

MT ARTHUR COAL INDEPENDENT ENVIRONMENTAL AUDIT 2014 PROPONENT'S RESPONSE

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22 October 2014



1. Proponents Response to Recommendations

The Mt Arthur Coal Independent Audit August 2014 was completed in accordance with Schedule 5 Condition 9 of Project Approval 09_0062.

Mt Arthur Coal accepts the audit findings made by audit team, led by Peter Horn from SMEC Australia.

Recommendations resulting from the Mt Arthur Coal Independent Environmental Audit August 2014 and the responses provided by Mt Arthur Coal are provided in Table 1.

It is noted that the lead auditor's recommendations (incorporating recommendations made by the specialist auditors) were made following the site inspection component of the audit. Some of these recommendations relate to systems and practices that may have already been established (either in part or in full) that may not have been observed during the site inspection.

The responses to audit recommendations have been categorised as:

- **Action assigned** – recommendation accepted and indicative timeframe provided.
- **Action completed** – recommendation has already been implemented since the audit site inspection.
- **No further action required** – 1) recommendation relates to already established systems and practices that may not have been observed during the site inspection or 2) implementation of the recommendation is not proposed for the reasons provided.

Table 1: Recommendations and Proponent's Response

Audit Report Reference	Category	Recommendation	Mt Arthur Coal Response as at 1 September 2014
Section 6, Item 1 (page 33)	Air Quality	The Mt Arthur Coal assessment approach could be improved by using only the one pro-forma template report / spreadsheet for assessments at each monitor location. Considering other monitors and race days near the DC02 monitor may also improve the conclusions reached.	<p>In the event of potential exceedances of the 24-hour average PM₁₀ air quality criteria recorded by the real-time monitoring network, an assessment is undertaken to examine the mine contribution to the air quality result with reference to the position of the monitor and the prevailing meteorological conditions on the day. Specific events that have the potential to affect monitoring results, such as race days (particularly relevant to the DC02 Sheppard Avenue monitor) are also recorded and taken into account in the assessment.</p> <p>Templates have been developed for each monitor location to minimise any potential for incorrect downwind angles (applicable to different monitoring locations) to be used in the analysis.</p> <p>The templates will be reviewed to ensure the downwind angles (for meteorological analysis) are configured correctly for each monitor.</p> <p>Action assigned (indicative completion within three months from the date of this response).</p>

Audit Report Reference	Category	Recommendation	Mt Arthur Coal Response as at 1 September 2014
Section 6, Item 2 (page 33)	Blasting	Improve the blast decisions with regard to weather conditions by adding more decision points later in the process.	<p>The blasting permit was recently revised to incorporate additional decision points:</p> <ul style="list-style-type: none"> • approval by mine management is required prior to setting up the blast for firing for blasts with a high fume risk potential. • real-time weather conditions (recorded by both local and regional monitors) are required to be reviewed as close to blast initiation as practicable. <p>The blast production team actively consults with the environment team throughout the blasting process.</p> <p>No further action required.</p> <p>Note – an additional permanent weather station will be installed to allow improved assessment of wind conditions prior to blasting.</p>

Audit Report Reference	Category	Recommendation	Mt Arthur Coal Response as at 1 September 2014
Section 6, Item 3 (page 33)	Noise	<p>It is recommended that a site-specific temperature inversion study be conducted as described in Appendix E2 of the INP and the 90th percentile inversion strength be adopted as the upper limit of applicability of noise criteria. Amend notes in noise monitoring program and Noise Management Plan as required.</p> <p>Alternatively, there may be scope for data-sharing with the nearby Bengalla mine's meteorological tower. The author analysed 12 months data from 2000 for an ACARP project and determined a 90th percentile temperature inversion strength of 6.4degC/100m during winter, for wind speeds up to 1.5 m/s, indicating that the INP default inversion strength of 4degC/100m is not representative of the local environment.</p> <p>This tower is well situated to provide real-time temperature inversion data that would be applicable for the entire Muswellbrook area, in lieu of towers on each mine site measuring inversions.</p>	<p>Appendix C3 of the INP states:</p> <p><i>In NSW, the Hunter region has been identified as an area significantly affected by temperature inversions. For this reason, the area has been studied in detail and, as a result, a shorter procedure for determining the potential for impact in the Hunter region is outlined in Section C4.</i></p> <p>Section C4 of the INP states:</p> <p><i>For sites located in the Hunter region, weather data do not need to be analysed, as the strength and frequency of F-class temperature inversions have already been determined for the entire region. Recent surveys have indicated that the incidence of F-class inversions are widespread in the Hunter Valley and hence, the F-class inversion category may be used as the default category for assessing inversion effects in this region as outlined in Table C3.</i></p> <p>The current limits of applicability to noise criteria applied by Mt Arthur Coal are considered appropriate as they are consistent with the default values provided in the Industrial Noise Policy (INP). Furthermore, the noise results during the audit period relating to inapplicable meteorological conditions were discounted based on excessive wind speed (above 3m/s) not inversion conditions.</p> <p>No further action required.</p>

Audit Report Reference	Category	Recommendation	Mt Arthur Coal Response as at 1 September 2014
Section 6, Item 4 (page 33)	Noise	Consistent with another recently approved Noise Monitoring Program in the Hunter Valley, it is recommended that where a noise level above the criterion is measured under inapplicable meteorological conditions, re-measurement at that location(s) is required under applicable meteorological conditions before the next month's survey commences. The attended monitoring report will remain incomplete until the re-measurement has taken place and only the measurement under applicable meteorological conditions should be included in the report.	<p>The noise consultant responsible for conducting the attended monitoring selects the nights for attended noise monitoring without prior knowledge from Mt Arthur Coal.</p> <p>The consultant will be requested to review weather predictions to enable selection of nights with meteorological conditions (wind speed in particular) suitable for monitoring. Additional follow-up monitoring will be conducted as required in an attempt to obtain a measurement under applicable meteorological conditions for inclusion in the attended monitoring report.</p> <p>Action assigned (indicative completion within three months from the date of this response).</p>
Section 6, Item 5 (page 33)	Soil and Water	Undertake regular visual inspection of key areas that form part of the ESCP, including recently seeded areas, sediment dams, outlets, sediment fences etc.	<p>Routine inspections and post-rainfall (>25mm) inspections of erosion and sediment control structures will be formalised and documented.</p> <p>Action assigned (indicative completion within six months from the date of this response).</p>
Section 6, Item 6 (page 34)	Soil and Water	Formalise inspections in high risk areas, particularly where catchments drain to external boundaries (i.e. Denman Road). Inspect regularly and following >25mm rainfall.	<p>Routine inspections and post-rainfall (>25mm) inspections of erosion and sediment control structures will be formalised and documented.</p> <p>Action assigned (indicative completion within six months from the date of this response).</p>

Audit Report Reference	Category	Recommendation	Mt Arthur Coal Response as at 1 September 2014
Section 6, Item 7 (page 34)	Soil and Water	Undertake regular inspection of culverts along Denman Road to ensure there is no blockage.	Routine inspections and post-rainfall (>25mm) inspections of erosion and sediment control structures will be formalised and documented. Action assigned (indicative completion within six months from the date of this response).
Section 6, Item 8 (page 34)	Soil and Water	Execute a strategy to source new rock protection to replace the existing rock within the downstream section of the Whites Creek Diversion in order to reduce the likelihood of erosion and scouring within the channel and subsequently reduce the likelihood of sediment laden water entering receiving water ways.	Develop remediation plan for the downstream section of the diversion. The plan will take consideration of the planned diversion realignment works and the resulting reduction in upstream catchment area which constitutes the primary source of sediment. Action assigned (indicative completion within nine months from the date of this response).
Section 6, Item 9 (page 34)	Soil and Water	Actions proposed in the letter to EPA dated 15 May 2014.	The actions proposed in the letter to the EPA dated 15 May 2014 are currently being implemented. Action assigned (indicative completion within one month from the date of this response).

Audit Report Reference	Category	Recommendation	Mt Arthur Coal Response as at 1 September 2014
Section 6, Item 10 (page 34)	Soil and Water	Consult with DWE regarding the geomorphological studies required to allow the reinstatement of creeks that are to be mined through then commission studies.	<p>Consultation with the appropriate regulatory authority will be undertaken regarding the geomorphological studies required to allow potential reinstatement of creeks through mine overburden.</p> <p>Action assigned (indicative completion within nine months from the date of this response).</p>
Section 6, Item 11 (page 34)	Soil and Water	Consult with DWE regarding the upper reaches of Fairford Creek and establish a method for reinstating that creeks upper reaches without a geomorphological study.	<p>Consultation with the appropriate regulatory authority will be undertaken regarding the geomorphological studies required to allow potential reinstatement of creeks through mine overburden.</p> <p>Action assigned (indicative completion within nine months from the date of this response).</p>
Section 6, Item 12 (page 34)	Rehabilitation and Biodiversity	Through the use of trials, investigate the use of different seed mixes (derived from those listed in the MOP) in areas where native vegetation is required to allow the slower starting native seeds to get moving with less competition.	<p>The results of rehabilitation monitoring will guide adaptive rehabilitation management, including trials to assess different seed mixes to ensure native species are not out-competed.</p> <p>A native vegetation seed mix trial will be included in the priorities for rehabilitation research and trials to guide the ongoing refinement of seed mixes, specifically to investigate methods to reduce the dominance of exotic grass species.</p> <p>Action assigned (indicative completion within three months from the date of this response).</p>

Audit Report Reference	Category	Recommendation	Mt Arthur Coal Response as at 1 September 2014
Section 6, Item 13 (page 34)	Rehabilitation and Biodiversity	Use rehabilitation inspections to drive correction of substandard rehabilitation.	<p>Post-rehabilitation and annual rapid assessment inspections will be formalised to ensure results are documented to enable trends and patterns to be identified over time.</p> <p>Action assigned (indicative completion within nine months from the date of this response).</p>
Section 6, Item 14 (page 34)	Rehabilitation and Biodiversity	Revise stockpile storage techniques to ensure viability of soil microbes are maximised.	<p>Topsoil stockpiles are managed as follows:</p> <ul style="list-style-type: none"> • no greater than 3 metres in height • located away from drainage lines, operational areas, and proposed disturbance areas • managed to minimise run-on and minimise sediment laden run-off • surveyed and recorded on mine plans • ripped and sown with a pasture mix (where planned to remain for longer than six months) • inspected periodically and, if require, treated for weed infestation <p>The design of topsoil stockpile configuration will be reviewed with a view to establishing a standard that ensures maximisation of soil surface area exposure to air.</p> <p>Action assigned (indicative completion within six months from the date of this response).</p>

Audit Report Reference	Category	Recommendation	Mt Arthur Coal Response as at 1 September 2014
Section 6, Item 15 (page 34)	Rehabilitation and Biodiversity	Develop rehabilitation quality closure criteria that are measurable and achievable to allow the site to measure progress towards the closure criteria and aid in the relinquishment process. The criteria should be agreed with DRE.	<p>Once sufficient data has been obtained from the Landscape Function Analysis (LFA) monitoring program (refer to Item 18), a review of the rehabilitation completion criteria will be conducted to ensure performance indicators and sufficiently measurable completion criteria is established. These criteria will provide the ability to track the development of rehabilitation through various stages in order to ensure that relinquishment can ultimately be achieved.</p> <p>Action assigned (indicative completion following sufficient data being obtained from the LFA monitoring program from the date of this response). <i>This action is contingent on completion of action associated with Item 18.</i></p>
Section 6, Item 16 (page 34)	Rehabilitation and Biodiversity	Use LFA or a similar landscape assessment methodology to measure rehabilitation progress towards closure criteria.	<p>The LFA or similar landscape assessment methodology will be adopted for rehabilitation monitoring.</p> <p>Action assigned (indicative completion within nine months from the date of this response).</p>

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Section 6, Item 17 (page 34)	Rehabilitation and Biodiversity	Reach an agreement with the regulators on a method to reduce fuel load in offset areas and other areas of the site where fuel load is becoming an issue.	<p>Fuel load assessment and management in biodiversity offset and revegetation areas will be undertaken as required and in accordance with the Mt Arthur Coal Bushfire Prevention Procedure.</p> <p>Consultation with the appropriate regulatory authority will be conducted in relation to any alternative methods for managing fire risk that are identified.</p> <p>No further action required.</p>
Section 6, Item 18 (page 34)	European Heritage	Mt Arthur Coal needs to develop a maintenance register to ensure maintenance is undertaken within the suggested and committed time frames.	<p>A register will be developed for recording when inspections are due and have been completed in accordance with the Edinglassie and Rous Lench Heritage Management Program.</p> <p>Action assigned (indicative completion within six months from the date of this response).</p>
Section 6, Item 19 (page 34)	European Heritage	There should also be a procedure to ensure adequate photo and written notes are taken at the time of inspection.	<p>Routine inspections for heritage buildings will be formalised and documented.</p> <p>Action assigned (indicative completion within three months from the date of this response).</p>