

22 September 2016

Ms Megan Dawson
Planning Officer
Resource Assessments – Planning Services
Department of Planning & Environment
GPO Box 39
SYDNEY NSW 2001

Dear Ms Dawson

United Wambo Open Cut Coal Mine Project (SSD 7142, DA 305-7-2003 MOD 16 and DA 177-8-2004 MOD3)

I refer to the Environmental Impact Assessment (EIS) exhibited on the NSW Department of Planning & Infrastructure web site in relation to the United Wambo Open Cut Coal Mine Project (SSD 7142, DA 305-7-2003 MOD 16 and DA 177-8-2004 MOD3) (the Project).

The Project involves extending and combining the existing open cut coal mine at Wambo Coal Pty Ltd (Wambo) with a proposed new open cut coal mine at the neighbouring United Collieries Pty Ltd (United). This will result in extraction of an additional 150 million tonnes (Mt) of run-of-mine (ROM) coal over 23 years. Total production deliveries to the Wambo coal handling and preparation plant will be limited to the currently approved production rate of 14.7 million tonnes per annum (Mtpa) ROM coal, which will consist of up to 10 Mtpa of ROM coal from the Project along with coal deliveries from the existing Wambo underground coal mine.

In addition, the Project includes the ongoing use of the Wambo coal handling and preparation plant, mine infrastructure area and related facilities, and the Wambo train loading facility for the life of the Project, which extends beyond the current approval; ongoing use of, upgrades to and expansion of the existing Wambo and United mining infrastructure; and realignment of a 2km section of the Golden Highway, along with relocation of sections of transmission lines.

Mining operations will be undertaken 24 hours per day, 7 days per week. Blasting will be restricted to 9.00am to 5.00pm Monday to Saturday except where approved otherwise by the EPA.

Hunter New England Population Health (HNE Health) has reviewed the EIS report paying particular attention to the management of air quality, noise, water and issues which may

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have an impact on public health. The following points are discussed and should be considered in the approval process for this project.

Air Quality

There is no evidence of a threshold below which exposure to particulate matter (PM) is not associated with health effects. Therefore, it is important that all reasonable and feasible measures are taken to minimise human exposure to PM, even where assessment criteria are met.

On 15 December 2015, the National Environment Protection Council (NEPC) agreed to vary the National Environment Protection (Ambient Air Quality) Measure (NEPM). The amending instrument took effect on 4 February 2016. The new standards are as follows:

Pollutant	Averaging Period	Maximum concentration standard	Maximum allowable exceedances
Particles as PM ₁₀	1 day	50 µg/m ³	None
	1 year	25 µg/m ³	None
Particles as PM _{2.5}	1 day	25 µg/m ³	None
	1 year	8 µg/m ³	None

Reference: <https://www.legislation.gov.au/Details/F2016C00215>

The EIS explains that, at the time of preparation of the report, the Environment Protection Authority (EPA) had not yet prescribed changes to the air quality criteria for NSW following the amendment to the NEPM. However, it would be expected that the EPA will introduce the amended criteria within the foreseeable future, and the EIS should have taken this into account.

Particulate matter is identified in the EIS as an issue for this Project. The private residence R19, located 1km to the south east of the proposed United pit, and the only non-mine owned residence in Warkworth village, is predicted to experience substantial exceedances of both PM₁₀ and PM_{2.5} criteria. It is detailed in the EIS that this residence is already subject to acquisition rights under the existing Wambo mine, Wambo train loading facility and the Mount Thorley Warkworth development consents.

Private residence R28, approximately 2km northwest of the Wambo pit in the Moses Crossing area, is predicted to experience PM₁₀ above 50µg/m³ on 6 days in Year 2 of the Project, and 3 days in years 6, 11 and 16. Currently the criteria allows up to 5 days of exceedance per year. However, the new NEPM has no allowance for exceedances.

The EIS states that analysis of wind patterns from the Wambo meteorological station for the period 2011 to 2015 indicate that wind patterns are relatively consistent from year to year, and the most common winds are from the south-southeast, southeast and west-northwest. It would be expected that the particulate matter contours may follow this pattern. However, the contour lines for predicted annual average PM₁₀ and PM_{2.5} concentrations as shown in Figures 26 and 32, respectively, of *Appendix 7: Air Quality Impact Assessment* indicate the plume moving more in a northerly direction. If the PM was distributed and settled in accordance with the common wind patterns, it might be expected that there would be more of an impact on the residences to the northwest of the Project in the Moses Crossing area than these Figures predict. HNE Health would recommend expert analysis of these modelling results.

HNE Health notes that the proponents have committed to consult with the owners, and as appropriate the tenants of the mine owned residences, in Warkworth and other areas surrounding the Project that are expected to experience exceedances of air quality assessment criteria, to appropriately inform them about the predicted impacts of the Project on air quality over the life of the mine.

Noise and Blasting

Environmental noise can have negative impacts on human health and well-being and trigger ongoing community complaints about annoyance, sleep disturbance and stress. Evidence concerning the adverse health effects of environmental noise is detailed in a number of publications, for example, the *World Health Organization Night Noise Guidelines for Europe* (2009) and the *WHO Guidelines for Community Noise* (1999). To protect public health, it is prudent to take all reasonable and feasible measures to minimise public exposure to mine-related noise, irrespective of compliance with the relevant noise policies.

Data presented in *Appendix 4: Social Impact and Opportunities Analysis* indicate that 87% of all community complaints to Wambo between 2011 and 2014 related to noise (112/169) and blasting (35/169).

Under the *NSW Industrial Noise Policy* (EPA 2000), a development is considered to cause a noise impact if the predicted noise level at the receiver exceeds the project specific noise levels (PSNL) for the project. This Policy also details the response and mitigation measures required when noise trigger levels are met or exceeded.

The noise modelling in the EIS shows the potential for some significant exceedances. As stated in the EIS, the noise modelling found that after the application of reasonable and feasible noise controls, the Project is predicted to exceed the PSNL at a number of private residences. These include 7 residences with exceedances greater than 5 dB(A) (Noise Affection Zone), 18 residences with exceedances of 3-5 dB(A) (Active Noise Management Zone), and 13 residences with exceedances of 0-2 dB(A) (Noise Management Zone).

The residence that will be most impacted by increases in noise is R19, which is predicted to experience day time exceedances of the PSNL of up to 13 dB(A), and night time exceedances of up to 17 dB(A). This residence is also predicted to be the only private residence to experience exceedances of the sleep disturbance criteria. This is the same residence mentioned in the Air Quality section that has current acquisition rights from both Wambo and Mount Thorley Warkworth mining operations. It is advised that the proponent engage in clear and open consultation with the owner/occupier of this residence to ensure they are aware of the additional impacts and their options.

The other 6 residences in the Noise Affection Zone are located 1-2km to the northwest of the Wambo pit on the Golden Highway in an area known as Moses Crossing. The majority of residences in the Active Noise Management Zone are located approximately 1-3km to the west of the Wambo pit in the Redmanvale Road area. These are communities that are already experiencing significant impacts from noise, as evidenced by the number of complaints in relation to noise mentioned previously. As part of any approval, we would emphasise the need for effective community consultation throughout the project to facilitate public involvement and to allow for the community to participate in the mitigation selection process.

The current Wambo mine approval allows for up to 15 blasts per week and up to 3 blasts per day, with an allowance for additional blasts where there are low vibration blasts or misfires. The Project is planning to manage blasting practices within the limits of these existing blasting conditions. It is noted that in records since 2004, there have been four exceedances of the maximum airblast overpressure criteria. There have also been a further 12 exceedances of the recommended airblast overpressure criteria, though the number of exceedances totalled less than 5% and were therefore within the allowable number according to the relevant criteria. Although mostly compliant with relevant criteria, the current blasting practices are still resulting in a large number of complaints from residents. The EIS states there is potential for residence R19 to experience ground vibration exposure levels and airblast impacts in excess of relevant limits for human comfort. The EIS also states that any blasting impacts in excess of the criteria at R19 would be the subject of a negotiated agreement with the resident while it remains privately owned. As stated previously, it is advised that the proponent engage in clear and open consultation with the owner/occupier of this residence to ensure they are aware of the additional impacts and their options.

We emphasise the need to ensure strict control of blast conditions to protect the public from the impacts of vibration, overpressure and blast fume emissions.

Surface Water

There is a health risk from direct human exposure to contaminated surface water or if contaminated surface water enters a drinking water supply.

It is reported in the EIS that the majority of land adjacent to the creeks downstream of the Project is owned by mining operations. There are two small privately owned vacant lots downstream of the Project on Wollombi Brook with basic landholder rights for domestic and stock use. The EIS states that there are no adverse impacts predicted for downstream water users as a result of the Project.

Ground Water

The EIS reports 68 bores within 4km of the proposed extraction area. Of these, 16 are privately owned and currently in use, mostly for stock water supply, with some also used for irrigation and domestic use (gardens and toilets).

The EIS reports that the Project is not predicted to adversely affect groundwater quality within alluvial aquifers.

The modelling predicts one privately owned bore, that is not currently operable, will be impacted by drawdown, resulting in a reduced pumping capacity due to decline in the water level. This is unlikely to have any impact on human health.

Rainwater Tanks

It is noted that in the EIS the proponents have committed to providing for the inspection and, as necessary, cleaning of drinking water tanks every 2 years for all private residences and Joint Venture owned residences within 4 kilometres of the mining area for the Project. HNE Health would recommend including more frequent inspections and cleaning where necessary in response to residents' complaints.

If you require any further information please telephone Carolyn Herlihy, Environmental Health Officer on [REDACTED].

Yours Sincerely

A handwritten signature in black ink, consisting of a large, stylized 'M' followed by a horizontal line.

Dr Tony Merritt
Acting Service Director – Health Protection
Hunter New England Population Health