



Your reference :
Our reference : EF13/3856; DOC15/413827-01
Contact : Ms Sheridan Ledger; (02) 6332 7608

Mr Matthew Riley
Senior Planning Officer
Department of Planning & Environment
GPO Box 39
SYDNEY NSW 2001

10 March 2016

Dear Mr Riley

WILPINJONG COAL MINE – EXTENSION PROJECT (SSD 6764)

EPA RESPONSE TO THE EXHIBITED ENVIRONMENTAL IMPACT STATEMENT

I refer to your email of 25 January 2016 requesting the Environment Protection Authority (EPA) provide comment on the publicly exhibited Environmental Impact Statement (the EIS) for the proposed Wilpinjong Coal Mine – Extension Project SSD 6764 (the Proposal).

As requested, the EPA has considered the EIS for the Proposal in terms of the potential impact to air quality, noise emissions, surface water and waste management. The EPA's response is contained in Attachment A.

The EPA recommends the Department of Planning and Environment (DPE) seek further information and clarification in respect of the matters raised in Attachment A prior to finalising its assessment of the potential impacts of the Proposal.

Should you have any further enquiries in relation to this matter please contact Sheridan Ledger at the Central West (Bathurst) Office of the EPA by telephoning (02) 6332 7608.

Yours sincerely


RICHARD WHYTE
Manager Central West
Environment Protection Authority

Attachment A – EPA Response to Wilpinjong Coal Mine Extension Project EIS

Air Quality

The Air Quality Impact Assessment (AQIA) impact assessment prepared for the Proposal has been conducted generally in accordance with the *Approved Methods for the Modelling and Assessment of Air Pollutants in New South Wales*.

Meteorological data

The wind roses for the CALMET generated meteorological data used in the modelling demonstrate similar patterns to wind roses based on meteorological observations from the Wilpinjong Coal Mine (the Mine) meteorological station, with east/south east winds prevailing in summer and autumn, and west/north west in winter and spring.

During an information session for the Proposal, community members expressed concern about the wind directions modelled for the project (being primarily easterly) being different to those modelled for recent developments at the Moolarben coal mine (being primarily south westerly). The EPA considers the differences between significant wind directions identified for this Proposal and recent Moolarben coal mine applications are explained by the different topography around the weather station used by each mine.

Emission Inventory

Emissions have been calculated using US EPA AP 42, NPI, SPCC emission factors and utilising emission control assumptions as outlined in the *NSW Coal Mining Benchmarking Study: International Best Practice Measures to Prevent and/or Minimise Emissions of particulate Matter from Coal Mining* (Katestone 2010).

The EPA is aware the dust stop Pollution Reduction Program (the PRP) has previously been implemented to identify best practice management for wheel generated and overburden dust emissions for existing operations. The modelling scenarios presented assume best practice operations with the application of best practice dust mitigation.

Diesel particle emissions

Emissions of particulate matter from diesel engines have not been adequately quantified or assessed. This is a potentially significant source requiring management options differing from those used to suppress dust on roads.

The EPA recommends that these diesel emissions be estimated separately. This is expected to change total emissions and further analysis is needed to identify consequential changes to the assessed impact on the air environment. Approaches to minimising emissions from diesel plant and equipment are required.

Spontaneous Combustion

The EPA notes that spontaneous combustion management has been an ongoing issue at the Mine since the commencement of operations in 2006, with special licence conditions relating to spontaneous combustion event air monitoring and management of the removal of material at risk of combustion ('Keylah dump') on the Environment Protection Licence (EPL) 12425 for existing operations. A 2015 Spontaneous Combustion Management Plan is referred to in the EA but is not provided.

The EPA considers it prudent to ensure that the spontaneous combustion management plan is finalised so that all necessary management measures are implemented prior to commencement of any expansion to mining operations.

Predicted Impacts

Project only PM₁₀ 24 hour and cumulative PM₁₀ annual average, PM_{2.5} annual average and TSP annual average exceedances are predicted for up to ten mine owned off site receptors. Cumulative exceedances of the EPA 24 hour average impact assessment criterion are predicted for four privately owned receptors.

The EPA notes that for the cumulative exceedances predicted for privately owned receptors as shown in Appendix E of the AQIA, the predicted project increment was below the assessment criteria for each exceedance, and in most cases the background itself exceeded the criteria alone. However, the highest predicted project only increments represent a significant percentage of the criteria and these are based on the assumption of the implementation of best practice dust management.

Notwithstanding the above, the EPA notes that the contemporaneous assessment (project plus background data) was reanalysed to consider the impact of cessation of Pit 8 activities where exceedances of the EPA's PM₁₀ 24 hour impact assessment criterion were predicted. The results provided indicate that cessation of activities in Pit 8 may be required during "adverse weather" conditions to reduce the risk of unacceptable impacts at sensitive receptors. It should be noted that the adverse conditions are not specifically defined in the EIS – however reference is made to continuation of the reactive dust management strategy of responding to changes in dust levels and weather conditions for the project and revision of the existing Air Quality Management Plan as required.

Adopted background PM_{2.5} concentration

The adopted background concentration for cumulative PM_{2.5} annual average impacts is approximately 3.2 µg/m³ and is based "on the assumption that an annual average PM_{2.5} concentration of 8 µg/m³ is equivalent to an annual average PM₁₀ concentration of 30 µg/m³". The EPA notes that there is no OEH monitoring station in NSW reporting levels this low. Justification for the adopted background concentration is required and revision of the assessment, as appropriate.

Proposed Management Measures

The EPA notes:

- An Air Quality Management Plan (AQMP) has been implemented for existing operations which includes real time monitoring to manage short term particulate emissions from the Proposal.
- The PRP previously implemented in EPL 12425 to identify best practice management for wheel generated and overburden dust emissions and the modelling assessment assumes that the best practice dust mitigation measures identified via the PRP have been and will continue to be implemented, where appropriate.
- Analysis of the contemporaneous assessment indicates that the cessation of pit 8 activities may reduce the risk of exceedances at private receptors and as such is a critical management strategy to consider during adverse meteorological conditions.
- Monitoring data provided in the report for the 2013/14 period indicated a small number of exceedances to which mine activities may have contributed. This reiterates the necessity of real time and best practice management measures and the need for ongoing review to ensure the risk of future exceedances are minimised. As such it is recommended that the conditions of approval,

should consent be granted, reflect the air quality management strategies adopted in the AQIA and that periodic review is undertaken.

Noise

Application of low frequency noise modifying factor

Although the EIS states the low frequency noise modifying factor adjustment will not apply, low frequency noise does not appear to have been correctly assessed in the EIS. A low frequency modifying factor adjustment was not applied to the predicted operational noise levels, based on:

- The average $L_{Ceq(15min)}$ minus the average $L_{Aeq(15min)}$ over two weeks of noise monitoring at one location in 2012; and
- Attended monitoring.

The EPA notes that attended monitoring reports on the website for the the Mine appear to have applied the low frequency modifying factor adjustment based on the difference between the overall $L_{Ceq(15min)}$ and $L_{Aeq(15min)}$, not the difference between the mine contributed $L_{Ceq(15min)}$ and $L_{Aeq(15min)}$.

Potentially there are significant implications if the low frequency noise modifying factor adjustment does apply. As such, the EPA recommends the DPE request the following:

1. clarification regarding the process used to determine whether the low frequency noise modifying factor adjustment should apply; and
2. further assessment to determine whether a low frequency noise modifying factor adjustment should apply to the modelled noise levels based on the difference between the Mine's contributed $L_{Ceq(15min)}$ minus $L_{Aeq(15min)}$.

Assessment of feasible and reasonable mitigation measures

The EPA notes the noise and blasting assessment provided that measures required to meet all project specific noise levels were unreasonable because of cost, and that the modelled levels could be met at a much lower cost. The EPA considers the EIS appears to present a reasonable worst case assessment of the noise impacts of the project

Road and Rail Noise

The EPA recommends that any approval for the Proposal includes a requirement for the proponent to use only best practice rolling stock for rail transport resulting from the Proposal, including only locomotives which have obtained EPA approval to operate on the NSW rail network under Condition L2 of EPL No. 3142, 12208 or 13421, or in accordance with the former *Noise Control Act 1975*.

All three receivers that are expected to be affected by road noise above *NSW Road Noise Policy* (DECCW 2011) criteria have been identified for mitigation under the *Ulan Road Strategy* (ARRB Group 2011).

Surface Water Management

The May 2005 Environmental Impact Statement for the Mine committed to a nil discharge mine. It is the EPA's understanding that at the current time any water discharged from the Mine is limited to those from the Reverse Osmosis (RO) plant through an Environment Protection Licence (EPL) discharge point. Further, EPL 12425 does not permit any additional offsite discharges such as those from sediment dams.

The EPA is aware the Mine currently has in place a water management system (WMS) which incorporates numerous components which are illustrated in Figure 4.1 of the *Wilpinjong Extension Project Surface Water Assessment* (SWA). These components, in summary, include water storage dams such as Ed's Lake and

the Pit 2 West void and a number of pit/tailings dams. The WMS also includes components specifically related to the CHPP and also the RO plant which is used to improve the quality of excess mine water discharged from the Mine. Therefore, all water is managed on the Mine by the use of twelve (12) water storages in combination with discharges from the RO plant.

The SWA proposes an increase to the existing water management from 12 water storages to 14 water storages plus an additional thirty-eight (38) sediment dams. Sediment dams are generally utilised to manage surface water and surface water is defined on page 77 of the SWA as “*surface water would typically include runoff from rehabilitated overburden and pre-strip areas, as well as potentially from active overburden areas.*” Page 94 of the SWA states “*runoff from rehabilitated areas established for more than two years will be directed to a sediment dam and released off-site.*” It appears from Figures 5.1 – 5.6 that the proposed sediment dams are generally related to rehabilitation.

Table 7.1 of the SWA provides during year 2028 and 2031, 30 ML/Day of water would be discharged from the sediment dams and in 2018 171 ML/year would be discharged. Table 7.2 of the SWA provides that during a dry year 36 ML/year will be discharged from the sediment dams and in a wet year 152 ML/day. Further, the predicted outflows from rehabilitated catchments increase from 0 ML/year in year 2016 to 578 ML/year in year 2031. The EPA is not aware of any current outflows from rehabilitated catchments.

The Mine’s current rehabilitation plan *Wilpinjong Coal Mine Rehabilitation Management Plan September 2011* states:

“Sediment control dams are to be constructed along major drainage lines in rehabilitated landforms to reduce suspended solids in water flowing from site. The dams need to be spaced to control sediment transfer from site with the final dam on the northern end of the mining operation used as the final control point.”

The EPA notes the EIS states in the comparison tables between the approved Mine and the Proposal that there will be no changes to key aspects of water disposal which based on the above, is considered to be somewhat misleading.

As such, the EPA recommends that justification for the changes made to the WMS are provided and assessment made of the potential impacts to the receiving waters from any increases in water discharged from the Mine. This assessment should consider the impact of the discharge in terms of the element enrichments and solubilities in the overburden, interburden, coal rejects as well as the presence of PAF and/or sodic materials (as per the *Wilpinjong Extension Project Environmental Geochemistry Assessment*) given that sediment dams act only to reduce the sediment load of discharge waters.

Should the DPE approve the Proposal, the EPA will require the Mine to apply to vary EPL 12425 and request inclusion of the sediment dams as licensed discharge points. The Mine will therefore be required to manage and maintain each of these dams and any water discharged from them in accordance with the requirements of the EPA.

Waste

Waste Rock Management

The EPA notes the specific recommendations regarding the management of PAF or PAF/LC and coal rejects (tailings and coarse reject) as contained in the *Wilpinjong Extension Project Environmental Geochemistry Assessment*. The EPA supports these recommendations and the recommended inclusion of total alkalinity/acidity, arsenic and molybdenum into the surface water monitoring program.

Sewage Disposal

The EPA notes that an additional wastewater treatment plant would be constructed at the new mine infrastructure areas (MIA) and will be sized for 3 shifts of 30 people per day. Wastewater generated is proposed to be used for irrigation of rehabilitation in the vicinity of the MIA (page 2-57 of the EIS). In Figures 2-8 and 2-9 of the EIS which provides the general arrangement for years 2 and 4 of the Proposal, provides that the MIA is not located in proximity to any areas of rehabilitation. It is not until year 8 (Figure 2-10 of the EIS) that the MIA is located near an area of rehabilitation.

Old Shale Oil Mine

The EPA notes that a shale oil mine was located within the proposed pit 8 area and that contaminated soil assessment has concluded the area of this previous mine is suitable for the proposed land use. The *Wilpinjong Extension project Land Contamination Assessment* provides that the shale oil mine was operational sometime prior to 1955 (no history prior to this time was provided). Photos on page 25 of the Land Contamination Assessment show the possible location of the shale waste disposal location which remains devoid of vegetation some 60 years later. As such, consideration could be given to remediation of soil from this location to avoid any potential impact on stripped topsoil which is used for rehabilitation.