

Submission on the Warkworth Continuation Project

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Healthy planet, **healthy people.**

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Doctors for the Environment Australia (DEA) is an independent, self-funded, nongovernment organisation of medical doctors in all Australian States and Territories. Our members work across all specialties in community, hospital and private practices. We work to prevent and address the diseases – local, national and global – caused by damage to our natural environment. We are a public health voice in the sphere of environmental health with a primary focus on the health harms from pollution and climate change.

All our submissions, including this one are prepared by highly qualified public health experts.

Recommendation

We propose the application be rejected on health grounds for these are potentially serious and long term.

Summary

1. The noise impacts are not fully detailed and an adequate cumulative impact study is not provided. Nevertheless sufficient information is given to indicate significant health risks for residents in local communities.
2. The data presented on PM₁₀ as an indication of air pollution from the mine operation is in excess of the World Health Organization's (WHO) standards and are likely to exceed national standards when they are revised and pose an unacceptable health hazard to local individual inhabitants.
3. The modelling for air pollution from blasting is inadequate particularly in relation to nitrous oxide. However even on the information provided large exposures are likely and will be sufficient to harm health.
4. The economic argument for expansion is spurious when no economic assessment is made of the long term health costs which will be incurred by the state of NSW.

The Proposal

Two separate EIS are on exhibition. The extension of the Warkworth Mine is the most significant as it proposes significantly increasing the existing mine's approved footprint to the west, bringing mining operations closer to the village of Bulga. This and the related Mt Thorley Mine extension also contribute to significantly longer operations at the site. As the operations are inter-twined and the human health impacts cumulative from the two proposals DEA has reviewed them together and submits these collated comments to both EIS.

The 2 mines have been in operation since the 1980's. Warkworth lost an appeal against a similar expansion lodged in 2003. The argument to allow the current proposal is that this is the only way to allow economic extraction of the coal, preserve 1,300 local jobs, and that better mitigation of impacts is included.

The two principal environmental health risks are noise and air. Water impacts are not considered significant human health risks for these proposals as the local towns receive reticulated supply from Singleton Council.

A number of properties in the area are already mine owned, or approved for buy-back due to existing air pollution and noise pollution impacts (from either Warkworth or Mt Thorley, or

from other neighbouring mines such as Wambo and Bulga). It is not stated whether the mine-owned properties are rented out, and this would be a significant consideration if the mines are allowing people to inhabit locations with levels of air pollution and noise likely to adversely impact on their health.

Noise

Curiously, the NSW EPA Industrial Noise Policy (INP) allows some properties in this rural area to be classified as urban/industrial interface, thus setting a lower bar for acceptable noise impacts. Further, the consultants have conducted separate assessments of noise for each proposal, and looked at cumulative impact only for the night-time amenity criterion. As the intrusiveness criteria are the more difficult to achieve for these projects the lack of a cumulative assessment for intrusive noise means that the potential for significant health impacts from noise are not properly described.

For example, Appendix F for the Warkworth Continuation Project, Table 10.7 demonstrates that 60 properties in the Bulga area are subject to 1-2dB increases, 5 properties are subject to 3-5dB increases, and 1 property is subject to >5dB increase from Warkworth operations alone. The Mount Thorley EIS suggests that 53 properties will be subject to noise increases of 1-2dB and the figures indicate that it is mainly the same properties affected by both proposals (e.g. MTO EIS Figure 9.5 and WCP App F Figure 10.2). Thus the cumulative impact of the two proposals proceeding would mean a significant increase to the noise levels in Bulga village, potentially close to the INP "acceptable" criterion.

There are well-established relationships between noise and adverse impacts on health. Approval of both proposals has the potential to expose most residents of Bulga village to increased noise levels and commensurate risk to their health.

It is particularly worrying to note that a few properties are expected to be exposed to noise levels in excess of INP criteria. The EIS notes that these have already been acquired, or are subject to acquisition. However the EIS fails to document whether mining companies continue to allow people to live in these locations, irrespective of their ownership, potentially exposing tenants to high levels of noise pollution.

Air Pollution

The EIS provides sufficient information to understand the cumulative impact of both developments on local air quality.

Appendix G of the Warkworth Continuation EIS highlights two air pollution impacts with a significant potential for adverse health impacts.

PM₁₀

PM₁₀ emissions are derived from the main mine operations – removing overburden and digging up coal. Modelling presented in the EIS demonstrates that local villages would be subject to significant increases in annual average PM₁₀ exposure due to Warkworth operations, for example, in Year 9 Warkworth village PM₁₀ levels increase on average by 10 micrograms/mm³ leading to a cumulative annual PM₁₀ exposure of over 30 micrograms/mm³. Most residential locations around the proposals are expected to have annual average PM₁₀ concentrations of at least 10 micrograms/mm³ due to contributions from Warkworth and other sources, ranging up to 30 micrograms/mm³. This compares to the WHO annual air quality criteria for PM₁₀ of 20 micrograms/mm³, with the WHO stating there is no safe level for exposure, with population

health decreasing as PM₁₀ levels increase. These levels are higher than those found in Sydney, and considerably higher than PM₁₀ levels found in typical rural areas, and creating a significantly increased risk of adverse impacts from air pollution compared to rural areas not impacted by mine emissions.

Also of concerns are the number of days when the 24-hour PM₁₀ levels increase substantially, and the magnitude of PM₁₀ increases in some locations.

It is of concern that with air pollution modelling consultants tend to play down the health effects of mine-derived particulate matter. While mine-derived PM₁₀ does differ from urban air pollution there is a considerable body of health research that demonstrates mine-derived PM₁₀ has adverse effects on the respiratory system in particular; leading to exacerbations of asthma and increased likelihood of hospitalisation due to respiratory disease. The WHO cautions that their air quality guidelines are applicable for all sources of air pollution.

Air quality modelling is also imperfect with studies in other coal mining regions suggesting wider dispersion of air pollutants than predicted by models. Exposure in local populations may therefore be inaccurate.

Blasting Impacts

Modelling of blasting impacts demonstrates the potential for significant air pollution impacts on the villages of Bulga and Mount Thorley from blasting. Appendix G, Figures H-8 and H-9, for example, demonstrate hourly averaged nitrogen dioxide concentrations resulting from blasts in the early evening. Considering that the emissions from blasts occur over only minutes, and that the hourly average of nitrogen dioxide on residential areas exceeds 125 micrograms/mm³ then the actual exposure in the minutes immediately following the blast in inhabited areas has the potential to reach levels associated with adverse impacts on susceptible people, such as those with asthma. Modelling should be provided to demonstrate nitrogen dioxide concentrations over shorter time periods (<10 minutes), to enable health risk assessment of this exposure.

Commentary

We understand that the proposal was previously rejected by the NSW Land and Environment Court and an appeal by the NSW government was also rejected. The evidence presented in this application changes nothing, for the proposal will increase air pollution in an already polluted region of NSW. On the known evidence of death and ill-health from air pollution and the ill health from noise pollution, there is likely to be considerable long term health costs to NSW.

There is no cost benefit analysis of this proposed trade off. It is difficult to understand why a government in one of the wealthiest per capita countries in the world would accept this proposal, when the world is moving to clean energy development and jobs to provide an economically sustainable future.