



DOC19/645290-10

Mr Jack Murphy
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Dear Mr Murphy

Russell Vale Colliery - Revised Underground Expansion Project (09_0013)

The Environment Protection Authority (EPA) refers to your email of 30 July 2019 requesting comments on the revised Preferred Project Report (PPR) for the Russell Vale Colliery.

The PPR has been developed in response to the Planning Assessment Commission's Second Review Report released in March 2016. The report required further consideration of subsidence impacts including the risk of water loss and impact to upland swamps, and noise impacts from surface facilities.

The revised PPR is now based on bord and pillar mining to reduce impacts associated with longwall mining. Surface facilities have been re-configured to minimise noise levels at residential receivers.

The EPA has reviewed the Air, Noise and Water Impact Assessments and provides comments in the attachments to this letter (**Attachment A, Attachment B and Attachment C**). The comments highlight areas where the EPA recommends more information and clarification be provided to assist the Department of Planning, Industry and Environment in determination of the proposal.

If you have questions regarding the above, please phone Andrew Couldridge on (02) 4224 4100.

Yours sincerely

A handwritten signature in black ink, appearing to be 'P. Bloem'. To the right of the signature is the date '03/09/19' written in a similar handwritten style.

PETER BLOEM
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Attachments A, B and C

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Attachment A

EPA Comments on the Noise Impact Assessment for the Russell Vale Project

Key issues

The EPA has reviewed the following documents regarding the Russell Vale Colliery Underground Expansion Project:

- *Russell Vale Colliery Underground Expansion Project Revised Noise Assessment, dated 17 July 2019, Wilkinson Murray Pty Ltd, reference: 14141-C Version A Final (2019 noise report)*
- *Russell Vale Colliery Underground Expansion Project Second Review Report, dated March 2016, Planning Assessment Commission, NSW Government (Second PAC review)*
- *Russell Vale Colliery Underground Expansion Project Response to Noise Issues Raised by the Planning Assessment Commission Review Report dated 2 April 2015, dated 15 July 2019, Wilkinson Murray Pty Ltd, reference: 14141-A Version B Final (2015 noise report)*
- *Russell Vale Colliery – Underground Expansion Project Review Report, dated 2 April 2015, Planning Assessment Commission, NSW Government (First PAC Review)*
- *Russell Vale Colliery Underground Expansion Project Noise Impact Assessment, dated 9 October 2014, Wilkinson Murray Pty Ltd, reference: 14141 Version C Final (2014 noise report)*
- *NRE No. 1 Colliery Preliminary Works Project, Project Approval 10_0046 dated October 2014 (PWP Project Approval).*

The 2019 noise report has presented predicted noise levels within 2 dB or lower than the revised project noise trigger levels. This represents a significant reduction in noise levels compared with previous noise assessments for this application. There are a number of areas where additional justification and information is required as follows:

1) Background noise monitoring

The proponent has provided a new set of rating background levels (RBL) for receivers to the north and south of the premises. These new RBLs are generally higher than those determined in 2013 by ERM and Wilkinson Murray (WMPL) in 2014. The proponent must provide additional justification for the new RBLs; noting that they are higher than RBLs presented in previous assessments, are appropriate giving consideration to the length of period of monitoring, and the location of the monitoring relative to the most affected receivers and any other aspect pertinent to noise monitoring is in accordance with Fact Sheets A and B of the Noise Policy for Industry (NPfI) (EPA, 2017).

2) Assessed scenarios

The 2019 noise report has assessed three scenarios:

- construction of bunds
- phase-in which includes limited operations and coal processing infrastructure construction
- full operation with all mitigation measures in place.

The construction of bunds is proposed to occur prior to the phase-in scenarios for Bund #1 and the access road barrier, and for all other bunds during the phase-in scenario. The construction of bunds is predicted to exceed the Interim Construction Noise Guideline (ICNG) noise management levels by a significant amount. Chapter 2.4 of the noise report states that the rest of the bunds (Bunds #2-

5) will be progressively extended and completed before the end of the phase-in period. The phase-in period is stated to last between 12 to 24 months. This indicates that there is potential for a significant impact to occur during the first two years of the five year project whilst bunds are being constructed. Based on this, the EPA advises:

- a) It is not clear from the report why all the noise mitigation bunds/barriers are not constructed prior to the commencement of operations. It is expected that noise mitigation bunds/barriers are constructed prior to the commencement of operations, unless sufficient justification can be provided.
- b) Noise mitigation measures should be constructed as early as possible, unless community engagement identifies an alternative preference.
- c) The proponent should commit to a firm timeframe for completion of the bund construction so that any period of potentially significant impacts is limited and to inform the expectations of the community and regulators.

3) Proposed noise mitigation measures

- a) There is a significant reduction in predicted levels between the 2014/2015 noise reports and the 2019 noise report. The proponent should provide details of the predicted noise reductions associated with significant mitigation including engineering controls (including berms / barriers) and operational changes to demonstrate their individual and combined effectiveness.
- b) The phase-in scenario includes a 9m ROM coal stockpile as a noise control measure for the ROM stockpile dozer. However, this measure is only in place during the phase-in scenario and not the operational scenario. It is currently not clear what mitigation measure replaces the 9m stockpile in the operational scenario to retain similar predicted noise levels at receivers. The proponent should provide clarification on how the dozer is mitigated in both the phase-in and operational scenarios.
- c) The proponent should clarify if the D8 dozer will have at source mitigation (Hushpack) applied prior to the phase-in scenario commencing.
- d) Noise barriers and berms in a variety of configurations have been assessed in multiple previous noise assessments for the premises to be of limited acoustic benefit. The proponent must provide justification that the barriers and berms proposed in the 2019 noise report will have an appropriate level of acoustic benefit.
- e) Table 7-3 presents the 27 receivers identified to exceed the Project Noise Trigger Levels (PNTLs), with a maximum exceedance of 2 dB. It would aid the assessment of the proposal and the assessment of reasonable and feasible mitigation if the proponent provided more detail on which were the major sources that contribute to the exceedances at these receivers.
- f) Previous noise assessments for the site have identified a range of different outcomes including no mitigation, mitigation with significant residual impacts and mitigation with no significant residual impacts. It would assist the assessment of the application if the proponent provided an indication of the scale and potential for different outcomes that could eventuate if there were under or overestimations of the effectiveness of the mitigation measures. The noise report should present additional contingency and safeguard mitigation measures that could be deployed should operational noise levels exceed predicted values.

4) Operational noise assessment

- a) The EPA does not recommend or endorse any particular noise prediction method or software. The proponent is responsible for demonstrating the method they have used is suitable.
- b) The proponent must provide more information regarding the difference in predicted levels between the 2019 noise report and the 2015 noise report. Predicted noise levels have reduced by between 2 and 15 dB during the day and evening. During the night period, some receivers have reduced noise levels, and some have increased noise levels compared to the 2015 noise report. The proponent should provide more detail on the difference between the two sets of predictions and the reasons for the differences.
- c) The low frequency noise assessment in Chapter 7.5 of the 2019 noise report has not followed the NPfI procedure. Section 2.2 of the NPfI states that noise levels should be rounded to the nearest integer. This means that the numbers in Table 7-4 of the 2019 report should be reported as integers. This would mean that R2 and R11 have a C-A weighted noise level difference of

15 dB. One part of the trigger for the low frequency correction in NPfI Table C-1 is where the C-A weighted level difference is 15 dB or more. Since the difference at R2 and R11 is 15 dB (rounded to the nearest integer), the proponent should further investigate the potential for low frequency noise impacts and the applicability of a low frequency penalty.

- d) Table 6-4 of the 2019 noise report states the sound power level (SWL) used in the modelling but also in some cases also states the mitigated noise level. The proponent should clarify which SWL has been used to generate the predicted noise levels.
- e) The assumptions regarding the front end loader (FEL) in Table 6-4 state that it would only be used for 2 minutes per 15 minutes due to operational limitations on the number of trucks. The proponent should provide further justification that this is a reasonable assumption.
- f) The proponent should confirm which type of truck will be used to haul rejects. For example, will an articulated dump truck (for example, CAT 740 style truck) or another type of truck be used. There is potential for different trucks types to generate higher noise levels.

5) Sleep disturbance assessment

- a) The predictions from the tripper in Table 8-1 are about 1 dB higher than the $L_{eq,15min}$ noise levels. Further explanation is requested as this currently implies that the dominant noise sources would not have a maximum noise level substantially above their $L_{eq,15min}$ noise level.
- b) The proponent should provide more information on the SWL, type and locations of L_{max} sources assumed for truck movements.

6) Project Noise Trigger Levels

The proponent has assumed that there are no existing and no future industrial noise sources in the area other than the subject premises in their determination of the amenity level. The proponent should provide further information on the potential for the existing, planned or zoned commercial and industrial premises on Bellambi Lane and the area surrounding the mine to influence industrial noise levels at relevant receivers.

Attachment B

EPA Comments on the Air Quality Impact Assessment for the Russell Vale Project

Key issues

The EPA has reviewed the Air Quality Impact Assessment (AQIA), *Air Quality Impact Assessment, Russell Vale Revised Underground Expansion Project, (ERM Australia Pacific, July 2019)*. The AQIA was generally prepared in accordance with the *Approved Methods for the Modelling and Assessment of Air Pollutants in NSW (Approved Methods)*. However, the following issues should be addressed before determination of the proposal.

1) Assessment does not include a meteorological data selection process

Wind roses presented in the AQIA show there are 0 per cent calm conditions during the modelled year (2016). Worst case air quality impacts typically occur during calms or light winds which exhibit poor dispersion qualities. The modelled year may not have captured the worst-case impacts.

The assessment does not demonstrate that year 2016 meteorological data is representative of long-term conditions experienced at the site. Selecting representative meteorological data is important as it drives the transport and dispersion of the modelled air pollutants in the atmosphere.

Section 4.1 of the Approved Methods specifies that the assessment must clearly establish that the meteorological data adequately describes the expected meteorological patterns at the site under investigation. The assessment should be revised to include a comparison of the modelled meteorology (2016) against long term data at or near the mine site.

The EPA recommends that:

- a) *The proponent should incorporate a meteorological analysis that includes at least five years of meteorological data at or near the site and re-assess if 2016 meteorological data is representative.*

2) Adopted background levels data

Whilst the AQIA indicates no additional exceedances from the proposal, incremental 24-hour average PM₁₀ concentrations presented in Tables 6.1 and 6.2 show that in some cases the project contributions can be similar or larger than the background levels at specific receptors (R1, R2, R10). The largest expected 24-hour average PM₁₀ contribution at receptor R1 is 23.9 µg/m³, which is approximately half of the EPA's impact assessment criterion (50 µg/m³) and more than double the background level on the same day.

Figures 4.2 and 4.3 in the AQIA present background data for 24-hour average PM₁₀ and PM_{2.5} concentrations for 2016 only. There is approximately a two-month data gap between February and April and no discussion or explanation has been provided.

As the expected 24-hour average PM₁₀ concentrations from the modelling can be as high 23.9 µg/m³, it is important the AQIA discusses or presents historic ambient monitoring data to show the representativeness of the adopted background levels for the missing period.

The EPA recommends that:

- a) *The assessment should be revised to include all available ambient air quality data at or near the site to robustly characterise background air quality surrounding the project site and characterise local air quality impacts in the vicinity of the proposal in the context of historic operations.*

3) Unclear calculations to establish the emissions inventory

The AQIA does not provide detailed discussion of the methodology used to calculate the emissions inventory for either of the modelling scenarios. Calculations presented in Tables 2 and 3 could not be replicated.

In addition, the AQIA does not provide any information regarding the location of the sources for the modelling scenarios and does not include any discussion regarding expected shaft emissions.

Section 9.3 of the Approved Methods specifies that a detailed discussion of the methodology used to calculate the expected pollutant emission rates for each source should be presented as part of the AQIA.

The EPA recommends that:

- a) Detailed information for the calculation of the emissions inventory should be provided to enable the EPA to replicate emissions. In particular, this information is to be provided for those activities (hauling, wind erosion for exposed areas, FEL loading) with the largest contribution to the total emissions.***
- b) The proponent should present the location of the modelled sources for both scenarios.***

4) Assessment does not include a worst-case scenario

Based on the information presented in Tables 6.1 and 6.2 in the AQIA, the proposed project contributions at some receptors (R1, R2, R10) are similar or larger than the selected background. These results are based on annual processing quantities and not a maximum daily operation quantity.

An AQIA must include a reasonable worst-case scenario. The EPA considers a reasonable worst-case scenario should include emissions from expected daily peak activities.

The EPA recommends that:

- a) The proponent should revise the AQIA to include a worst-case scenario. This scenario should include emissions at daily maximum processing quantity.***

Attachment C

EPA Comments on Surface Facility Water Management for the Russell Vale Project

Key issues

In relation to surface water discharges, the EPA recently provided comments on the Russell Vale Colliery – Modification 4 (MP 10_0046 Mod 4) Response to Submissions (RTS) report. The RTS was for a development modification to remove the requirement to replace the Bellambi Gully diversion pipe with an open channel south of the coal stockpile at the Russell Vale Colliery. The EPA's response to the Department of Planning and Environment (DPE) was in a letter dated 21 January 2019 (DOC19/45371).

The EPA notes that the Statement of Commitments for the UEP contains agreed programs to install and maintain works proposed under Mod 4 and the EPA has no further comments to make.

Discharge from mine adit following eventual mine closure

The PPR discusses a PAC recommendation on page 172, section 9.3. The recommendation was in relation to the eventual discharge of groundwater from the Wongawilli coal seam portal (called an adit in the PPR). This would occur after mine closure and following flooding of the mine workings. It is estimated that 0.3 ML/d would drain by gravity from the adit presumably to Bellambi Gully. The PPR suggests that the water would be managed by treatment for a period of ten years following mine closure through a fund established for that purpose.

The PAC however stated that *"If sealing of an adit constitutes a control for managing water inflow, then this control should be risk assessed to determine its likely practicality and effectiveness and hence residual risk."* The PAC's recommendation has not been addressed in the PPR.

The EPA believes that the PAC's recommendation should be addressed not necessarily to reduce inflow but because recent experience at other mines in the Southern Highlands demonstrates the difficulty in finding a long term solution to legacy groundwater discharges. The discharges are often saline and contain dissolved metals that combine to permanently affect the downstream aquatic health of rivers.

The EPA considers that this issue does not need to be resolved prior to approval (if granted) because it is pre-existing and is not significantly altered by the revised proposal. However, the EPA requests that a program to investigate sealing of the mine as an alternative to water treatment be included as a Statement of Commitment or an Approval Condition.

