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Werris Creek Coal
Independent Noise Audit
25 October 2011 - 30 May 2014

Report Number 634.10009-R2

7 August 2014

Whitehaven Coal Limited
PO Box 125
Werris Creek NSW 2341

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Werris Creek Coal

Independent Noise Audit

25 October 2011 - 30 May 2014

PREPARED BY:

SLR Consulting Australia Pty Ltd
ABN 29 001 584 612
10 Kings Road New Lambton NSW 2305 Australia

(PO Box 447 New Lambton NSW 2305 Australia)
T: 61 2 4037 3200 F: 61 2 4037 3201
E: newcastleau@slrconsulting.com www.slrconsulting.com

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DOCUMENT CONTROL

Reference	Status	Date	Prepared	Checked	Authorised
634.10009-R2	Revision 1	7 August 2014	Katie Teyhan	Nathan Archer	Katie Teyhan
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Table of Contents

1	INTRODUCTION	4
2	AUDIT SCOPE AND METHODOLOGY	5
	2.1 Audit Scope	5
	2.2 Methodology	5
3	AUDIT COMPLIANCE	6
	3.1 Terminology	6
	3.2 Compliance Assessment	6
	3.3 Summary of Non-Compliances	6
4	MINE NOISE PERFORMANCE	7
	4.1 Assessment of WCC Noise Emissions	7
	4.2 Evaluation of Current Mine Noise Impacts and Mitigation Practises	9
	4.3 Evaluation of Compliance with the Long-term Noise Goal	9
5	RECOMMENDATIONS	9

Table of Figures

Figure 1	WCC Monthly Median Night Time Continuous Noise Levels for 2013-2014 (Figure 3.17 from the WCC 2013-2014 AEMR)	8
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APPENDICES

Appendix A	Audit Team Approval
Appendix B	Noise Compliance Assessment

1 INTRODUCTION

The Werris Creek Coal Mine (WCC) is located approximately 4 km south of Werris Creek and 11 km north-northwest of Quirindi in central northern New South Wales and lies within a 910 ha area covered by Mining Lease (ML) 1563, ML1671 and ML1672. The WCC is operated by Werris Creek Coal Pty Ltd (a wholly-owned subsidiary of Whitehaven Coal Limited (WCL)) under Project Approval (PA) 10_0059 which was granted on 25 October 2011 and modified on 30 August 2012. Operations at the WCC are also covered by Environment Protection Licence (EPL) 12290.

WCL has commissioned SLR Consulting Australia Pty Ltd (SLR) to undertake a noise audit to satisfy the requirements of Schedule 3 Condition 4 of PA10_0059 and Condition E1.1 of EPL 12290. These conditions have been reproduced as follows:

PA10_0059, Schedule 3

Operating Conditions

4. (e) carry out a comprehensive noise audit of the project in conjunction with each independent environmental audit,
to the satisfaction of the Director General.

EPL 12290

E1.1 *The licensee must provide the EPA with a copy of any Noise Audit and Independent Environmental Audit Report required by condition 4 of Schedule 3 and conditions 8 and 9 of Schedule 5 of the Werris Creek Mine Extension Project Approval (No. 10_0059). If the Noise Audit and Independent Environmental Audit Report do not incorporate the following information or assessments, then the licensee must also provide a separate report to the EPA that incorporates the following:*

(a) An assessment of noise emissions from the premises against the noise limits established by the Project Approval (No. 10_0059), as well as against the long term noise goal and noise acquisition criteria established within Project Approval No. 10_0059 that has been completed in accordance with the procedures defined in the NSW Industrial Noise Policy and any relevant Application Notes published by the EPA;

(b) An evaluation of current mine noise impacts at all non-project related receptors and the noise mitigation practices that have been implemented at the premises against the best available economically achievable technology and current best practice principles for minimising noise emissions; and

(c) Where noise impacts at any affected non-project related receptor exceeds the long term noise goal established by condition 4 of Schedule 3 of Project Approval 10_0059, the licensee must provide documented evidence that demonstrates that reasonable attempts have been made to reach a negotiated agreement with all relevant affected receptors within the last 3 years.

The reports required by this condition must be submitted to the EPA's Armidale office within 6 weeks of the 30 June 2014, and every three years thereafter.

Note: For the purposes of this condition, a privately owned property that is subject to a current and legally binding negotiated agreement between the licensee and the relevant property owner, is considered project related, as is any property or residence held in the ownership of the licensee or its associated companies.

In accordance with Schedule 5 Condition 8 of PA10_0059, the audit has been “conducted by a suitably qualified, experienced and independent team of experts whose appointment has been endorsed by the Director-General”. Relevant communication from the Department of Planning and Infrastructure (DPI) in this regard is provided in **Appendix A**.

2 AUDIT SCOPE AND METHODOLOGY

2.1 Audit Scope

The period of this audit covers from the date the PA (as modified) was granted (25 October 2011) to 30 May 2014.

This Independent Noise Audit assesses compliance with the relevant (noise-related) conditions of PA10_0059, EPL 12290 and the Statement of Commitments from PA 10_0059.

2.2 Methodology

The methodology utilised for preparation of the Independent Noise Audit report consisted of the following key steps:

- Reviewing all documents provided by WCC prior to the audit;
- Site inspections and interviews with key WCC personnel on 28 to 30 May 2014;
- Review of additional relevant documentation obtained while on site during the inspection or provided by WCC after the site inspection; and
- WCC review and comment on the draft audit report.

SLR's Katie Teyhan (Noise Specialist) was present on site on 28, 29 and 30 May 2014. The site inspections included visual inspections of the WCC Mine and interviews with key WCC Mine personnel, including Andrew Wright (Environmental Officer). Photographs were taken during the site inspections and a large amount of evidence was viewed (and collected) as part of the audit including reports, correspondence, spreadsheets and forms. While this evidence has been referenced in this report, not all of it has been included in this audit report.

3 AUDIT COMPLIANCE

3.1 Terminology

The terms used in the audit to describe the level of compliance of the WCC Mine with the relevant statutory instruments are:

Compliance (C)	Adequacy and appropriateness of implementation against current Departmental Approval conditions, or compliance with commitments made.
Non Compliance (NC)	Not in compliance with all or part of the condition.
Observation (O)	A finding which is not likely to significantly affect the operation, which does not strictly relate to the scope of the audit of the compliance and which could lead to performance improvement.
Not Triggered (NT)	The condition was not triggered at the time of the assessment.
Indeterminate (I)	It was not possible to determine compliance.
Not Applicable (NA)	Not applicable.

3.2 Compliance Assessment

Appendix B provides a detailed assessment of each of the noise-related conditions of PA10_0059, EPL 12290 and the Statement of Commitments from PA 10_0059.

3.3 Summary of Non-Compliances

PA 10_0059 Schedule 3, Condition 1 and EPL 12290 Condition L4.1

As reported in the WCC Annual Environmental Management Report (AEMR) 2013-2014 (refer Table 3.49) noise levels above the relevant criteria were measured at three locations (R5, R9 and R22) during July 2013 and one location (R97) during September 2013.

These measured exceedances were reported by WCC to the DPI via letters dated 24 July 2013 and 3 October 2013. These were the first measured exceedances of the relevant noise limits in 33 months. These exceedance events are discussed further in **Section 4.1**.

4 MINE NOISE PERFORMANCE

In accordance with Clause E1.1 of EPL 12290 the three yearly independent noise audit report is required to incorporate the following:

- a An assessment of WCC noise emissions.
- b An evaluation of current mine noise impacts and the noise mitigation practises that have been implemented.
- c An evaluation of compliance with the long-term noise goal.

The following **Sections 4.1, 4.2** and **4.3** provide a summary in this regard.

4.1 Assessment of WCC Noise Emissions

WCC currently implements the *Werris Creek Coal EMS - Noise Management Plan* (NMP) dated 16 April 2014 which includes a noise monitoring program, reactive and proactive noise management measures and describes specific noise mitigation and management measures utilised to reduce potential noise impacts.

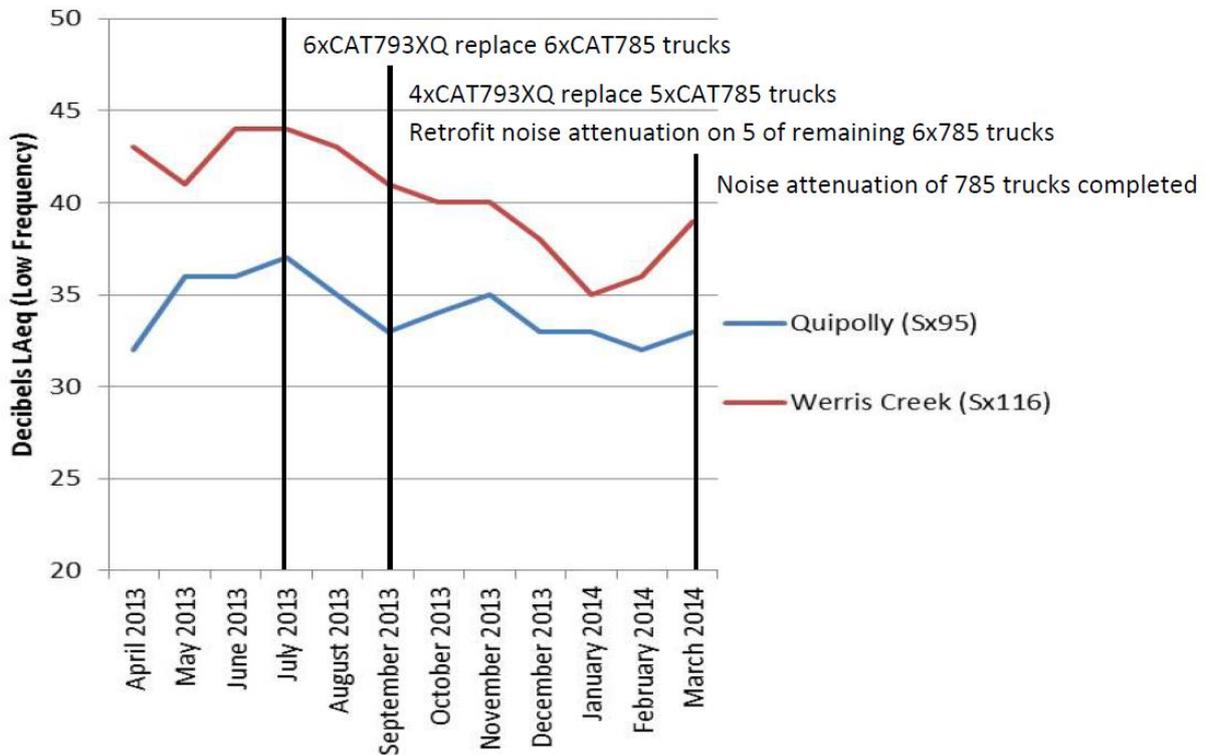
Results of monthly, attended noise monitoring indicate that only four (4) non-compliance events have been measured during the current audit period; three (3) in July 2013 and one (1) in September 2013. Details of these events are provided in the 2013-2014 AEMR and have been summarised below.

The exceedance events measured during the July 2013 monitoring period involved three (3) residences located on Paynes Road, Quipolly and were due to the proximity of the mining operations to these residences combined with enhancing meteorological effects. It was acknowledged by the EPA and the DPI that the noise exceedance events were not significant or protracted and that proactive noise management practices had been employed by WCC.

The exceedance event measured during September 2013 involved one property which does not have a residence on it.

As presented in Figure 3.17 of the WCC 2013-2014 AEMR (reproduced as **Figure 1**), the average night-time noise levels for both of the long-term noise monitoring locations (Werris Creek SX116 and Quipolly SX95) show a downward trend. It is noted that WCC will continue to monitor long-term noise level trends.

Figure 1 WCC Monthly Median Night Time Continuous Noise Levels for 2013-2014
 (Figure 3.17 from the WCC 2013-2014 AEMR)



In general, the following items are noted with regard to WCC noise emissions:

- The NMP is effectively implemented; real-time noise levels, audio and weather are monitored daily and operator-attended noise measurements are undertaken monthly.
- Noise emissions are typically below the relevant long-term noise goal at all non-project related residential receivers.
- Based on interviews with several key personnel at WCC, there seems to be good general knowledge of noise emissions from WCC and what environmental and operational factors contribute to potential off-site noise impacts.

4.2 Evaluation of Current Mine Noise Impacts and Mitigation Practises

WCC currently implements a number of noise mitigation and noise management practises; these are reported in each AEMR relevant to the audit period. These practises combine at-source noise reduction (eg attenuation packages installed on trucks, reduced train speed on the rail spur, etc), a real-time noise monitoring program which enables “live” management of WCC noise emissions, daily noise reduction mine planning (including modifying or delaying operations), physical bunding and negotiated agreements.

The effectiveness of WCC noise mitigation practises is evaluated using the following indicators:

- Regular monitoring of the sound power levels of WCC plant and equipment.
- Results of monthly operator-attended noise monitoring.
- Number of noise-related complaints.
- General trends of night-time ambient noise levels measured at the real-time monitoring locations.

All of the above indicators show general compliance with relevant conditions and improvement in the noise performance of the site. These practises are consistent with “*best available economically achievable technology and current best practice principles for minimising noise emissions*”.

4.3 Evaluation of Compliance with the Long-term Noise Goal

Clause E1.1(c) requires that “*Where noise impacts at any affected non-project related receptor exceeds the long term noise goal ... the licensee must provide documented evidence that demonstrates that reasonable attempts have been made to reach a negotiated agreement with all relevant affected receptors within the last 3 years*”.

Two of the residences where exceedances were measured during July 2013 (R22 and R9) now have negotiated agreements in place with WCC. WCC has attempted to negotiate a private agreement with the other location (R5) where exceedances were measured during July 2013. To date, this residence has not accepted.

The location where the exceedance was measured in September 2013 (R97) does not have a residence on it. Notwithstanding, WCC has attempted to reach a negotiated agreement with the owner of this property who, to date, has not accepted.

It is noted that measured noise emissions at non-project related residences do not consistently exceed the long-term noise goal. Therefore, with regard to EPL clause E1.2, WCC is not required to prepare a report detailing a noise reduction action plan.

5 RECOMMENDATIONS

SLR determined a high degree of compliance with PA 10_0059 and EPL 12290. Notwithstanding this, SLR has made a number of recommendations for improvement in environmental noise performance. These are summarised as follows:

- When noise from WCC is audible during the operator-attended surveys, identify and document the main noise source(s).
- In the complaints register include meteorological information (wind speed and direction, temperature inversion) at the time of the event that was subject of the complaint.

Appendix A

Report Number 634.10009-R2

Page 1 of 2

Audit Team Approval – Letter from DPI



Mining Projects

Contact: Stephen O'Donoghue

Phone: 0477 345 626

Email: stephen.o'donoghue@planning.nsw.gov.au

Mr Andrew Wright
Environmental Officer
Werris Creek Coal Pty. Limited
PO Box 125
WERRIS CREEK NSW 2341

Dear Mr Wright

Werris Creek Coal Mine – Independent Environmental Audit 2014

I refer to your letter, dated 27 March 2014 and additional email advice dated 8 April 2014, seeking approval for SLR Pty. Ltd to undertake an independent environmental audit of the Werris Creek Coal mine. The Director-General has approved the following team from SLR to conduct these audits:

- Andrew Hutton (Lead Environmental Auditor and mine rehabilitation);
- Christopher Jones (Auditor)
- Katie Teyhan (Noise and Blasting expertise);
- Rod Masters (Water expertise); and
- Martin Doyle (Air expertise).

Should you have any enquiries in relation to the above, please contact Stephen O'Donoghue.

Yours sincerely,

Mike Young
Manager
Mining Projects

as the Director-General's nominee

15.4.14

Appendix B

Report 634.10009R2

Page 1 of 10

Compliance Assessment - Noise

Project Approval 10_0059

Proponent Werris Creek Coal Pty Limited
Date of Approval: 25 October 2011 (Mod 1 approved August 2012)
Authority Department of Planning and Infrastructure

Condition Number	Condition	Compliance Status (C/NC/O/NT/I/NA)	Evidence	Recommended Action																																				
Schedule 3 Environmental Performance Conditions																																								
NOISE																																								
Noise Criteria																																								
1	<p>The Proponent shall ensure that the noise generated by the project (including noise generated on the Werris Creek Rail Spur) does not exceed the criteria in Table 1 at any residence on privately-owned land or on more than 25 percent of any privately-owned land.</p> <p><i>Table 1: Noise criteria</i></p> <table border="1"> <thead> <tr> <th>Location</th> <th>Day dB(A) $L_{Aeq}(15\text{ min})$</th> <th>Evening & Night dB(A) $L_{Aeq}(15\text{ min})$</th> <th>Night dB(A) $L_{A1}(1\text{ min})$</th> </tr> </thead> <tbody> <tr> <td>R18</td> <td>40</td> <td>37</td> <td>45</td> </tr> <tr> <td>R10, R11, R14</td> <td>39</td> <td>39</td> <td>45</td> </tr> <tr> <td>R20, R21</td> <td>39</td> <td>37</td> <td>45</td> </tr> <tr> <td>R12</td> <td>38</td> <td>38</td> <td>45</td> </tr> <tr> <td>R96</td> <td>38</td> <td>37</td> <td>45</td> </tr> <tr> <td>R7, R8, R9, R24</td> <td>37</td> <td>37</td> <td>45</td> </tr> <tr> <td>R22, R98</td> <td>36</td> <td>36</td> <td>45</td> </tr> <tr> <td>All other privately-owned land</td> <td>35</td> <td>35</td> <td>45</td> </tr> </tbody> </table> <p><i>Notes:</i></p> <ul style="list-style-type: none"> To interpret the locations referred to in Table 1, see the applicable figure in Appendix 3; and 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. However, these criteria do not apply if the Proponent has an agreement with the relevant owner/s of these residences/land to generate higher noise levels, and the Proponent has advised the Department in writing of the terms of this agreement. 	Location	Day dB(A) $L_{Aeq}(15\text{ min})$	Evening & Night dB(A) $L_{Aeq}(15\text{ min})$	Night dB(A) $L_{A1}(1\text{ min})$	R18	40	37	45	R10, R11, R14	39	39	45	R20, R21	39	37	45	R12	38	38	45	R96	38	37	45	R7, R8, R9, R24	37	37	45	R22, R98	36	36	45	All other privately-owned land	35	35	45	NC	<p>WCC Annual Environmental Management Reports (AEMR) 2013-2014, 2012-2013, 2011-2012 and associated monthly noise monitoring reports have been reviewed.</p> <p>As reported in the WCC AEMR 2013-2014 (refer Table 3.49) noise levels above the relevant criteria were measured at 3 locations (R5, R9 and R22) during July 2013 and one location (R97) during September 2013.</p> <p>These measured exceedances were reported by WCC to the DP&I via letters dated 24 July 2013 and 3 October 2013).</p> <p>These were the first measured exceedances of the relevant noise limits in 33 months.</p> <p>Noise levels greater than the noise criteria specified in Table 1 of PA 10_0059 Schedule 3 were measured during September at R98 however, it is noted that WCC had a negotiated agreement with this residence. AEMR 2013-2014 reports that this elevated noise level was in accordance with the negotiated agreement for WCC to undertake additional noise works and that double-glazing has been installed at R98.</p>	None
Location	Day dB(A) $L_{Aeq}(15\text{ min})$	Evening & Night dB(A) $L_{Aeq}(15\text{ min})$	Night dB(A) $L_{A1}(1\text{ min})$																																					
R18	40	37	45																																					
R10, R11, R14	39	39	45																																					
R20, R21	39	37	45																																					
R12	38	38	45																																					
R96	38	37	45																																					
R7, R8, R9, R24	37	37	45																																					
R22, R98	36	36	45																																					
All other privately-owned land	35	35	45																																					
Noise Acquisition Criteria																																								
2	<p>If the noise generated by the project causes sustained exceedances of the criteria in Table 2 at any residence on privately-owned land or on more than 25 percent of any privately-owned land, then upon receiving a written request for acquisition from the landowner, the Proponent shall acquire the land in accordance with the procedures in conditions 5 - 6 of schedule 4.</p> <p><i>Table 2: Noise acquisition criteria</i></p> <table border="1"> <thead> <tr> <th>Location</th> <th>Day/Evening/Night dB(A) $L_{Aeq}(15\text{ min})$</th> </tr> </thead> <tbody> <tr> <td>All privately-owned land</td> <td>40</td> </tr> </tbody> </table> <p><i>Note: 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.</i></p>	Location	Day/Evening/Night dB(A) $L_{Aeq}(15\text{ min})$	All privately-owned land	40	C	<p>WCC AEMR's 2013-2014, 2012-2013, 2011-2012 and associated monthly noise monitoring reports.</p> <p>No sustained exceedance of the relevant noise limits is evident.</p>	None																																
Location	Day/Evening/Night dB(A) $L_{Aeq}(15\text{ min})$																																							
All privately-owned land	40																																							

Additional Noise Mitigation Measures												
3	<p>Upon receiving a written request from the owner of the land listed in Table 3, the Proponent shall implement additional noise mitigation measures (such as double glazing, insulation, and/or air conditioning) at any residence on the land in consultation with the owner. These measures must be reasonable and feasible.</p> <p>If within 3 months of receiving this request from the owner, the Proponent and the owner cannot agree on the measures to be implemented, or there is a dispute about the implementation of these measures, then either party may refer the matter to the Director-General for resolution.</p> <p><i>Table 3: Land subject to additional noise mitigation measures</i></p> <table border="1"> <tr> <td>R10</td> <td>R18</td> </tr> <tr> <td>R11</td> <td>R20</td> </tr> <tr> <td>R12</td> <td>R21</td> </tr> <tr> <td>R14</td> <td>R96</td> </tr> </table> <p><i>Note: To interpret the locations referred to in Table 3, see the applicable figure in Appendix 3.</i></p>	R10	R18	R11	R20	R12	R21	R14	R96	C	<p>Interview with the Environment and Community Officer indicated there had been no such written request received.</p> <p>It is also noted that negotiated agreements have been established with the residences referred to as R10, R11, R21 and WCC now owns R14, R18 and R20.</p>	None
	R10	R18										
R11	R20											
R12	R21											
R14	R96											
Operating Conditions												
4	<p>The Proponent shall:</p> <p>(a) implement best practice noise management to minimise the operational, low frequency, rail and road traffic noise of the project;</p>	C	<p>WCC AEMR's 2013-2014, 2012-2013, 2011-2012 and associated Monthly Noise Monitoring Reports 2011 - 2014 demonstrate that noise levels are consistently below relevant limits (with the exception of exceedances recorded in July and Sept 2013).</p> <p>WCC EMS - Noise Management Plan dated 16 April 2014 is effectively implemented through EO, daily meetings and NCO. Noise Control Operator records sighted as well as records from daily meetings containing weather forecasting information and how it is likely to effect noise impacts.</p>	None								
	<p>(b) regularly assess the real-time noise monitoring and meteorological forecasting data and relocate, modify, and/or stop operations on site to ensure compliance with the relevant conditions of this approval;</p>	C		None								
	<p>(c) minimise the noise impacts of the project during temperature inversions; and</p>	C		None								
	<p>(d) use its best endeavours to achieve the long-term noise goals in Table 4, where this is reasonable and feasible, and report on the progress towards achieving these goals in the annual review;</p> <table border="1"> <thead> <tr> <th>Location</th> <th>Day/Evening/Night dB(A) $L_{Aeq}(15min)$</th> </tr> </thead> <tbody> <tr> <td>All privately-owned land</td> <td>35</td> </tr> </tbody> </table>	Location	Day/Evening/Night dB(A) $L_{Aeq}(15min)$	All privately-owned land	35	C	<p>Site inspection; real-time noise and weather monitoring locations sited.</p> <p>Interview with Environment and Community Officer and Site Superintendent - noise auditor has confidence that there is good general knowledge among site personnel of potential noise impacts and how weather impacts these.</p> <p>Interview with WCC Environment and Community Officer; AEMR is utilised as the Annual Review. Noise monitoring results indicate, with the exception of a few and infrequent exceedances, that long-term noise goals are being achieved.</p>	None				
Location	Day/Evening/Night dB(A) $L_{Aeq}(15min)$											
All privately-owned land	35											
<p>(e) carry out a comprehensive noise audit of the project in conjunction with each independent environmental audit, to the satisfaction of the Director-General.</p> <p>Table 4: Long-term noise goal</p> <p><i>Note: 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.</i></p>	C	<p>This item is the subject of the current noise audit</p>	Complete comprehensive noise audit.									

Noise Management Plan				
5	The Proponent shall prepare and implement a Noise Management Plan for the project to the satisfaction of the Director-General. This plan must: (a) be prepared in consultation with EPA by a suitably qualified expert whose appointment has been approved by the Director-General;	C	WCC EMS - Noise Management Plan dated 16 April 2014. The NMP contains direct reference to relevant communication with EPA and expert approval from the Director-General (Appendix A of NMP). Letter from DPI to WCC dated 29/4/14 <i>Werris Creek Mine Extension Project (MP 10_005) Approval of revised Air and Noise Management Plans</i> .	None
	(b) be submitted to the Director-General for approval by the end of April 2012;	C	Letter to DPI& from WCC dated 30/4/14 <i>Werris Creek Coal Life of Mine Management Plan Submission</i> (Appendix A of NMP)	None
	(c) describe the measures that would be implemented to ensure compliance with the relevant conditions of this approval, including: · a real-time noise management system that employs both reactive and proactive mitigation measures; and · rail spur management plan, that has been prepared in consultation with ARTC and the rail freight company; and	C	WCC EMS - Noise Management Plan dated 16 April 2014, Sections 8.3, 8.4, 8.19. Relevant communication via email sighted: - from Pacific National's Leanne Perry dated 21/6/12 - from Mountain Industries Phil Carey dated 21/5/12 - from ARTC's John Brown dated 5/10/12.	None
	(d) include a Noise Monitoring Program that: · uses a combination of real-time and supplementary attended noise monitoring measures to evaluate the performance of the project; · is capable of monitoring temperature inversion strengths at an appropriate sampling rate; · evaluates and reports on the effectiveness of the real-time noise management system; · includes a protocol for determining exceedances of the relevant conditions of this approval.	C	WCC EMS - Noise Management Plan dated 16 April 2014, Section 9.	The monthly noise monitoring reports report noise from Werris Creek Mine as "WCC XX" where XX is the estimated noise level contributed from WCC. If a specific mining noise source is a significant component to the measured noise level (i.e. not just mining activities); then It is recommended that it is identified when audible (ie rail loadout, trucks, dozer, etc).

EPL 12290

Anniversary Date: 1 April

Authority Office of Environment and Heritage

Condition Number	Condition	Compliance Status (C/NC/O/NT//INA)	Evidence	Recommended Action																																								
L4 Noise limits																																												
L4.1	<p>Noise generated from the premises must not exceed the noise limits in the table below. The locations referred to in the table below are defined within Appendix 3 of Werris Creek Coal Mine, Extension Project Approval 10_0059:</p> <table border="1"> <thead> <tr> <th>Locality and Location</th> <th>Day LAeq (15 minute)</th> <th>Evening LAeq (15 minute)</th> <th>Night LAeq (15 minute)</th> <th>Night LA1 (1 minute)</th> </tr> </thead> <tbody> <tr> <td>The residence on the property "Talavera" marked as location "R96" in Appendix 3 of Project Approval 10_0059</td> <td>38</td> <td>37</td> <td>37</td> <td>45</td> </tr> <tr> <td>The residence known as "Quipolly Railway Cottage" marked as location "R12" in Appendix 3 of Project Approval 10_0059</td> <td>38</td> <td>38</td> <td>38</td> <td>45</td> </tr> <tr> <td>The residence located at 83 Wadwells Lane marked as location "R7" in Appendix 3 of Project Approval 10_0059</td> <td>37</td> <td>37</td> <td>37</td> <td>45</td> </tr> <tr> <td>The residence on the property "Gedhurst" marked as location "R9" in Appendix 3 of Project Approval 10_0059</td> <td>37</td> <td>37</td> <td>37</td> <td>45</td> </tr> <tr> <td>The residence on the property "Hazeldene" marked as location "R24" in Appendix 3 of Project Approval 10_0059</td> <td>37</td> <td>37</td> <td>37</td> <td>45</td> </tr> <tr> <td>The residence on the property "Mountain View" marked as location "R22" in Appendix 3 of Project Approval 10_0059</td> <td>36</td> <td>36</td> <td>36</td> <td>45</td> </tr> <tr> <td>Any other affected residence not owned by the licensee or its related companies</td> <td>35</td> <td>35</td> <td>35</td> <td>45</td> </tr> </tbody> </table>	Locality and Location	Day LAeq (15 minute)	Evening LAeq (15 minute)	Night LAeq (15 minute)	Night LA1 (1 minute)	The residence on the property "Talavera" marked as location "R96" in Appendix 3 of Project Approval 10_0059	38	37	37	45	The residence known as "Quipolly Railway Cottage" marked as location "R12" in Appendix 3 of Project Approval 10_0059	38	38	38	45	The residence located at 83 Wadwells Lane marked as location "R7" in Appendix 3 of Project Approval 10_0059	37	37	37	45	The residence on the property "Gedhurst" marked as location "R9" in Appendix 3 of Project Approval 10_0059	37	37	37	45	The residence on the property "Hazeldene" marked as location "R24" in Appendix 3 of Project Approval 10_0059	37	37	37	45	The residence on the property "Mountain View" marked as location "R22" in Appendix 3 of Project Approval 10_0059	36	36	36	45	Any other affected residence not owned by the licensee or its related companies	35	35	35	45	NC	<p>Werris Creek Coal AEMRs 2013-2014, 2012-2013, 2011-2012 and associated monthly noise monitoring reports.</p> <p>As reported in the WCC AEMR 2013-2014 (refer Table 3.49) noise levels above the relevant criteria were measured at 3 locations (R5, R9 and R22) during July 2013 and one location (R97) during September 2013.</p> <p>The EPA acknowledged, via email communication to WCC dated 24 October 2013, that the exceedance measured at R97 would not need to be recorded as an incident in the Annual Return since the property does not have a residence on it.</p> <p>These measured exceedances were reported by WCC to the EPA via letters dated 24 July 2013 and 3 October 2013.</p> <p>These were the first measured exceedances of the relevant noise limits in 33 months.</p>	None
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L4.2	<p>For the purpose of the condition above;</p> <p>a) Day is defined as the period from 7am to 6pm on any day.</p> <p>b) Evening is defined as the period 6pm to 10pm on any day.</p> <p>c) Night is defined as the period from 10pm to 7am on any day.</p> <p>Note: For the purpose of the noise criteria for this condition, 5dBA must be added to the measurement level if the noise is substantially tonal or impulsive in character.</p>	C	<p>Werris Creek Coal Annual Environmental Management Reports 2013-2014, 2012-2013, 2011-2012 and associated monthly noise monitoring reports.</p> <p>Noise monitoring reports state that noise emissions from the mine are not typically tonal or impulsive in character.</p>	None																																								

L4.3	<p>The noise limits set out in the Noise Limits table apply under all meteorological conditions except for the following:</p> <p>a) Wind speeds greater than 3 metres/second at 10 metres above ground level; or</p> <p>b) Temperature inversion conditions up to 12°C/100m and wind speeds greater than 2 metres/second at 10 metres above ground level; or</p> <p>c) Temperature inversion conditions greater than 12°C/100m.</p> <p><i>Note: For the purpose of this condition, data recorded by the meteorological station identified as EPA Identification Point no. 9 and the lower level temperature sensor identified as EPA Identification Point No. 31 must be used to determine meteorological conditions.</i></p> <p><i>Note: Temperature inversion conditions (vertical temperature gradient in degrees C/100m) are to be determined as $[(TM2 - TM3 - 0.7) * 1.25]$, where TM2 is the temperature from sensor M2 (10m weather station at top of rehabilitated overburden emplacement) and TM3 is the temperature from sensor M3 (lower weather station at base of rehabilitated overburden emplacement). Reference: Spectrum Acoustics letter report Ref: 04035/4580 of 7 November 2012 to Werris Creek Coal.</i></p>	C	<p>Werris Creek Coal AEMR's 2013-2014, 2012-2013, 2011-2012 and associated monthly noise monitoring reports.</p> <p>Noise monitoring results are analysed in conjunction with weather data monitored at the WCC Mine.</p>	None
L4.4	<p>Noise impacts where wind speed exceeds 3 metres per second at 10 metres above the ground must be addressed by:</p> <p>a) documenting noise complaints received to identify any higher level of impacts or wind patterns;</p> <p>b) where levels of noise complaints indicate a higher level of impact then actions to quantify and ameliorate any enhanced impacts where wind speed exceeds 3 metres per second at 10 metres above the ground must be developed and implemented.</p>	C	<p>Werris Creek Coal AEMR 2013-2014, 2012-2013, 2011-2012 and associated monthly noise monitoring reports.</p> <p>Noise Complaints during Wind Speeds greater than 3m/s, are included in Complaint Reports for noise (sighted from 2012 to 2014). Every complaint made has been documented in a Complaint Report and weather conditions recorded (if relevant).</p>	<p>SLR recommends including the following information in the complaints register:</p> <ul style="list-style-type: none"> - weather parameters (wind speed, direction, temperature inversion) at the time of the event that was subject of the complaint. <p>This will assist in identifying any trends in noise impacts that could be as a result of weather enhancing conditions.</p> <p>Additional investigations into community complaints at WCC. Investigations should include the management team (not just Environment and Community Officer) and other relevant site personnel. The management team are to be involved in determining appropriate actions following any complaints. WCC should continue to liaise with the community.</p>
L4.5	<p>The noise limits set by condition L4.1 of the licence do not apply where a current legally binding agreement exists between the proponent and the occupant of a residential property that:</p> <p>a) agrees to an alternative noise limit for that property; or</p> <p>b) provides an alternative means of compensation to address noise impacts from the premises.</p> <p>A copy of any agreement must be provided to the EPA before the proponent can take advantage of the agreement.</p>	C	Werris Creek Coal AEMR 2013-2014, 2012-2013, 2011-2012	None

L4.6	<p>Determining Compliance To determine compliance: a) with the Leq(15 minute) noise limits in the Noise Limits table, the noise measurement equipment must be located: i) approximately on the property boundary, where any dwelling is situated 30 metres or less from the property boundary closest to the premises; or ii) within 30 metres of a dwelling façade, but not closer than 3m, where any dwelling on the property is situated more than 30 metres from the property boundary closest to the premises; or, where applicable iii) within approximately 50 metres of the boundary of a National Park or a Nature Reserve. b) with the LA1(1 minute) noise limits in the Noise Limits table, the noise measurement equipment must be located within 1 metre of a dwelling façade. c) with the noise limits in the Noise Limits table, the noise measurement equipment must be located: i) at the most affected point at a location where there is no dwelling at the location; or ii) at the most affected point within an area at a location prescribed by part (a) or part (b) of this condition. <i>Note: A non-compliance of the Noise Limits table will still occur where noise generated from the premises in excess of the appropriate limit is measured: i) at a location other than an area prescribed in part (a) and part (b); and/or ii) at a point other than the most affected point at a location.</i></p>	C	<p>Monthly noise monitoring reports November 2011 - April 2014.</p> <p>Noise monitoring equipment is located in general accordance with this Condition however, to minimise disturbance to residences, the LA1(1min) noise level is measured at the same location as the general operational measurements are taken and not at a distance of 1m from the dwelling facade. It is noted that there would be very little variation (if any) in the mine-related LA1(1min) level measured at the two locations.</p>	None
M8 Other Monitoring and Recording Conditions				
M8.1	NOISE MONITORING			
M8.2	<p>To assess compliance with the noise limits presented in the Noise Limits table, attended noise monitoring must be undertaken in accordance with the condition titled Determining Compliance, outlined above, and: a) at the locations marked as "R7" (83 Wadwells Lane), "R9" ("Gedhurst"), "R22" ("Mountain View"), "R24" (Hazeldene), "R12" ("Quipolly railway Cottage"), "R96" ("Talvera" listed as "Millbank") and non project related residence number "57" (33 Kurrara Street) on Appendix 3 of Project Approval 10_0059; b) occur monthly in a reporting period; c) occur during each day, evening and night period as defined in the NSW Industrial Noise Policy for a minimum of: i) 1 hour during the day; and ii) 1 hour during the evening or night. <i>Note: The frequency of monitoring may be varied by the EPA once the variability of the noise impact is established.</i></p>	C	<p>Werris Creek Coal EPL - Monthly Summaries</p> <p>Monthly noise monitoring reports November 2011 - April 2014</p>	None
R4 Other reporting conditions				
R4.1	<p>A noise compliance assessment report must be submitted to the EPA within 30 days of the completion of the monthly monitoring. The assessment must be prepared by a suitably qualified and experienced acoustical consultant and include: a) an assessment of compliance with noise limits presented in the Noise Limits table; and b) an outline of any management actions taken within the monitoring period to address any exceedences of the limits contained in the Noise Limits table.</p>	C	Werris Creek Coal EPL - Monthly Summaries	None

9 Special Conditions

E1 Three Yearly Independent Noise Audit

<p>E1.1</p>	<p>The licensee must provide the EPA with a copy of any Noise Audit and Independent Environmental Audit Report required by condition 4 of Schedule 3 and conditions 8 and 9 of Schedule 5 of the Werris Creek Mine Extension Project Approval (No. 10_0059). If the Noise Audit and Independent Environmental Audit Report do not incorporate the following information or assessments, then the licensee must also provide a separate report to the EPA that incorporates the following:</p> <p>(a) An assessment of noise emissions from the premises against the noise limits established by the Project Approval (No. 10_0059), as well as against the long term noise goal and noise acquisition criteria established within Project Approval No. 10_0059 that has been completed in accordance with the procedures defined in the NSW Industrial Noise Policy and any relevant Application Notes published by the EPA;</p> <p>(b) An evaluation of current mine noise impacts at all non-project related receptors and the noise mitigation practices that have been implemented at the premises against the best available economically achievable technology and current best practice principles for minimising noise emissions; and</p> <p>(c) Where noise impacts at any affected non-project related receptor exceeds the long term noise goal established by condition 4 of Schedule 3 of Project Approval 10_0059, the licensee must provide documented evidence that demonstrates that reasonable attempts have been made to reach a negotiated agreement with all relevant affected receptors within the last 3 years.</p> <p>The reports required by this condition must be submitted to the EPA's Armidale office within 6 weeks of the 30 June 2014, and every three years thereafter.</p> <p>Note: For the purposes of this condition, a privately owned property that is subject to a current and legally binding negotiated agreement between the licensee and the relevant property owner, is considered project related, as is any property or residence held in the ownership of the licensee or its associated companies.</p>	<p>C</p>	<p>This item is the subject of the current noise audit</p>	<p>Complete comprehensive noise audit.</p>
<p>E1.2</p>	<p>If the reports required by E1.1 above indicate that non-project related receptors continue to receive impacts that exceed the long term noise goal established by condition 4 of Schedule 3 of Project Approval 10_0059, then the licensee must provide the EPA with a report detailing the actions it will take during the next three year period, to further reduce noise impacts from the mine. The report must:</p> <p>(a) Provide details of any trials, tests or research that it will commission in an attempt to develop new or innovative noise mitigation technologies or management practices;</p> <p>(b) Detail the nature of any works that will be carried out at the premises or at the relevant receptor locations to further reduce noise impacts;</p> <p>(c) Provide timelines and provisional costings for the proposed actions or works;</p> <p>(d) Provide an analysis where possible of the potential noise reductions that the proposed actions are likely to achieve; and</p> <p>(e) Define any additional noise monitoring programs that might be required to measure/validate the performance of the proposed mitigation actions.</p> <p>The report required by this condition must be submitted to the EPA by 31 August 2014 and every three years thereafter until noise emissions from the premises meet the long term noise goal established by condition 4 of Schedule 3 of Project Approval 10_0059.</p>	<p>NT</p>	<p>Monthly noise monitoring reports. It is noted that measured noise emissions at the nearest non-project related residences do not consistently exceed the long-term noise goal</p>	<p>None</p>

EA Statement of Commitments

Desired Outcome	Action	Timing	Compliance Status (C/NC/O/NT//NA)	Evidence	Recommended Action
6. Noise					
Attenuate mining noise sources to ensure compliance with Project Specific Noise Criteria.	6.1 Construct an Acoustic and Visual Amenity Bund at the northern extent of mining operations.	Once mining operations reach the base of "Old Colliery" Hill	C	Sighted during site inspection.	None
	6.2 Locate all mining-related infrastructure, e.g.. the Coal Processing Area and Site Administration and Facilities Area, in such a way that local topography (of "Old Colliery" and "Cintra" Hills) provides a natural acoustic barrier to the town of Werris Creek and the residential receivers located to the south of the town.	During the construction phase of the Project	C	Relocation of infrastructure sighted during site inspection.	None
	6.3 Use temporary ROM coal stockpiles from time to time within the open cut mine area to minimise the transmission of noise during night-time operations.	Ongoing during night-time period	NT	Interview with Environment and Community Officer - never done but if required then it would be completed.	None
	6.4 Continue to enclose the conveyor belt of the rail load out facility.	Ongoing	C	Covered - not enclosed. Sighted during site inspection.	None
	6.5 Ensure that all noise mitigation measures are implemented to ensure that all noise emissions from the Project Site meet predicted noise levels. This may include the following. <ul style="list-style-type: none"> · Apply the manufacturer specified attenuator kits to each truck to achieve a noise reduction of 8dB. · Apply a 1 600rpm reverse gear limiter on bulldozers operating on exposed areas of the Project Site such as the Product Coal Storage Area and ROM Pad. · Construct a 5m high barrier around the north-eastern perimeter of the relocated coal processing infrastructure. · Ensure that all equipment exhibits sound power levels consistent with the schedules in Appendix D of Spectrum Acoustics (2010). · Limit the number of operating drills (non exploration) on the Project Site to two at any one time. · Stand down all mobile equipment operating to the north of the advancing open cut under noise enhancing conditions during the evening and night time, i.e. temperature inversion and winds from the south-southeast or northwest. · Whilst the Coal Processing Area remains in its current location, limit the number of trucks and excavators operating during inversion conditions to 10 and 3 respectively. · Ensure that during periods of noise enhancing winds, overburden emplacement activities are preferentially undertaken 'in-pit' 	Ongoing Ongoing Within 6 months of Project Approval Ongoing Ongoing During adverse meteorological conditions during the night-time period Ongoing until the coal crushing and screening infrastructure are relocated Ongoing	C	Attenuators to some existing CAT785's, purchase of new quieter trucks CAT793XQ. Reverse gear limiter now not feasible - refer to NMP (2014) regarding noise remodelling of unlimited dozers. Barrier sighted during site inspection - in progress. SWL results presented in monthly noise monitoring reports indicate general compliance with the exception of some trucks (CAT785C's) Number of drills revised - NMP (2014) includes details of re-modelling including 3 drills. Refer to NMP (2014) - contains protocol for managing noise sources during adverse weather. Not applicable now processing area has been relocated. Refer to NMP (2014) - contains protocol for managing noise sources during adverse weather.	None
	6.6 Update the Noise Management Plan (NMP) for the LOM Project.	Within 12 months of project approval	C	WCC EMS - Noise Management Plan dated 16 April 2014. The NMP contains direct reference to relevant communication with the EPA and expert approval from the Director-General (Appendix A of NMP). Letter from DPI to WCC dated 29/4/14 Werris Creek Mine Extension Project (MP 10_005) Approval of revised Air and Noise Management Plans.	None
	6.7 Continue the existing monthly Noise Monitoring Program at the existing site to include five new locations to be affected by the Project.	Ongoing	C	WCC EMS - Noise Management Plan dated 16 April 2014.	None

Monitor and manage noise generated by the LOM Project	6.8 Implement a real-time noise monitoring program at selected residential locations that would be most affected by the LOM Project.	Within 12 months of project approval	C	WCC EMS - Noise Management Plan dated 16 April 2014. Real time noise monitoring locations sighted. <i>Continuous Environmental Noise Monitoring</i> report prepared by Advitech dated 4 April 2014.	None
	6.9 Implement a real-time meteorological monitoring program at the Project Site to gather data on wind speed and direction, and deduce inversion conditions.	Within 12 months of project approval	C	Sighted during site inspection.	None
	6.10 Use the real time meteorological data in the management of mining operations to minimise impact of noise on the environment.	Ongoing	C	Noise auditor witnessed use of real time weather data in management of blasting activities. NCO records sighted.	None
14. Environmental Monitoring					
Implementation of an appropriate noise monitoring program to ensure continuing compliance with DECCW guideline levels.	14.6 Undertake attended noise monitoring at the residences most likely to be affected by the LOM Project. · R20: "Tonsley Park" · R9: "Almawillee" · R11: "Glenara" · R12: Fletcher · Werris Creek Town (R55 or R62) · R14: "Greenslopes & Banool"	Monthly	C	Monthly noise monitoring reports	
	14.7 Implement a real-time noise monitoring program with monitoring to be conducted at the most affected receiver based on the prevailing conditions at the time	Within 12 months of project approval	C	Sighted the monitoring equipment. Sighted noise control operator records.	
	14.8 Update the Noise Monitoring Program to reflect additional attended and real time monitoring sites.	Within 12 months of receiving project approval	C	Updated within the Noise Management Plan.	