commenced in 2004 and permits both open cut, underground operations and associated activities to be conducted. The approved run-of-mine (ROM) coal production rate is 14.7 million tonnes per annum and all product coal is transported from WCPL by rail.

An aerial photograph of WCPL, illustrating the approved extent of the open cut and underground mine operations and key infrastructure is provided on **Figure 2**. A summary of the approved Wambo Coal Mine is provided in **Table 1**.

**Table 1: Summary of the Approved Wambo Coal Mine** 

Life of Mine	21 years (from the date of the commencement of Development Consent [DA 305-7-2003]). 1 <sup>st</sup> March 2025
Open Cut Mining	Open cut mining at a rate of up to 8 Mtpa of ROM coal from the Whybrow, Redbank Creek, Wambo and Whynot Seams.
	An estimated total open cut ROM coal reserve of 98 Mt.
	Open cut mining operations under current approved MOP.
Underground Mining	Underground mining of up to 7.5 Mtpa of ROM coal from the Whybrow, Wambo, Arrowfield and Bowfield Seams.
	Underground ROM coal reserves are estimated at 104 Mt.
Subsidence Commitments and Management.	The subsidence performance measures listed in Conditions 22 and 22A of the Development Consent (DA 305-7-2003).
ROM Coal Production Rate	Up to 14.7 Mtpa of ROM coal.
Total ROM Coal Mined	• 202 Mt.
Waste Rock Management	Waste rock deposited in open cut voids and in waste rock emplacements adjacent open cut operations.
Total Waste Rock	640 million bank cubic metres (Mbcm).
Coal Washing	Coal handling and preparation plant (CHPP) capable of processing approximately 1,800 tonnes per hour (tph).
Product Coal	Production of up to 11.3 Mtpa of thermal coal predominantly for export.
CHPP Reject Management	Coarse rejects and tailings would be incorporated, encapsulated and/or capped within open cut voids in accordance with existing Wambo management practices.
Total CHPP Rejects	Approximately 27 Mt of coarse rejects and approximately 18 Mt of tailings.
Water Supply	Make-up water demand to be met from runoff recovered from

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tailings storage areas, operational areas, dewatering, licensed
extraction from Wollombi Brook and Hunter River.

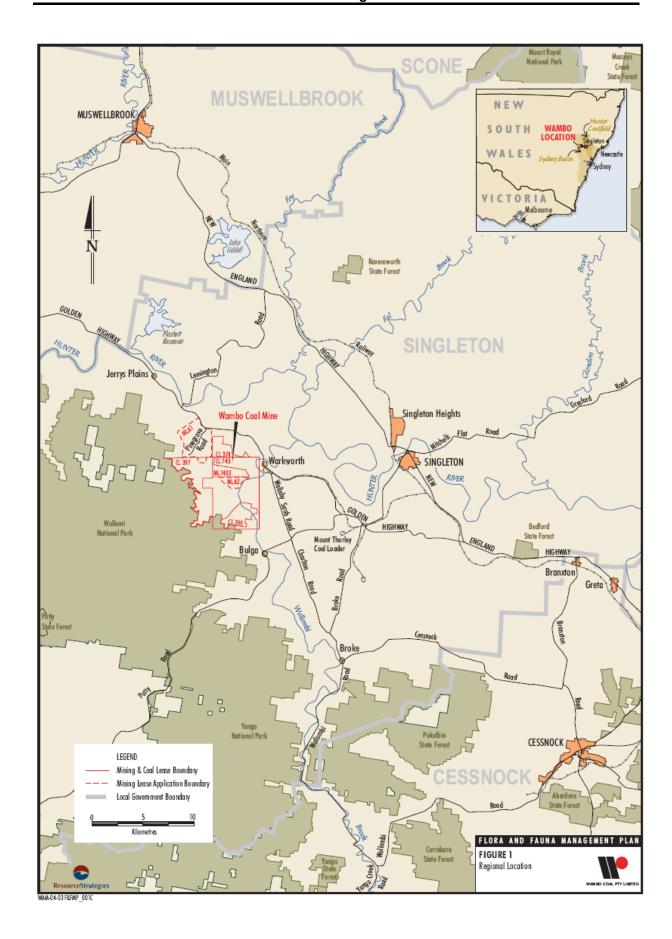
**Note:** <sup>1</sup> Development Consent DA 305-7-2003 (as modified December 2012)

In accordance with Condition 9, Schedule 4 of DA305-7-2003, WCPL is required to prepare a Noise Management Plan (NMP) for the Wambo Mine Complex (WMC). This NMP has been prepared in accordance with:

- Development consent DA 305-7-2003, Schedule 4, Consent Conditions 6, 7, 8 & 9;
- Development consent DA 305-7-2003, Schedule 6, Consent Conditions 3 & 4;
- Development Consent DA 177-8-2004, Schedule 4, Consent Conditions 3,6,7,7A & 7B; and
- Environment Protection Licence No.529 (EPL 529) Condition L4.

The applicable consent conditions and where they are addressed within the corresponding sections of this NMP are outlined in **Table 2**, **3 and 4**. All regulatory correspondence related to the NMP is included in **Appendix A**.

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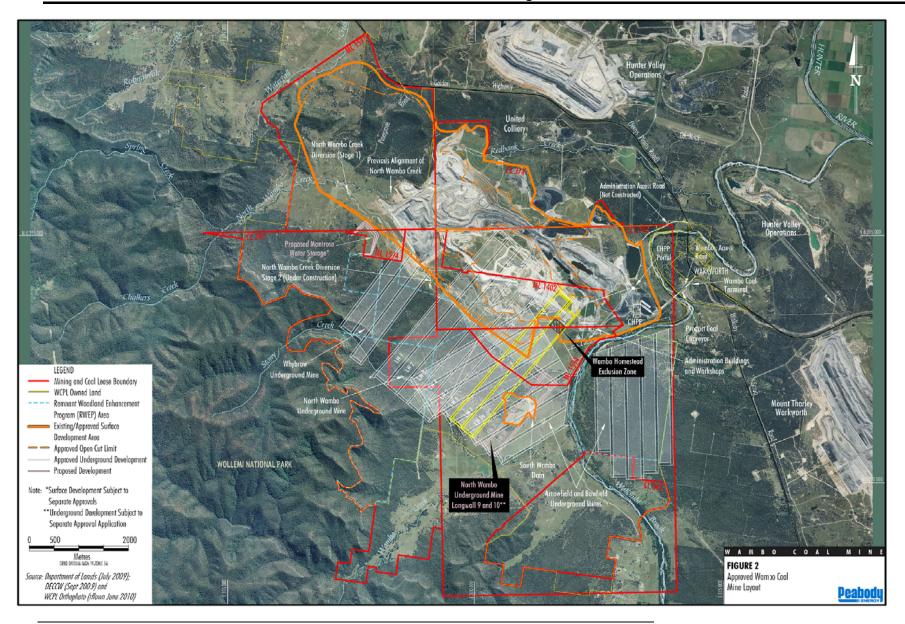


Table 2: DA305-7-2003 Requirements for the Noise Management Plan

Schedule	Condition		DA 30	5-7-2003 NMP Section	on	
	6	The Applicant shal	Noise Impact Assessment Criteria The Applicant shall ensure that the noise generated by the Wambo Mining Complex does not exceed the noise impact assessment criteria presented in Table 9.			
		Day	Evening/Nig	_	Land Number ^	
		L <sub>Aeq</sub> (15 minute)	L <sub>Aeq</sub> (15 minut	e) LA1 (1 minute) 50	94 - Curlewis	
		35	40	50	3 - Birrell  4B - Circosta  15B - McGowen / Caslick  16 - Cooper  25 - Fenwick  28A & B - Garland	
					33 - Thelander / O'Neill 39 - Northcote 40 - Muller 254A - Algie 5 -Strachan	
		35	39	50	6 - Merrick 7 - Maizey 37 - Lawry	
		35	38	50	48 - Ponder 1 - Brosi 17 - Carter 18 - Denney 38 - Williams 49 - Oliver 63 - Abrocuff 75 - Barnes 91 - Bailey 27 - Birralee	
		35	37	50	43 - Carmody 137 - Woodruff 163 - Rodger / Williams 246 - Bailey	
		35	36	50	13B - Skinner 178 - Smith 188 - Fuller 262A, B & C - Moses	
		35	35	50	All other residential or sensitive receptors, excluding the receptors listed in condition 1 above	
	12	with the relevant re conditions), of the Land Acquisitio If the noise genera 10, the Applicant s landowner, acquire	by the Wambo equirements, an NSW Industrial on Criteria ated by the Wamhall, upon recei	Mining Complex is to be dexemptions (including Noise Policy.  Abo Mining Complex exiting a written request in the second	be measured in accordance of certain meteorological exceeds the criteria in Table for acquisition from the edures in conditions 9-11 of	
		Schedule 5.  Day/Evening	g/Night	Allowable e	exceedance	
		LAeq(15 mi) 43	9	4 - Curlewis 3C – Kannar 54A - Algie		
		40	A e	II other residential	or sensitive receptor, s listed in condition 1	

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Schedule	Condition	DA 305-7-2003 NMP Section	
		Note: Noise generated by the Wambo Mining Complex is to be measured in accordance with the notes presented below Table 9 above.	
4	8	Operating Conditions The Applicant shall: (a) implement best management practice to minimise the operational, low frequency and traffic noise of the Wambo Mining Complex; (b) operate a comprehensive noise management system for the Wambo Mining Complex that uses a combination of predictive meteorological forecasting and realtime 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 consent; (c) maintain the effectiveness of noise suppression equipment (if fitted) on plant at all times and ensure defective plant is not used operationally until fully repaired; (d) ensure that noise attenuated plant (if used) is deployed preferentially in locations relevant to sensitive receivers; (e) minimise the noise impacts of the Wambo Mining Complex during meteorological conditions when the noise limits in this consent do not apply; (f) co-ordinate the noise management for the Wambo Mining Complex with the noise	Section 3 Section 3 Section 3.3 Section 3.3 Section 3.3 Section 3.3
		management at nearby mines (including HVO South, HVO North and Mt Thorley Warkworth mines) to minimise the cumulative noise impacts of these mines and the Wambo Mining Complex, to the satisfaction of the Director-General.	Section 6
	9.	Noise Management Plan The Applicant shall prepare and implement a Noise Management Plan for the Wambo Mining Complex to the satisfaction of the Director-General. This plan must:  (a) be prepared in consultation with the EPA, and submitted to the Director-General for approval by the end of June 2013;  (b) describe the measures that would be implemented to ensure:  • best management practice is being employed;  • the noise impacts of the Wambo Mining Complex are minimised during meteorological conditions when the noise limits in this consent do not apply; and  • compliance with the relevant conditions of this consent;  (c) describe the proposed noise management system in detail;  (d) include a monitoring program that:  • uses a combination of real-time and supplementary attended monitoring measures to evaluate the performance of the Wambo Mining Complex;	Section 1 Appendix A Section 3 Section 5 Section 3.3
		Noise Management Plan cont.	
		<ul> <li>adequately supports the proactive and reactive noise management system for the Wambo Mining Complex;</li> <li>includes a protocol for determining exceedances of the relevant conditions in this consent;</li> <li>evaluates and reports on the effectiveness of the noise management system for the</li> </ul>	Section 3.3 Section 5
		Wambo Mining Complex;  • provides for the annual validation of the noise model for the Wambo Mining Complex; and  (e) include a protocol that has been prepared in consultation with the owners of nearby mines (including HVO South, HVO North and Mount Thorley Warkworth mines)	Section
		to minimise the cumulative noise impacts of these mines and the Wambo Mining Complex.	Section 6
5	3	Adaptive Management The Applicant must assess and manage project-related risks to ensure that there are no exceedances of the criteria and/or performance measures in schedule 4.	Section 7.3
		Any exceedances of these criteria and/or performance measures constitutes a breach of this consent and may be subject to penalty or offence provisions under the EP&A Act or EP&A Regulation.	Section 1.6

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Schedule	Condition	DA 305-7-2003 NMP Section	
		Where any exceedance of these criteria and/or performance measures has occurred, the Applicant must, at the earliest opportunity:  (a) take all reasonable and feasible steps to ensure that the exceedance ceases and does not recur;  (b) consider all reasonable and feasible options for remediation (where relevant) and submit a report to the Department describing those options and any preferred remediation measures or other course of action; and  (c) implement remediation measures as directed by the Director-General,	Section 7.1 Section 7.2
		to the satisfaction of the Director-General.	Section 8.3
			Section 8.3
6	4	Management Plan Requirements  The Applicant shall ensure that the management plans required under this consent are prepared in accordance with any relevant guidelines, and include:  (a) detailed baseline data; (b) a description of:  - the relevant statutory requirements (including any relevant consent, licence or lease conditions);  - any relevant limits or performance measures/criteria;  - 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 2.1 Section 1.0 Section 1.5 Section 4.0
		(c) a description of the measures that would be implemented to comply with the relevant statutory requirements, limits, or performance measures/ criteria; (d) a program to monitor and report on the:  - impacts and environmental performance of the Wambo Mining Complex;  - effectiveness of any management measures (see c above);  (e) a contingency plan to manage any unpredicted impacts and their consequences; (f) a program to investigate and implement ways to improve the environmental performance of the Wambo Mining Complex over time;  (g) a protected for managing and reporting any.	Section 3.0  Section 5.0  Section 7.0  Section 8.0
		<ul> <li>(g) a protocol for managing and reporting any: <ul> <li>incidents;</li> <li>complaints;</li> <li>non-compliances with statutory requirements; and</li> <li>exceedances of the impact assessment criteria and/or performance criteria; and</li> </ul> </li> <li>(h) a protocol for periodic review of the plan.</li> </ul>	Section 7.3 Section 7.0
		(A) - Filester (a) Bottom of the Bottom of t	Section 7.0 Section 8.0
			Section 9.0

Notes: Violet represents January 2007 Modification
Taupe represents December 2012 Modification

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Table 3: DA177-8-2004 Requirements for the Noise Management Plan

7	3	The Applicant shall ensure that noise generated by the development, combined with noise generated by any development in the Wambo Mining Complex, does not exceed the noise criteria provided in Table 2, unless higher noise criteria are specified in the consent for the Wambo Coal Mine (DA 305- 7-2003).  Table 2: Noise impact assessment criteria dB(A)				Section 2.0 Section 3.0 Section 4.0
		Day L <sub>Aea</sub>	Evening/Night	Night L <sub>A1</sub>	Land Number	Section 5.0
		(15minute)	L <sub>Aeq (15 minute)</sub>	(1 minute)		
		35	35	50	All private residential or sensitive receptors, excluding the receptors listed in Table 1	Section 6.0 Section 7.0
		Notes:  Noise generated by the project is to be measured in accordance with the relevant requirements, and exemptions (including certain meteorological conditions), of the NSW Industrial Noise Policy.  For this condition to apply, the exceedance of the criteria must be systemic.  Table 1: Land Subject to Acquisition Upon Request  19 – L Kelly  55 - E & C Burley				
8	6	Rail Noise  The Applicant shall seek to ensure that its rail spur is only accessed by locomotives that are approved to operate on the NSW rail network in accordance with noise limits L6.1 to L6.4 in RailCorp's EPL (No. 12208) and ARTC's EPL (No. 3142) or a Pollution Control Approval issued under the former Pollution Control Act 1970.				Section 3.2.1
9	7 A - B	The Applicant shall monitor the noise generated by the development, and noise generated by the Wambo Mine, in general accordance with the Noise Management Plan for the Wambo Mining Complex and the NSW Industrial Noise Policy.				Section 5.0
		7A. By 28 February 2011, the Applicant shall review and update the Noise Management Plan for the Wambo Mining Complex, including a noise monitoring protocol for evaluating compliance with the criteria in condition 3 above.				Section 9.0
		7B. During the first 12 months of operation of the Rail Refuelling Facility, the Applicant must conduct attended noise monitoring at the nearest private receptor during refuelling events, no less often than every three months.				Section 3.2.1

# 1.2 WAMBO RAIL DEVELOPMENT

DA177-8-2004 was granted in 2004 for the Wambo Rail Development (WRD). Blasting activities required for the construction of the WRD ceased in 2005. Rail loading activities utilising the WRD by WCPL commenced in April 2006.

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Table 4: EPL 529 Requirements for the Noise Management Plan

L4 Noise Limits	table below. The no premises.	pise limits in the table	nust not exceed to be below represent se Limits dB(A)	he noise limits presented in the the noise contribution from the	
	Day	Evening/Night	Night	Receiver Land Number	
	L <sub>Aeq (15 minute)</sub>	L <sub>Aeq (15 minute)</sub>	L <sub>A1 (1 minute)</sub>		
	35	41	50	94 - Curlewis	
				3 - Birrell 4B - Circosta 15B - McGowen / Caslick 16 - Cooper 25 - Fenwick	
	35	40	50	28A & B - Garland 33 - Thelander / O'Neill 39 - Northcote 40 - Muller	Section 4.3.1
	35	39	50	254A - Algie 5 -Strachan 6 - Merrick 7 - Maizey 37 - Lawry 48 - Ponder	Section 4.1
	35	38	50	1 - Brosi 17 - Carter 18 - Denney 38 - Williams 49 - Oliver 63 - Abrocuff 75 - Barnes 91 - Bailey	Section 4.1
	35	37	50	27 - Birralee 43 - Carmody 137 - Woodruff 163 - Rodger / Williams 246 - Bailey	Section 4.2
	35	36	50	13B - Skinner 178 - Smith 188 - Fuller 262A, B & C - Moses	Section 4.2
	35	35	50	All other residential or sensitive receptors excluding the receptors listed above and also excluding those listed in Table 1 of Schedule 4 of the Wambo Coal Mine Development Consent (DA 305-7-2003).	

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L4.2 For the purpose of Condition L4.1:  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 d) The Receiver Land Owner locations are as detailed in the Environmental Impact Statement titled "Wambo Development Project", Volumes 1-5 dated July 2003 and prepared by Resource Strategies Pty Ltd.  L4.3 Noise from the premises is to be measured at the most affected point or within the residential boundary or at the most affected point within 30m of the dwelling (rural	
situations) where the dwelling is more than 30m from the boundary to determine compliance with the LAeq(15 minute) noise limits in condition L4.1.	
Where it can be demonstrated that direct measurement of noise from the premises is impractical, the EPA may accept alternative means of determining compliance. See Chapter 11 of the NSW Industrial Noise Policy.	
The modification factors presented in Section 4 of the NSW Industrial Noise Policy shall also be applied to the measured noise levels where applicable.	
L4.4 Noise from the premises is to be measured at 1m from the dwelling façade to determine compliance with the LA1(1minute) noise limit in condition L4.1.	
L4.5 The noise emission limits identified in condition L4.1 apply under meteorological conditions of:  a) Wind speeds of up to 3m/s at 10 metres above the ground level; or b) Temperature inversion conditions of up to 30C/100m and wind speeds of up to 2m/s at 10 metres above the ground.	

## 1.3 PURPOSE AND SCOPE

**Purpose:** The purpose of this NMP is to describe WCPL noise management and mitigation strategies, procedures, controls and monitoring programs that are to be implemented for the management of mining and associated activities as described within the Wambo Development Project Environmental Impact Statement 2003 (2003 EIS) (hereafter referred to as either the Project Area or the Wambo Mine Complex (WMC)).

**Scope:** This NMP applies to all mining and associated activities to be undertaken within WCPL's mining authorisations and approved mining areas.

# 1.4 STRUCTURE OF THE NOISE MANAGEMENT PLAN

This NMP forms part of WCPL's Environmental Management System (EMS) for the WMC. The relationship of this NMP to the EMS is shown in **Figure 4**.

The NMP is structured as follows:

Section 1: Introduction & statutory requirements
Section 2: Summary of baseline data review

Section 3: Noise mitigation measures

Section 4: Noise specific criteria & restrictions

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# **WCPL - Noise Management Plan**

**Section 5:** Outlines the noise monitoring program

**Section 6:** Cumulative noise management & community response

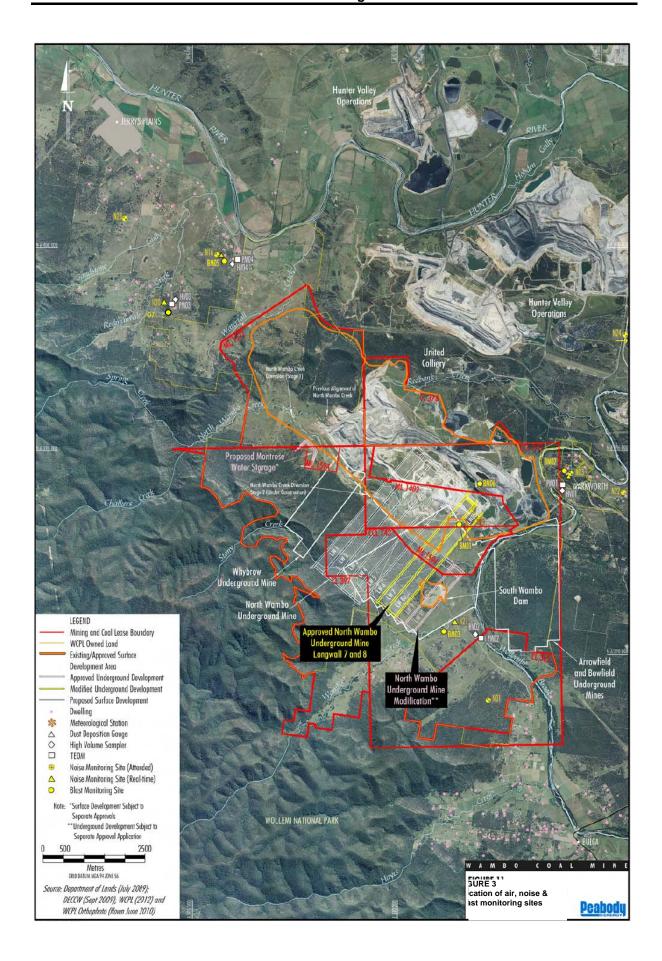
**Section 7:** Performance evaluation & mitigation strategies & adaptive management

Section 8: Review, reporting framework & incident reporting

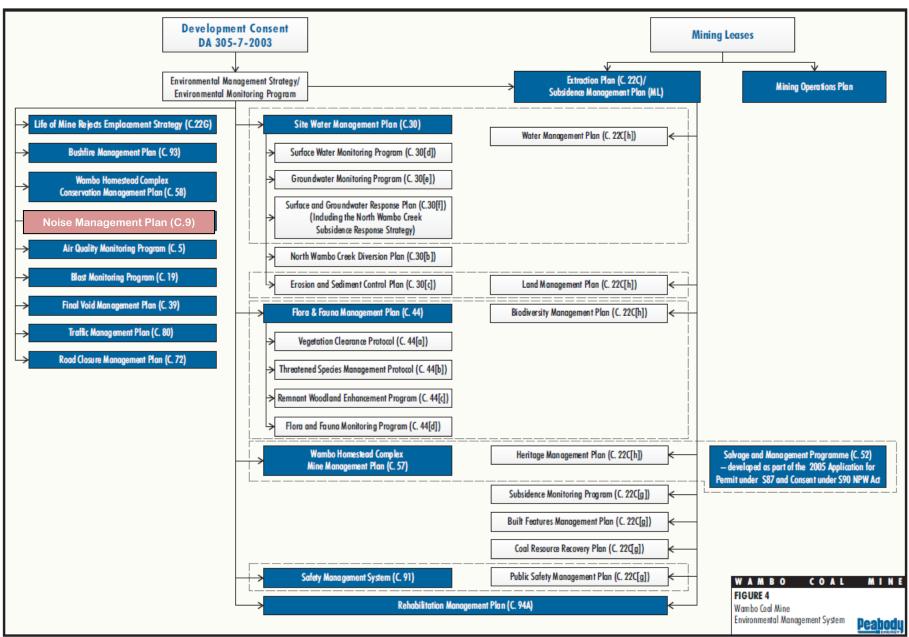
Section 9: Responsibility Matrix

Section 10: References

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#### 1.5 STAKEHOLDER CONSULTATION

As required Condition 9, Schedule 4 of DA305-7-2003, WCPL must prepare and submit a NMP for the development to the satisfaction of the Director-General by the end of June 2013 in consultation with the Department of Planning and Infrastructure (DP&I), and the NSW Environment Protection Authority (EPA). For all correspondence in relation to the NMP, please refer to **Appendix A**.

# 1.6 STATUTORY REQUIREMNTS

A number of key legislative instruments relevant to this NMP, but not limited to, are provided in this section with a summary of their relevance to this NMP. Further details of the relevance of each of the relevant pieces of legislation can be found on the website <a href="https://www.legislation.nsw.gov.au">www.legislation.nsw.gov.au</a>.

As detailed in Condition 3, Schedule 6 of DA305-7-2003, any exceedance of the noise criteria as detailed in **Section 4** and/or performance measures constitutes a breach of this consent and may be subject to penalty or offence provisions under the EP&A Act or EP&A Regulation.

# 1.6.1 Environmental Planning & Assessment Act 1979

WCPL received Development Consent (DA305-7-2003) in accordance with the *Environmental Planning & Assessment Act 1979* (EP&A Act) from the NSW Department of Planning and Infrastructure (DP&I), formerly NSW Department of Planning, on 04 February 2004. A summary of the approved Wambo Coal Mine is provided in **Table 1**. There are specific conditions within DA305-7-2003 in relation to noise WCPL must comply with. These conditions are presented in **Tables 2 & 3**.

# 1.6.2 Mining Act 1992

The NSW Mining Act 1992 (Mining Act) is administered by NSW Department of Trade and Investment (DTI), on behalf of the Minister for Mineral Resources and, amongst other legislative instruments, places controls on methods of exploration and mining, the disposal of mining waste, land rehabilitation, and environmental management activities. A mining lease granted under the Mining Act entitles the leaseholder to mine coal from a deposit. WCPL currently holds several mining leases and exploration licences (see WCPL's Mining Operations Plans) over the Project Area.

## 1.6.3 Protection of the Environment Operations Act 1997

WCPL operates under Environmental Protection Licence 529 (EPL 529), issued by the NSW Office of Environment & Heritage (OEH), formerly the Department of Environment, Climate Change and Water (DECCW), under the authority of the *Protection of the Environment Operations Act 1997.* EPL 529 also covers WCPL's activities at the mine and rail spur. There are specific conditions within EPL 529 in relation to noise WCPL must comply with. These conditions are presented in **Table 4**.

A Pollution Incident Response Management Plan (PIRMP) has been prepared by WCPL, as holder of Environment Protection Licence No.529 (EPL 529) in accordance with Part 5.7A of the *Protection of the Environment Operations Act 1997* (POEO Act) and Part 3A of the *Protection of the Environment Operations (General) Regulation 2009* (Regulation). For more information regarding WCPL protocol for reporting environmental incidents please refer to **Section 9.3**.

#### 1.6.4 Industrial Noise Policy

The NSW Industrial Noise Policy was released on 16 December 1999, following widespread public consultation on the draft policy. It aims to balance the need for industrial activity with the desire for quiet in the community.

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# 2.0 EXISTING ENVIRONMENTAL BASELINES

#### 2.1 NOISE MONITORING DATA REVIEW

Noise monitoring at WCPL is described in **Section 5.0** of this NMP. In accordance with DA305-2003, WCPL have undertaken noise monitoring as required by the noise monitoring program since October 2005. WCPL are required by Condition 4, Schedule 6 of DA305-7-2003 to ensure all management plans include detailed baseline data. As described in **Section 9.0** of the NMP, all noise monitoring results are provided annually in the Annual Environmental Management Report (AEMR) and also provided on WCPL's website.

# 3.0 NOISE MITIGATION MEASURES

WCPL have implemented a number of noise management controls in order to mitigate any potential noise impacts from the operation. These noise management controls are typically classified into design controls and operational controls which are detailed further in **Section 3.1** and **Section 3.2** respectively. Generally noise emissions generated by mining operations are low frequency, usually less than 1000Hz. Therefore, WCPL is committed, where practicable and feasible to proactively manage noise propagation and emissions from the WMC by the amelioration of low frequency noise as they arise through the same methods employed to control overall operational noise emissions.

## 3.1 DESIGN CONTROL MEASURES

WCPL have designed and implemented a range of mine design features with consideration to the mitigation of noise for its operations. The following is a summary of existing and proposed design control measures, including:

- Construction of noise and visual bunds in strategic operational locations for example;
  - Constructed a noise/visual bund along the southern portion of the product coal stockpile area adjacent to the handling preparation plan (CHPP); and
  - Constructed a noise/visual bund along the south eastern portion of the rail loop/rail load out area.
- A CHPP with the following design considerations implemented, including;
  - A largely enclosed plant that effectively contains noise generated within the coal processing facility;
  - o Conveyors drives that are placed low to the floor level; and
  - Key components for the CHPP were procured with specific noise criteria.
- Minimising the disturbance of vegetation between the north western portion of the approved open cut boundary, providing a vegetative screen to mitigate sound dispersal on sensitive receivers to the north west;
- WCPL owns and manages considerable land around its operation to provide an adequate buffer between sensitive receivers to the south and to the north west (refer to **Figure 5**);
- The current open cut mine plan in the Montrose Pit area was specifically designed to utilise
  existing natural topography to the north and west to mitigate sound propagation to sensitive
  receivers to the north west;
- Overburden emplacement areas have been designed to minimise noise impact on sensitive receivers to the west and south
- Overburden emplacement areas will be designed in a manner to enable mining equipment to operate in protected areas during adverse weather conditions which may increase the propagation of noise emission from WCPL;

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- WCPL currently and will continue to implement low level dumping procedures when conditions indicate possible increase noise propagation and/or when real time noise monitor trigger alarms indicate that possible noise propagation is sourced from the mine complex
- WCPL propose a noise bund along a portion of the eastern boundary of the approved open cut to mitigate coal haulage noise from the South Bates area on sensitive receivers to the south and south east – to be completed by July 2014
- WCPL will investigate where appropriate, the installation of appropriate acoustic barriers around work areas where required. WCPL has implemented this for all Exploration drill rigs which are located close to sensitive receivers
- Both ventilation fans and associated coal conveyors for the North Wambo Underground mine have been installed inpit; and
- The proposed South Bates Underground ventilation fan and associated conveyors shall be installed inpit to mitigate noise propagation.

# 3.2 OPERATIONAL CONTROL MEASURES

WCPL is committed to implementing best practice noise management measures to minimise noise impacts, particular low frequency noise and traffic noise from its operations. A number of proactive management measures to minimise noise generation from WCPL operations, including:

- Regular maintenance of plant and equipment and pre-start up inspections;
- All machinery and potential noise emitting plant and equipment shall be operated by experienced and appropriately trained personnel;
- The installation of an inaudible horn system ("Hornless Horns) across the entire open cut fleet to eliminate the use of audible horns (Note: In cases of Emergency, audible horns may be required);
- The installation of reversing "quakers" to mitigate noise propagation from reversing fleet vehicles shall be fitted;
- Positioning of portable generators and/or machinery to take advantage of barriers to mitigate sound travel and/or positioned at the greatest distance from the noise-sensitive area;
- Plant and equipment is turned off or throttled down when not in use;
- Restricting movement of haul trucks on ridgelines or exposed haul routes where their noise may propagate over a wide area, especially at night;
- Scheduling the use of noisy equipment at the least sensitive time of day;
- Orienting equipment so that noise emissions are directed away from any sensitive areas to achieve the maximum attenuation of noise;
- During adverse conditions restrict heavy vehicle traffic on exposed haul roads and access tracks where noise can propagate off site and potentially cause a noise risk;
- Where there are several noisy pieces of equipment, scheduling operations so they are used separately rather than concurrently;
- Haul trucks are parked in pit during Crib Breaks;
- During site inductions employees and contractors are provided information and training on:
  - potential noise impacts on neighbouring residents;
  - o reporting excessive noise to WCPL management;
  - o carryout quiet work practices; and
  - appropriate standards of behaviour when driving to and leaving site to minimise traffic noise.
- Conduct specific noise management training and noise monitoring for key operation WCPL personnel;

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- WCPL internal access roads are limited to a maximum speed of 60km/hr or lower in some areas
- All new equipment to site, purchased or hired, will be procured in line with EIS plant and
  mobile LAeq sound power levels (SWLs) specification for noise emissions to meet noise
  criteria at the nearest residences for the WMC and to ensure that operations are generally in
  accordance with the EIS modelled noise footprint;
- Where feasible, examine engineering controls including noise attenuation for trucks, drills and diggers, on mobile and stationary equipment that are potentially generating significant noise and which may impact on sensitive receivers;
- Key operational personnel to monitor WCPL real time noise monitoring network to assist in identifying when noise criteria levels in **Table 6** are approaching or have exceeded their respective criteria so that proactive measures can be implemented; and
- Non mine related construction activities will generally be undertaken between 7.00 am and 7.00 pm daily. Construction activities may occur outside these hours when WCPL is satisfied that such activities are inaudible at nearest private residences by an WCPL appointed acoustic specialist.
- A predictive weather modelling system is currently being developed and implemented by WCPL and a third party provider. A daily meteorological forecast report shall provide WCPL with an early warning of potential adverse conditions which facilitates proactive management of operational activities to reduce noise and dust generation potential. In the event that unfavourable meteorological conditions are identified, contingency measures (such as discussed above) will be implemented by WCPL to mitigate adverse noise propagation.

#### 3.2.1 Rail Noise

In addition and in accordance with DA177-8-2004, WCPL can confirm that its rail spur is accessed by locomotives that are approved to operate on the NSW rail network in accordance with noise limits L6.1 to L6.4 in RailCorp's EPL (No. 12208) and ARTC's EPL (No. 3142) or a Pollution Control Approval issued under the former Pollution Control Act 1970

# 3.3 PROACTIVE NOISE MANAGEMENT MEASURES

Proactive noise management at WCPL shall be implemented by way of real time unattended noise monitoring (see **Section 3.3.1** & **Section 5.2**) and predicative meteorological forecasting (see **Section 3.3.2**). The audio, noise and local meteorological data from each of the real time noise monitoring units can be streamed in real time to a dashboard display (see **Figure 6**) for operational personnel to make informed decisions and implement where necessary appropriate contingency plans.

#### 3.3.1 Real Time Noise Monitoring

WCPL have a network of real time noise monitors providing continuous real time noise data that allows key operational personnel to monitor noise from the operations and if necessary undertake appropriate ameliorative measures. The unattended continuous noise monitoring network at WCPL has the ability to notify WCPL personnel via an SMS message system when monitoring results indicate noise levels at surrounding sensitive receivers is approaching, or has exceeded, relevant noise criteria in **Section 4.1**. For further details regarding the real time noise monitoring network and operation, please refer to **Section 5.2**.

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# 3.3.2 Predictive Meteorological Forecasting

WCPL have recently engaged a third party provider (WeatherZone) to provide a daily weather, noise and air quality forecasting service to assist operations in the prediction of likely adverse meteorological conditions that could potentially exacerbate noise and dust generation and emissions from the WMC. It is envisaged that a daily report is to be issued via email to key WCPL operational personnel, containing forecast meteorological conditions and predicted risks for noise and dust. At the time of publication, WCPL is still in the investigation and negotiation stage with the provider. WCPL is committed to implementing the predictive meteorological forecasting model and is expected to have the system installed by 1 March 2014.

The daily meteorological forecast reports shall provide WCPL with an early warning of potential adverse conditions which facilitates proactive management of operational activities to reduce noise and dust generation potential. In the event that unfavourable meteorological conditions are identified, contingency measures will be implemented by WCPL to mitigate adverse noise propagation.

#### 3.4 CONTINUOUS IMPROVEMENT

Where possible, WCPL will implement all reasonable and feasible best practice noise mitigation measures during the life of the operation. The basis for continuous improvement will consider implementation of new noise mitigation measures. Any new noise mitigation measures that are implemented as a result of these reviews will be reported in the Annual Environmental Management Report (AEMR) as required by Condition 5, Schedule 6 of DA305-7-203.

# 3.4.1 Training and Awareness

To ensure the effective implementation of this NMP, all WCPL personnel and contractors receive noise awareness information during the general introduction to site training. Additional information regarding noise management can also be provided via toolbox talks, pre start meetings and at the senior management meeting level as required.

Specific noise management training is also provided to key WCPL employees. This includes the use of noise sound level meters. The training is provided by WCPL's acoustic specialist and allows WCPL to verify noise levels at sensitive receivers to verify the status of the operations noise compliance and implementing appropriate contingencies measures if required.

## 4.0 NOISE CRITERIA

# 4.1 NOISE IMPACT ASESSMENT CRITERIA

Schedule 4, Condition 6 of DA305-7-2003, Schedule 4, Condition 3 of DA177-8-2004 and Condition L4.1 of EPL 529 provide that WCPL must not exceed the noise impact assessment criteria. These noise impact assessment criteria are provided in **Table 6** (and detailed in the following notes):

Table 6: Noise Impact Assessment Criteria dB(A)

Day L <sub>Aeq (15 minute)</sub>	Evening/Night L <sub>Aeg (15 minute)</sub>	Night L <sub>A1 (1 minute)</sub>	Land Number ^
35	41	<i>50</i>	94 - Curlewis
35	40	50	3 - Birrell 4B - Circosta 15B - McGowen / Caslick 16 - Cooper

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Day	Evening/Night	Night	Land Number ^
L <sub>Aeq (15 minute)</sub>	L <sub>Aeq</sub> (15 minute)	L <sub>A1 (1 minute)</sub>	
			25 - Fenwick
			28A & B - Garland
			33 - Thelander / O'Neill
			39 - Northcote
			40 - Muller
			254A - Algie
			5 -Strachan
			6 - Merrick
<i>35</i>	39	50	7 - Maizey
			37 - Lawry
			48 - Ponder
			1 - Brosi
			17 - Carter
			18 - Denney
25	20	50	38 - Williams
35	38	50	49 - Oliver
			63 - Abrocuff
			75 - Barnes
			91 - Bailey
			27 - Birralee
			43 - Carmody
<i>35</i>	37	50	137 - Woodruff
			163 - Rodger / Williams
			246 - Bailey
			13B - Skinner
25	27	50	178 - Smith
35	36	50	188 - Fuller
			262A, B & C - Moses
			All other residential or sensitive
<i>35</i>	35	50	receptors, excluding the receptors
33	35	50	listed in Condition 1, Schedule 4 of
			DA305-7-2003

**Notes:** Noise generated by the Wambo Mining Complex is to be measured in accordance with the relevant requirements, and exemptions (including certain meteorological conditions), of the NSW Industrial Noise Policy.

# 4.2 LAND ACQUISITION CRITERIA

If the noise generated by WCPL exceeds the criteria in **Table 7**, WCPL shall, upon receiving a written request for acquisition from the landowner, acquire the land in accordance with the procedures in Conditions 9-11 of Schedule 5.

Table 7: Land Acquisition Criteria dB(A)

Day/Evening/Night LAeq(15 minute)	Allowable exceedance
43	94 - Curlewis 23C – Kannar 254A - Algie
40	All other residential or sensitive receptor, excluding the receptors listed in Condition 1, Schedule 4 of DA305-7-2003

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**Note:** Noise generated by the Wambo Mining Complex is to be measured in accordance with the notes presented below Table 6 above.

# 5.0 NOISE MONITORING PROGRAM

# 5.1 NOISE MONITORING NETWORK

WCPL have established a noise monitoring network to assess the noise performance of the operation against the noise criteria provided in **Section 4.1**. The noise monitoring network (see **Table 8** and **Figure 3**) consists of:

- Four real time noise monitors (unattended noise monitoring);
- Four attended noise monitoring locations; and
- One attended rail pass-by monitoring location.

The location and type of monitoring equipment in the noise monitoring network has been strategically chosen and positioned around the WCPL operation to provide noise monitoring coverage. A summary of the attended and unattended noise monitoring is provided in **Table 7**.

**Approximate Co-ordinates** Residence Location **Frequency** (MGA 94, z56) **Type** N01 Mine & Rail Spur Lambkin Residence Attended Monthly 312215 6388801 Real-Time & Continuous & N03 Kelly Residence Mine 314207 6394362 Attended Monthly Real-Time & Continuous & N16 Muller Residence Mine 305806 6399670 Attended Monthly N20 Real-Time Thelander Residence Mine Continuous 304518 6398504 Wambo South N21 Real-Time Mine Continuous 311376 6390733 Residence N23 Redmanvale Road Attended Mine 303321 6400633 Monthly Curlewis\* N24 Attended Mine & Rail Spur N25 Dyson Residence\* Rail Pass-by Rail Spur

**Table 7: Attended and Unattended Noise Monitoring Locations** 

**Notes:** \* Locations N24 & N25 have been removed from monitoring program following long-term demonstration of compliance (no audible noise from Wambo). Monitoring of location N24 or N25 will recommence following receipt of complaints from the properties, or change in rolling stock used to transport coal from Wambo.

# 5.2 UNATTENDED REAL TIME NOISE MONITORING

WCPL have a network of unattended real time noise monitors providing continuous real time noise data that allows key operational personnel to monitor noise from the operations and if necessary undertake appropriate ameliorative measures. The unattended continuous noise monitoring network has the ability to notify relevant WCPL personnel via an SMS conditional alarm messaging system when monitoring results indicate noise levels at surrounding sensitive receivers is approaching, or has exceeded, relevant noise criteria in **Section 4.1**.

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The real time monitors record 15 minute statistical data (LA1, LA10 and LA90) and LAeq, 15min and LAeq, period noise levels. The real time monitors are also fitted with weather stations which measure wind speed, direction and rainfall.

The real time noise monitors have one-third octave frequency filtering capabilities to more accurately measure mining noise i.e. low frequency noise in the range of 20Hz to 630Hz. The ability to filter out higher frequencies enables the determination of noise impacts from mining activity to be performed with greater confidence and precision, since the atmosphere attenuates the high frequencies from mining activity before reaching receptors.

The SMS alarm is conditional and allows noise monitoring data to be combined with complex alarm rules which consider wind speed, rainfall, frequency, time of day and criteria. Alarms are transmitted via SMS and along with the noise monitoring results from each unit, are sent to WCPL database repository.

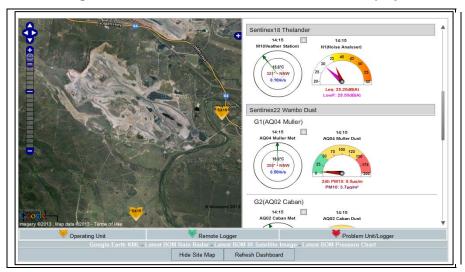


Figure 6: Real Time Noise & Dust Dashboard Display

The real time noise monitors record audio MP<sub>3</sub> files of the noise being monitored. The audio files can also be viewed via a dashboard display (see **Figure 6**) and downloaded from the database repository when there is:

- Evidence of a potential exceedance of WCPL's noise criteria;
- Supplemental data for noise investigations initiated in response to community complaints or noise exceedances; and
- Data that can be used to determine correlations between mining operations, meteorological conditions and environmental noise levels.

# 5.2.1 Real Time Noise Monitoring Trigger Levels

SMS alarms from the real time noise monitoring network will be triggered based on a noise level 2dBA below the relevant night time criterion<sup>1</sup> as displayed in **Table 6** of **Section 4.1**. The noise trigger levels

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<sup>&</sup>lt;sup>1</sup>Based on historical baseline data and community complaints in relation to operation noise, WCPL have not set day time SMS alarms. In general weather enhancing conditions are more likely to occur at night which has the greatest potential to cause an exceedance. This approach is consistent with the *NSW Draft Guidelines: Mining Noise Monitoring Application Note.* However WCPL will review the data in accordance with this Noise Management Plan to determine if there are compelling reasons to set day time SMS alarms. Please note that evening and night time noise level criteria are of the same.

are displayed in **Table 8**. WCPL operate a three tier SMS alarming system based on the noise levels measures at N16, N20 and N21. The three tier alarm system is as follows:

Level 1 No alerts (Green)

LEVEL 2 WCPL receive a noise warning alert SMS from Sentinex Units, registering 2dB below noise criteria and sustained for more than 15 mins

**LEVEL 3** WCPL receive a noise warning alert SMS from Sentinex Units, registering noise criteria has been reached and sustained for more than 15 mins

Table 8: Real Time Noise Monitoring L<sub>Aeq</sub> Trigger Levels

Site Ref	Site Location	Night (dBA)
N16	Muller Residence	38
N20	Thelander Residence	38
N21	Wambo South Residence	39
N03	Kelly Residence	38

WCPL have developed a Trigger Action Response Plan (TARP) (see **Section 7.6**) that provides contingency measures, responsibilities and management actions in response to Level 2 and Level 3 SMS alarms.

Figure 7: Real Time Noise Monitoring Unit at N20

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#### 5.3 ATTENDED NOISE MONITORING

WCPL attended noise monitoring shall be carried out monthly from January 2014 (previously, attended noise monitoring was conducted Quarterly), by an independent qualified noise specialist to measure and describe the acoustic environment at each attended monitoring location. The attended noise monitoring results are compared with noise criteria defined in **Section 4.1** to assess compliance and/or modelled EIS noise levels. Attended noise monitoring is considered the preferred method for determining compliance with prescribed limits because it allows for an accurate determination of the contribution made by industrial noise sources, if any, to measured ambient noise levels.

Operator attended noise measurements will be conducted during night period<sup>2</sup> operations to quantify noise emissions from WCPL as well as the overall level of ambient noise. Monitoring is generally not conducted in the evening period, as consent limits are the same for evening and night, and night period monitoring is considered a more suitable time to measure the source of interest.

Noise levels ( $LA_{max}$  and  $LA_{eq}$ ) from construction and operation activities will be quantified over a 15 minute measurement period. In addition, the overall levels of ambient noise (i.e.  $LA_{max}$ , LA1, LA10, LA50, LA90, and  $LA_{eq}$ ) over the 15 minute period will be quantified and characterised.

In accordance with Schedule 4, Condition 7A of the DA 177-8-2004, quarterly attended monitoring at the Kelly residence (N03) was undertaken to coincide with train refuelling, during the first 12 months of operation of the Wambo rail loop<sup>3</sup> locomotive provisioning facility. Following a demonstrated history of compliance, the monitoring has ceased. Monitoring will be reactivated if triggered by a resident complaint or a significant change or amendment to the approval in operations at the locomotive provisioning facility.

Measurement of rail pass-by noise levels has been removed from the monitoring program, following a demonstrated history of compliance. Monitoring will be recommenced if triggered by complaint, or change in rolling stock used to transport coal from WCPL.

Attended noise monitoring will be conducted at a representative location in accordance with the Environment Protection Authority (EPA) 'Industrial Noise Policy' (INP) guidelines and Australian Standard AS 1055 'Acoustics, Description and Measurement of Environmental Noise'.

Meteorological data from the WCPL meteorological station will be utilised to correlate atmospheric parameters and measured noise levels. Ground level atmospheric condition measurement is also undertaken during attended monitoring. In accordance with consent conditions, noise criteria only apply in meteorological conditions specified in the approval.

#### 5.4 SURVEY NOISE MONITORING

WCPL will conduct survey noise monitoring in response to complaints and/or in response to triggered alarms from the WCPL real time noise monitoring network. Survey noise monitoring at WCPL will be undertaken either by:

• appropriately trained WCPL personnel utilising industry standard sound level meters as a first response and shall be followed by;

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<sup>&</sup>lt;sup>2</sup>In general weather enhancing conditions are more likely to occur at night which has the greatest potential to cause an exceedance. This approach is consistent with the *NSW Draft Guidelines: Mining Noise Monitoring Application Note*. However WCPL will review the data in accordance with this Noise Management Plan to determine if there are compelling reasons revert back to day time attended monitoring. Please note that evening and night time noise level criteria are that same.

<sup>&</sup>lt;sup>3</sup>Nil history of audibility of train loading – therefore no attended monitoring required during train loading.

 WCPL acoustic specialist if investigations conclude that noise propagation is sourced from the WMC.

The results from survey noise monitoring will be used by the operations to verify WCPL noise contribution at sensitive receiver locations and assist management in determining an appropriate proactive course of action if noise levels are approaching or are at WCPL noise criteria levels.

Noise monitoring would usually be for a short duration of 3-5 minutes to allow multiple sites to be visited or revisited as appropriate. Acoustic techniques such as low pass filtering may be employed to assist in quantifying the contribution of noise from a particular mine to the overall noise catchment.

#### 5.5 METEOROLOGICAL STATION

The WCPL meteorological station is located approximately 350m east of the main WCPL administration/bathhouse building in accordance with Schedule 4, Consent Condition 10 of DA305-7-2003. Data from the meteorological station assists in the review of noise management practices and provides meteorological conditions applicable for attended and unattended noise monitoring. The WCPL meteorological station<sup>4</sup> monitors the following parameters, including:

- lapse rate (at 2m and 10m);
- rainfall;
- sigma theta at 10 m;
- temperature at 10 m;
- temperature at 2 m;
- solar radiation at 10 m;
- wind direction at 10 m; and
- wind speed at 10 m.

# 6.0 CUMULATIVE IMPACTS & COMMUNITY RESPONSE

#### 6.1 CUMULATIVE IMPACTS

As required by Schedule 4, Condition 9(e) of DA305-7-2003, WCPL shall include a protocol that has been prepared in consultation with the owners of the nearby mines including;

- Mount Thorley Operations;
- Warkworth Operations;
- Hunter Valley Operations (HVO South and HVO North); and
- Untied Collieries (Note: currently in caretaker mode: implemented when operational)

to minimise the cumulative impacts of these mines and the Wambo Mining Complex.

WCPL will monitor real-time noise monitoring network stations located in the vicinity of the above mines. If the real time monitor records a trigger level 3 as per Section 5.2.1, then upon investigation and validation of the alarm criteria and source of noise propagation, WCPL will provide notification to the above operations.

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<sup>&</sup>lt;sup>4</sup>The WCPL meteorological station is sited, operated and monitored in accordance with the requirements provided in AS 3580.14-2011 Methods for sampling and analysis of ambient air - Meteorological monitoring for ambient air quality monitoring applications.

#### 6.2 COMMUNITY COMPLAINT RESPONSE

All noise related community complaints received by WCPL will be recorded within the Community Complaints Register, maintained by the E&C Manager. The E&C Manager (or delegate) will contact the complainant within 24 hrs to acknowledge and receive complainant details. An investigation is to take place based on the information gathered from the complainant and shall be forwarded within 3 ordinary working days.

In the event that exceedances of noise criteria in **Section 4.1** and **Section 4.2** are detected, any affected landowner will be notified within fourteen ordinary working days of the confirmation of the exceedance by the E&C Manager.

# 6.2.1 Complaint's Register

Details of all community complaints will be included in the Monthly Environment Monitoring Report. The E&C Manager will retain a copy of the Community Complaints Register for at least four years. The E&C Manager (or delegate) will ensure the latest Community Complaints Register is posted on WCPL website.

# 6.2.2 Investigation and Response

Preliminary investigations will commence as soon as practicable upon receipt of a complaint. All efforts will be made to determine the likely causes contributing to the complainants concerns using information such as the climatic conditions at the time, the nature of activities taking place and recent monitoring results. Where possible, a response to the complainant will be provided within 2 ordinary working days.

WCPL will attempt to address the complainants concerns such that a mutually acceptable outcome is achieved for the parties involved.

# 6.2.3 Public Notification

WCPL operate a Community Enquires Line and Community Email address to enable the public to either make an enquiry or register a complaint regrading WCPL operations. The contact and email details for the community enquiries line and email address are:

- Community Enquiries Line (24 hr) –02 6570 2245
- E-mail Enquiries wambocommunity@peabodyenergy.com

On an annual basis WCPL advertise both the Community Enquires Line and Blasting Information Line contact details in local newspapers. WCPL are also required to notify the occupants of any land within 2 km of the site about this hotline or system on an annual basis.

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Peabody
Wambo Coal
Community Enquires Line
(02) 6570 2245
Blasting Information Line
(02) 8250 5205
Community Email Address
wambocommunity

Figure 6: Advertisement of WCPL Contact Details

# 7.0 EVALUATION OF PERFORMANCE

#### 7.1 ATTENDED NOISE EVALUATION

WCPL attended noise monitoring is carried out monthly (prior monitoring was conducted on a Quarterly basis), by an independent qualified noise specialist to measure and describe the acoustic environment at each attended monitoring location. The attended noise monitoring results are compared with noise criteria defined in **Section 4.1** to assess compliance and/or modelled EIS noise levels.

Attended noise monitoring is considered the preferred method for determining compliance with prescribed limits because it allows for an accurate determination of the contribution made by industrial noise sources, if any, to measured ambient noise levels.

If an exceedance of any noise criterion is identified from WCPL's attended noise monitoring program, the following actions in accordance with the *NSW Draft Guideline: Mining Noise Monitoring Application Note*, will be implemented.

A 15 minute reading shall be taken and assessed against applicable criteria. If the reading is below all criteria, then WCPL noise consultant will record the result, note the site has passed and move on to the next monitoring site.

If the noise level exceeds any criterion and is attributable to WCPL's operation and taken in valid meteorological conditions then the following steps are to be followed:

- 1. WCPL noise consultant to record the reading and advise the Environment and Community Manager (or delegate) a reading has exceeded a criterion and proceed to Step 2.
- Within 75 mins after the first reading (and no earlier than 10pm) a second 15 minute reading is to be taken. If this reading exceeds any criterion then proceed to Step 3 otherwise proceed to Step 4.
- 3. If the reading exceeds a criterion and is attributable to WCPL's operation and taken in valid meteorological conditions then proceed to Step 5.
- 4. WCPL noise consultant will record the result, note the site has passed, schedule an additional monitoring test to be undertaken at the site within 1 week, and move on to the next monitoring site. WCPL are to advise DP&I compliance officers of noise exceedance once known.

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5. WCPL noise consultant will record the result, note the site has failed and is deemed a 'noise affected night' at that site. An additional monitoring test should be scheduled to be undertaken at the site within 1 week, and move on to the next monitoring site.

# 7.2 REAL TIME NOISE EVALUATION

WCPL have a network of unattended real time noise monitors providing continuous real time noise data that allows key operational personnel to monitor noise from the operations and if necessary undertake appropriate ameliorative measures. The unattended continuous noise monitoring network has the ability to notify relevant operational personnel via an SMS conditional alarm messaging system when monitoring results indicate noise levels at surrounding sensitive receivers is approaching, or has exceeded, relevant noise criteria in **Section 4.1**.

If an exceedance of a noise criterion is identified from WCPL's attended noise monitoring program, the following actions from the Trigger Action Response Program (TARP) in **Section 7.6** shall be reviewed.

In addition, the real-time noise monitoring data will be accessed and checked daily by WCPL Environment and Community Coordinator (or delegate), which involves:

- Download noise graphs and if necessary the MP<sub>3</sub> file from WCPL's data repository for review;
- Identify any exceedances from noise graphs and verify if the noise is or is not associated with WCPL. This may be done by listening to the audio MP<sub>3</sub> file;
- Confirm that the noise event has not been triggered by meteorological condition including rainfall events and/or wind gusts greater than 3m/s (see Section 7.3); and
- Document the event following the procedures outline in Section 7.4 if there is an exceedence as a direct result from WCPL activities.

#### 7.3 DATA EXCLUSION

In order to exclude extraneous noise as well as noise affected by inclement weather from the real-time monitoring data in accordance with relevant procedures and exemptions (including certain meteorological conditions) of the NSW Industrial Noise Policy, the following exclusion rules shall apply:

- Low pass filter (12.5 Hz to 630Hz) to minimise extraneous noise, e.g birds, insects etc;
- LAeq,15min (low frequency) exceeds the LA10 noise level;
- LAeq,15min (low frequency) exceeds the previous LAeq,15min by more than 7dBA and followed by a rapid decrease noise level;
- Rainfall; and
- Winds exceeding 3m/s.

#### 7.4 NOISE EXCEEDENCE INVESTIGATION

Should an exceedance of criteria as described in **Section 4** be determined from attended noise monitoring or a noise complaint is received by WCPL, the noise exceedence/complaint will be recorded as an environmental incident and documented in the Environmental Incident Register. All reportable incidents will trigger an investigation lead by the Environment and Community Manager and other relevant personnel. Notification of reportable incidents to the relevant government authorities will be in accordance with **Section 9.3**. The following details will be recorded within the incident form and subsequent investigation, but not limited to:

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- Time of the noise exceedence;
- Location where attended monitoring identified exceedence;
- Meteorological conditions at the time;
- Potential contributing factors;
- Outcomes of preliminary site investigations;
- · Proposed corrective measures; and
- Determined as a reportable or non-reportable incident.

#### 7.5 MITIGATION STRATEGIES TO PREVENT REOCCURRENCES

In the event of a reportable noise exceedance, all corrective actions identified from the investigation process (as described in **Section 7.4**) will be implemented to mitigate the potential for a reoccurrence. Noise mitigation and corrective management measures will consider:

- Proximity of future operational activities to potential sensitive receivers;
- Open Cut Mine Manager to incorporate any identified improvements into noise mitigation measures as identified in Section 3 as a result of investigations; and
- Avoid possible contributors to the exceedance of the noise criteria for example poor meteorological conditions.

In an effort to avoid future exceedances, the Open Cut Mine Manager, in consultation with the E&C Manager, will assess and if necessary revise operational protocols. Any identified noise mitigation measures that can be implemented to avoid a reoccurrence of a reportable environmental incident and/or an exceedence of the noise criteria will be implemented as soon as practicable.

# 7.6 ADAPTIVE MANAGEMENT

WCPL have identified several applicable scenarios that pose a potential risk to achieving the outcomes of the NMP. A Trigger Action Response Plan (TARP) as provided by **Table 9** provides contingency measures, responsibilities and management for unforseen impacts as a result of operational activities.

**Table 9: Noise Trigger Action Response Plan** 

	Normal State	Community Complaint	Level 1 Response	Level 2 Response
Trigger	No alerts	Community     Complaint received	WCPL receive SMS alarm from Sentinex Unit, registering 2dB below noise criteria sustained for more than 15 mins	WCPL receive a noise warning alert SMS from Sentinex Unit, registering noise criteria has been reached and sustained for more than 15mins

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Action	E & C Manager to contact complainant for further clarification     Based on information gathered – Closest Sentinex Monitor real time data & audio files to be investigated     Meteorological conditions reviewed     Contact OCE / Production Supervisor to verify fleet operations	Review meteorological conditions for alarm validation     Download real time audio files and data for alarm validation     Contact OCE / Production Supervisor to validate fleet operations     Verify potential noise propagation source	Review meteorological conditions for alarm validation     Download real time audio files and data for alarm validation     Contact OCE / Production Supervisor to validate fleet operations     Verify potential noise propagation source
Response	If noise verification determines an exceedence of the period  Operational review to be undertaken of fleet locations  Further noise complaints shall trigger a review of noise results by an independent acoustic specialist.	If alarm verification is found correct — Operational review is to be commissioned by the Open Cut Manager, Environment & Community Manager, Open Cut Operations Manager and Production Supervisor Identify possible noise propagation source Independent review which may include attended noise monitoring Review to investigate possible alternate operational work procedures	If alarm verification is found correct — Operational review is to be commissioned by the Open Cut Manager, Environment & Community Manager, Open Cut Operations Manager and Production Supervisor Identify possible noise propagation source and cease operations until above review is completed Independent review which may include attended noise monitoring  Review to investigate possible alternate operational work procedures Monitor and review alternate operational work procedures to verify noise levels

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# 8.0 ADDTIONAL PROCEDURES FOR NOISE MANAGEMENT

#### 8.1 NOTIFY LANDOWNERS

If the results of the noise monitoring identify that the noise generated by the development are greater than noise impact assessment criteria in **Section 4**, then WCPL shall notify the relevant landowners and/or tenants as soon as practicable after identifying the exceedence.

#### 8.2 INDEPENDENT REVIEW

If a landowner considers WCPL to be exceeding noise impact assessment criteria listed in **Section 4** his/her dwelling, or at any proposed dwelling on his/her vacant land, then he/she may ask WCPL for an independent review of the noise impacts of the development on his/her dwelling, or proposed dwelling.

If the Director-General is satisfied that an independent review is warranted, WCPL shall:

- · consult with the landowner to determine his/her concerns; and
- commission a suitably qualified person whose appointment has been approved by the
  Director-General to conduct noise monitoring at the relevant dwelling to determine whether
  WCPL is complying with relevant impact assessment criteria, and identify the source(s) and
  scale of any noise impact at the dwelling, and the development's contribution to this impact.

Within 14 days of receiving the results of this independent review, WCPL shall give a copy of these results to the Director-General and landowner.

If the independent review determines that the WCPL is complying with relevant impact assessment criteria at the dwelling, then WCPL may discontinue the independent review with the approval of the Director-General.

If the independent review determines that the development is not complying with relevant impact assessment criteria at the dwelling, and that the development is primarily responsible for this non-compliance, then WCPL shall:

- take all practicable measures, in consultation with the landowner, to ensure that the
  development complies with relevant impact assessment criteria; and conduct further noise
  monitoring at the dwelling to determine whether these measures ensure compliance; or
- secure a written agreement with the landowner to allow exceedances of noise impact assessment criteria listed in Section 4.

If the additional monitoring referred to above subsequently determines that the development is complying with relevant impact assessment criteria at the dwelling, then the Applicant may discontinue the independent review with the approval of the Director-General.

If the measures referred do not ensure compliance with noise land acquisition criteria at the dwelling, and the Applicant cannot secure a written agreement with the landowner to allow exceedances of noise impact assessment criteria, then WCPL shall, upon receiving a written request from the landowner, acquire all or part of the landowner's land in accordance with the procedures below.

If the independent review determines that the development is not complying with noise impact assessment criteria at the dwelling, but that several mines are responsible for this non-compliance, then WCPL shall, with the agreement of the landowner and other mine(s) prepare and implement a Cumulative Noise Impact Management Plan for the land to the satisfaction of the Director-General. This plan must provide the joint approach to be adopted by WCPL and other mine(s) to manage cumulative noise impacts at the landowner's dwelling, and the acquisition of any land.

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If WCPL is unable to finalise an agreement with the landowner and/or other mine(s), and/or prepare a Cumulative Noise Impact Management Plan, then WCPL or landowner may refer the matter to the Director-General for resolution.

If the matter cannot be resolved within 21 days, the Director-General shall refer the matter to an Independent Dispute Resolution Process.

If, following the Independent Dispute Resolution Process, the Director-General decides that the WCPL shall acquire all or part of the landowner's land, then WCPL shall acquire this land in accordance with the land acquisition procedures in conditions below.

If the landowner disputes the results of the independent review, either WCPL or the landowner may refer the matter to the Director-General for resolution.

If the matter cannot be resolved within 21 days, the Director-General shall refer the matter to an Independent Dispute Resolution Process.

#### 8.3 LAND AQUISITION

Within 6 months of receiving a written request from the landowner, WCPL shall pay the landowner:

- the current market value of the landowner's interest in the land at the date of this written request, as if the land was unaffected by the development the subject of the DA, having regard to the:
  - existing and permissible use of the land, in accordance with the applicable planning instruments at the date of the written request; and
  - o presence of improvements on the land and/or any approved building or structure which has been physically commenced at the date of the landowner's written request, and is due to be completed subsequent to that date;
- the reasonable costs associated with:
  - o relocating within the Singleton local government area, or to any other local government area determined by the Director-General;
  - o obtaining legal advice and expert advice for determining the acquisition price of the land, and the terms upon which it is required; and
- reasonable compensation for any disturbance caused by the land acquisition process.

However, if within 6 months of receiving this written request, WCPL and landowner cannot agree on the acquisition price of the land, and/or the terms upon which the land is to be acquired, then either party may refer the matter to the Director-General for resolution.

Upon receiving such a request, the Director-General shall request the President of the NSW Division of the Australian Property Institute to appoint a qualified independent valuer or Fellow of the Institute, to consider submissions from both parties, and determine a fair and reasonable acquisition price for the land, and/or terms upon which the land is to be acquired.

If either party disputes the independent valuer's determination, then the independent valuer must refer the matter back to the Director-General.

Upon receiving such a referral, the Director-General shall appoint a panel to determine a fair and reasonable acquisition price for the land, and/or the terms upon which the land is to be acquired, comprising the:

- (i) appointed independent valuer,
- (ii) Director-General or nominee, and

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(iii) President of the Law Society of NSW or nominee.

Within 14 days of receiving the panel's determination, WCPL make a written offer to purchase the land at a price not less than the panel's determination.

# 9.0 REVIEW AND REPORTING

## 9.1 REVIEW

The performance of the noise monitoring and management strategies outlined in the NMP is to be reviewed annually by the E&C Manager and the Open Cut Mine Manager (or delegate). A complete review of the NMP will occur:

- Every two years;
- When there are changes to consent or licence conditions relating to noise management or monitoring;
- Following significant noise related incidents at WCPL;
- Following an independent environmental audit under Consent Condition 6, Schedule 6 which requires NMP review; or
- If there is a relevant change in technology, practice or legislation.

The revised NMP will be re-submitted to the Director-General for approval as required by Condition 20, Schedule 4 of DA305-7-2003.

# 9.2 REPORTING FRAMEWORK

WCPL is required to prepare and submit an Annual Environmental Management Report (AEMR) in accordance with the NSW Trade & Investment – Division of Resources and Energy (DRE), *Guidelines to the Mining, Rehabilitation and Environmental Management Process (Guidelines No. EDG03)*. The AEMR is an annual report submitted to relevant government authorities and made available to the public. The AEMR summarises environmental management activities for the previous reporting period and planned activities for the subsequent period, including management measures and monitoring programs as described in this NMP. Accordingly, activities prescribed in the NMP are subject to public and regulatory review. Outcomes of NMP activities are communicated through the Community Consultative Committee (CCC).

The preparation of the AEMR, satisfies the Annual Review (AR) requirements under Development Applications (DA) 305-7-2003 and 177-8-2004. The WCPL reporting framework is provided in Table 10. Table 11 outlines WCPL reporting and incident reporting requirements.

**Table: 10 NMP Reporting Framework** 

Report	Frequency	Distribution	Responsibility for Report Preparation
Notification of DC / EPL Criteria Exceedance	Immediately after the person becomes aware of the incident	DPI /EPA (General Contact)	E&C Manager
Monthly Attended Noise Monitoring Reports	Monthly  Exceedance of criteria	WCPL Website & members of WCPL Community Consultative Committee	E&C Manager
EPL (Annual Return)	Annually (60 days after 15 October)	OEH/EPA (General Contact)	E&C Manager
Annual Review	Annually	DP&I (Director General)	E&C Manager

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Report	Frequency	Distribution	Responsibility for Report Preparation
(AEMR)	(end of March each year)	DRE (Director – Environmental Sustainability)	
		NOW (Mines Assessment and Planning)	
		SEWPaC (Director – Approvals & Audit Section)	
		Singleton Shire Council (General Manager)	
		CCC Members	

**Table 11: Annual Reporting & Incident Reporting Requirements** 

Schedule 6 - DA 305-7-2003	

#### Annual Review

- 5. By the end of March each year, the Applicant shall submit an annual review of the environmental performance of the development to the satisfaction of the Director-General. This review must:
- (a) describe the development (including any rehabilitation) that was carried out in the previous calendar year, and the development that is proposed to be carried out over the current calendar year;
- (b) include a comprehensive review of the monitoring results and complaints records of the development over the previous calendar year, which includes a comparison of these results against:
- the relevant statutory requirements, limits or performance measures/criteria;
- the monitoring results of previous years; and
- the relevant predictions in the EIS:
- (c) identify any non-compliance over the previous calendar year, and describe what actions were (or are being) taken to ensure compliance;
- (d) identify any trends in the monitoring data over the life of the development;
- (e) identify any discrepancies between the predicted and actual impacts of the development, and analyse the potential cause of any significant discrepancies; and
- (f) describe what measures will be implemented over the current calendar year to improve the environmental performance of the development.
- 10. The Applicant shall notify at the earliest opportunity, the Director-General and any other relevant agencies of any incident that has caused, or threatens to cause, material harm to the environment. For any other incident associated with the project, the Applicant shall notify the Director-General and any other relevant agencies as soon as practicable after the Applicant becomes aware of the incident. Within 7 days of the date of the incident, the Applicant shall provide the Director-General and any relevant agencies with a detailed report on the incident, and such further reports as may be requested.

# Schedule 6 - DA 177-8-2004

#### **Annual Reporting**

- 4. Within 1 year of the date of this consent, and annually thereafter, the Applicant shall submit an AEMR on the development to the Director-General and relevant agencies. This report must:
- (a) identify the standards and performance measures that apply to the development;
- (b) include a summary of the complaints received during the last year, and compare this to the complaints received in previous years:
- (c) include a summary of the monitoring results on the development during the last year;
- (d) include an accurate record of the amount of product coal transported on the development over the last year on a weekly
- (e) include an analysis of these monitoring results against the relevant:
- impact assessment criteria;
- monitoring results from previous years; and
- predictions in the SEE;
- (f) identify any trends in the monitoring over the life of the development;
- (g) identify any non-compliance during the last year; and, if necessary,
- (h) describe what actions were, or are being taken, to ensure compliance.

#### **Environmental Protection Licence (EPL) No. 529**

- R1.1 The licensee must complete and supply to the EPA an Annual Return in the approved form comprising:
- a) a Statement of Compliance; and
- b) a Monitoring and Complaints Summary.
- At the end of each reporting period, the EPA will provide to the licensee a copy of the form that must be completed and returned to the EPA.

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#### 9.3 REPORTABLE ENVIRONMENTAL INCIDENTS

All reportable incidents will be reported via the EPA's Environmental Line on **131 555** by E&C Manager (or delegate) in accordance with WCPL Pollution Incident Response Management Plan (PIRMP).

In accordance with the PIRMP, WCPL must notify all relevant authorities of incidents causing or threatening material harm to the environment immediately after the person becomes aware of the incident in accordance with the requirements of *Part 5.7* of the *POEO Act*.

For any other incidents that do not cause threatening material harm to the environment associated with the Project, WCPL shall notify the Director-General and any other relevant agencies as soon as practicable after WCPL becomes aware of the incident.

Within 7 days of the date of the incident, WCPL shall provide the Director-General and any relevant agencies with a detailed report on the incident to include:

- the cause, time and duration of the event;
- Where possible the type, volume and concentration of every pollutant discharged as a result of the event;
- the name, address and business hours telephone number of employees or agents of the licensee, or a specified class of them, who witnessed the event;
- the name, address and business hours telephone number of every other person (of whom the licensee is aware) who witnessed the event, unless the licensee has been unable to obtain that information after making reasonable effort;
- action taken by the licensee in relation to the event, including any follow-up contact with any complainants;
- implement remediation measures as directed by the Director-General, to the satisfaction of the Director-General;
- details of any measure taken or proposed to be taken to prevent or mitigate against a recurrence of such an event; and
- any other relevant matters.

## 10.0 RESPONSIBILITY MATRIX

**Table 12** below summarises responsibilities documented in the NMP. Responsibilities may be delegated as required.

**Table 12: Noise Management Plan Responsibility Matrix** 

No	Task	Responsibility	Timing
1	Ensure that all possible resources are made available to satisfy the requirements under relevant Development Consents and EPL license conditions as they pertain to this Noise Management Plan (NMP).	WMC General Manager	As required
2	Ensure that all possible resources are made available to satisfy the requirements under relevant Development Consents and EPL licenses as they pertain to this Noise Management Plan.	Open Cut Manager	As required
3	Ensure that the construction, maintenance and	Open Cut Operations	As required

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No	Task	Responsibility	Timing
	implementation of the noise mitigation measures included as it pertains to this Noise Management Plan (NMP) are implemented in a timely manner as required.	Manager	
4	Ensure that the design and incorporation of the noise mitigation plans and measures are incorporated into future mine planning for the WMC as it pertains to this Noise Management Plan (NMP).	Technical Services Manager / Snr Mine Planner	As required
5	Ensure adequate resources are allocated to facilitate requirements of relevant Development Consents and EPL license conditions as they pertain to this Noise Management Plan (NMP)	E&C Manager	As required
6	Ensure requirements of this plan and subsequent procedures are implemented across the WMC	E&C Manager	As required
7	Ensure all Community complaints are fully investigated in accordance with the obligations and timeframes as outlined in this Noise Management Plan (NMP)	E&C Manager (or delegate)	As required
8	Ensure that daily real-time unattended noise monitoring reports are reviewed and investigate where required. Ensure that all monthly attended noise monitoring and Quarterly reporting is conducted in accordance with relevant Development Consents and EPL licenses criteria; and that all reports are published in the public arena as required.	E&C Manager (or delegate)	As required
9	AEMR to include all noise monitoring results, complaints, mitigation measures undertaken and a review of the monitoring undertaken.	E&C Manager	Annually
10	Regular review to be undertaken of the NMP.	E&C Manager	As required

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# 11.0 REFERENCES

- Development Consent (DA305-7-2003)
- Development Consent (DA177-8-2004)
- Wambo Development Project Environmental Impact Statement (EIS), July 2003
- Resource Strategies Pty Ltd (2003) Wambo Coal Mine Project Environmental Impact Statement. Report prepared for Wambo Coal Pty Ltd.
- Department of Environment and Climate Change. Wambo Environment Protection Licence (529).

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# **APPENDIX A**

# **Correspondence with Regulatory Agencies**

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