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NSW GOVERNMENT Health
Hunter New England
Local Health District

3 December 2015

Mr Hamish Aiken
Planning Officer Mining Projects
Department of Planning & Environment
GPO Box 39
Sydney NSW 2001

Dear Mr Aiken

RIX'S CREEK COAL MINE CONTINUATION OF MINING PROJECT SSD 6300

I refer to the Environmental Impact Statement (EIS) exhibited on the NSW Department of Planning & Environment web site in relation to the Rix's Creek Coal Mine Continuation of Mining Project (the project).

The Rix's Creek Coal Mine is an open cut mine located in the Hunter Valley approximately 5 kilometres north-west of Singleton. The project aims to extend the mine in a north-westerly direction and increase production from current production of 2.5 million tonnes per annum (Mtpa) run of mine (ROM) coal per year to 4.5 Mtpa ROM coal. The project seeks to extend the life of the mine until approximately 2037.

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

During a consultation with the team developing Rix's Creek Mine Continuation Project we advised of the importance of considering that air quality goals will not remain static during the proposed life of the mine. It is important that the EIS should address the likely future air quality standard for annual average PM_{10} of between 20 and 25 µg/m^3 and annual average $PM_{2.5}$ of 8 µg/m^3 as flagged in the Proposed variation to the Ambient Air Quality NEPM. While the EIS states (on page 102) that the "Air quality impacts were assessed having regard to the World Health Organisation (WHO) Air Quality Guidelines (2005) for particulate matter", the EIS did not use the annual goal of 20 µg/m^3 recommended by WHO in the document. Our focus in this review is on average annual particulate levels because this measure is most predictive of health impacts and $PM_{2.5}$ is considered to have more significant health impacts than PM_{10}.

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The village of Camberwell is inside the contours for modelled worst case annual $PM_{2.5}$ and PM_{10} goals (using 30 µg/m^3 as the goal) (Figures 11.7, 11.8, 11.9, 11.10). Figures 11.9 and 11.10 depicting modelled worst case annual average PM_{10} only provide a 30 µg/m^3 contour. Displaying a 20 µg/m^3 and 25 µg/m^3 contour (as relevant to the goal promoted in the variation to the Australian NEPM) would be of great use in assessing the impact on the nearby settlements such as McDougalls Hill and Singleton Heights. While the Rix's Creek project may only contribute a small (but not insignificant) proportion of particulate emission to the local communities, it is the total impact that is important from a cumulative impact assessment perspective. The intensive mining in this area will likely exceed current and particularly future air quality goals making it difficult to argue that increased particulate emissions are acceptable from a cumulative impact perspective. There are multiple and significant impacts on receptors 170 – 177. The EIS appears to dismiss these impacts because the properties are eligible for acquisition, however, rights to acquisition do not diminish or negate the cumulative impact to these communities (page 111).

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 Table 19-6 Impacts on Social Amenity indicate that 37% of all complaints between 2001 and 2015 relate to noise impacts, mostly from operational noise from the Mine, but also noise from coal trains passing residential areas. A further 29% of complaints related to overpressure levels and vibration from blasting (shaking of houses, windows or sheds). These complaints arose even though the airblast and ground vibration from current blasting operations complies with the regulatory limits at all sensitive sites.

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 exceedences of PSNL in all Noise Assessment Groups (NAG) during worst case scenarios. It has been explained in the EIS that, in accordance with the above policy, as this is an existing development with noise legacy issues, where the modification would have beneficial or negligible noise impacts, that the consent authority cannot grant voluntary mitigation and acquisition rights. The EIS also explained the noise mitigation measures being implemented to address these legacy noise issues. However, it would be preferable for the affected sensitive receivers if these measures were implemented sooner and that very strict controls were placed on operations during conditions that would lead to the noise levels predicted in Table 4.7: 90th Percentile Operational Predictions – $L_{Aeq,\ 15\ minute}$ dB.

Effective community consultation is required throughout the project to facilitate public involvement and to allow for the community to participate in the mitigation selection process.

In February the NSW Environment Protection Authority (EPA) announced the introduction of new conditions for open cut coal mines in NSW prohibiting the emission of blast fumes that are likely to cause offence to members of the public. The new licence condition states: "offensive blast fume must not be emitted from the premises". We emphasise the need to ensure strict control of blast conditions to protect the public from 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. The main drinking water supply for

Singleton, Glennies Creek Dam, is significantly upstream of Rix's Creek Mine and will not be impacted by the Project.

The EIS mentions one other licensed water user on Rix's Creek, and one other on the Un-named Tributary, that could be impacted by the reduction in catchment flows caused by the Project. However, Rix's Creek is an ephemeral stream with a flow rate of zero for 44% of the time. Presumably these two other water users are not using this water as a drinking water supply.

The EIS states that, to date, there have been no observable impacts from Rix's Creek Mine operations on the water quality in Rix's Creek, and provided existing management systems are maintained and measures recommended in Section 15.5 are adopted, there is a low risk of impacts on water quality in the surrounding catchment due to ongoing mining operations.

It is important that any private water users downstream have easy access to and can understand monitoring data. It is also important that, in the event that the water becomes unsuitable for use by private water users that an alternative water source of the same standard, quantity and quality is offered.

Groundwater
The EIS states that the review of licensed bores indicates that all but one are located more than 4.5km from the centre of the Rix's Creek Mine lease area, and they are relatively shallow bores targeting alluvial aquifers which do not extend into the mined area and are considered hydraulically isolated from the Mine target coal seams. The closest bore is 2.38km east of the Mine and is deeper; however, the EIS states that the target of this bore is also hydraulically disconnected from the Mine target coal seams. The EIS therefore concluded that there are no identified groundwater users which could be potentially impacted by the Project.

Rainwater Tanks
The EIS does not mention issues associated with water quality from rainwater tanks at residences without a reticulated water supply. It is recommended that the applicant address the issue of potential impacts on rainwater quality that may be caused by dust from mining construction and operations.

The peak reference document in Australia for information in relation to rainwater tanks is enHealth's *Guidance on use of rainwater tanks* (2010). It would be appropriate to utilise this document and apply its recommendations and standards to rainwater tank systems within the vicinity of the development.

The above document states that "tanks should be inspected every 2-3 years for the presence of accumulated sediment. If the bottom of the tank is covered with sediment the tank should be cleaned". In addition, consideration should be given to the installation of first flush diverters to rainwater tanks to reduce the amount of sediment entering the tanks.

A management system of taking complaints and rectifying issues identified should be considered.

If you require any further information please feel free to contact Carolyn Herlihy, Environmental Health Officer on (02) 4924 6477.

Yours Sincerely

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