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NSW GOVERNMENT Health
Hunter New England
Local Health District

24 May 2013

Mr Mathew Sprott
Planner
NSW Department of Planning & Infrastructure
GPO Box 39
SYDNEY NSW 2001

Dear Mr Sprott

MT ARTHUR MINING COMPLEX MODIFICATION 1 - EXTENSION OF MINING

I refer to the Environmental Assessment (EA) exhibited on the NSW Department of Planning & Infrastructure website in relation to the Mt Arthur Mining Complex Modification 1 – Extension of Mining. The development is a modification to the Project Approval 09_0062 which includes the continuation of open cut mining operations for an additional four years until 2026, an increase in open cut disturbance areas, and an increase in the maximum number of train movements per day from 24 to 38. The mine is located approximately 5km south-west of Muswellbrook which has a population of approximately 12000 people.

The EA has been reviewed by Hunter New England Population Health with particular attention paid to management of air quality, noise, water and other issues that may impact on public health.

The following should be considered in the approval process for this project:

Air Quality
The comments in this section are contingent upon the Environment Protection Authority's confirmation that the modelling methods used comply with their *Approved Methods*.

Long and short-term exposure to $PM_{2.5}$ causes health effects including heart and lung diseases which may lead to premature death and increased hospital admissions. No threshold has been identified below which exposure to $PM_{2.5}$ is not associated with health effects. The $PM_{2.5}$ levels in the Muswellbrook population centre are already exceeding annual reference levels. Therefore the proponent should demonstrate that the mitigation measures implemented throughout their operation including this project will result in a feasible net reduction in $PM_{2.5}$ to the air-shed impacting on the Muswellbrook population.

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Based on the information provided in tables 8.1 – 8.6 of appendix F, it appears that the existing annual average $PM_{2.5}$ concentration is assumed to be 5mcg/m^3. However, there is no explanation as to how this value was derived, and table 4.7 of appendix F shows that annual average $PM_{2.5}$ levels in nearby Muswellbrook are in the range 8 – 9 mcg/m^3.

The annual average $PM_{2.5}$ concentration at a number of residences outside the Mt Arthur Coal Mine Zone of Acquisition is predicted to be at or just below the NEPM advisory reporting standard. Given this, the impact of the project in relation to this standard is likely to be sensitive to the existing concentration used in the model. Therefore, it is recommended that the proponent provides a detailed explanation of how the existing $PM_{2.5}$ level was estimated.

It is noted that the haul road watering and suppressant application is assumed to achieve a control efficiency of 85%. This is at the upper end of the best practice control efficiencies presented in the NSW EPA's Katestone report. Again, given that a number of receptors outside the acquisition zone are predicted to be exposed to annual average PM levels at or near assessment criteria, it is recommended that the proponent illustrates the sensitivity of the impact assessment to assumptions about control efficiency by conducting an analysis using lower values.

A number of residences outside the Zone of Acquisition are predicted to be exposed to an increase in annual average $PM_{2.5}$ concentration of 3mcg/m^3 as a result of this project. Any increase in long-term exposure to $PM_{2.5}$ is associated with adverse health effects. An increase of this magnitude presents a significant increase in risk for individuals residing at these properties and it is recommended that the proponent considers including them in the acquisition zone.

Overall, the modelling predictions for annual and average maximum 24 hour PM_{10} concentrations are lower at the majority of residences when compared to the 2009 EA for the currently approved Consolidation Project.

All predicted exceedences of air quality criteria are at residences that are already within the Mt Arthur Coal Mine Zone of Acquisition, or at mine-owned residences (either owned by the Mt Arthur Coal Mine or other neighbouring mines). However, ownership does not alter the impact of these exceedences on the residents living at these affected properties and it is recommended that the proponent takes action to ensure that any resident who chooses to live within the acquisition zone does so in full knowledge of this impact. It is not clear in the EA whether assistance in the form of air quality mitigation measures that are provided for privately owned residences are also provided for tenants in mine-owned properties.

The EA assumes that PM goals will remain static throughout the duration of the project until 2026. A priority of the *National Plan for Clean Air* is to develop an exposure reduction framework, which aims to reduce the population's exposure to particulate air pollution, even when it is below current standards. Any modelling beyond a 10 year timeline could consider that the annual average PM_{10} and $PM_{2.5}$ goal may have been reduced considerably over that time period.

24 May 2013

Noise and Blasting
The EA informs that the mine operates 24 hours per day, seven days per week.

The EA review of noise monitoring data for the period 2007-2011 showed a high level of compliance with regulatory criteria. However, in recent years there has also been an increase in noise and blasting related complaints.

Overall it appears that predicted exceedences of noise criteria are lower in the Modification than in the currently approved Consolidation Project. However there are a number of residences that will be negatively affected by the Modification.

The EA states that a number of residences that were potentially affected by noise and blasting have been purchased. However, it is unclear from the EA whether these properties receive noise mitigation measures to protect current or future tenants.

Stakeholder Engagement
It would be appropriate to have an independent assessment of the community satisfaction with the stakeholder engagement program.

Should you require any additional information in relation to the above, please telephone Ms Carolyn Herlihy, Environmental Health Officer on 4924 6477.

Yours sincerely

Professor David Durrheim
Director - Health Protection
Hunter New England Population Health