



Your reference: SSD 5850  
Our reference: DOC15/19746-26 EF13/4405  
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NSW Department of Planning and Environment  
GPO Box 39  
SYDNEY NSW 2001

Attention: Mr Matthew Sprott

Dear Mr Sprott

### **MOUNT OWEN CONTINUED OPERATIONS PROJECT – SSD 5850**

I refer to your email to the Environment Protection Authority (EPA) dated 21 January 2015, seeking comments on the Mount Owen Continued Operations Project SSD 5850 (the project) for which Mount Owen Pty Limited is seeking approval under Part 4 of the *Environmental Planning and Assessment Act 1979* (EP&A Act).

The EPA has reviewed the project as detailed in the '*Mount Owen Continued Operations Project – Environmental Impact Statement*' (EIS), Volumes 1 – 10, dated January 2015 and prepared by Umwelt (Australia) Pty Limited.

The project involves the following:

- expanding the existing open cut mine to extract an additional 92 million tonnes of run-of-mine coal;
- extending the life of the open cut mine by approximately 12 years;
- duplicating the existing rail spur line and constructing a northern rail entry/exit;
- using the existing overland conveyor to transfer gravel and coal to the Liddell coal mine; and
- upgrading Hebden Road and ancillary site infrastructure.

The EPA has reviewed the EIS and information provided and provides the following comments. The EPA is unable to provide recommended conditions of approval for the project in relation to air, noise and surface water impacts as detailed below.

#### **Air Quality**

The EPA has reviewed the EIS including Appendix 6 - Air Quality Impact Assessment (AQIA) for matters relating to air quality and has a number of issues that must be addressed before any recommended conditions of approval in relation to air quality can be provided.

A summary of the EPA's key areas of concern are:

- the predicted exceedances of relevant air quality criteria;
- the assessment adopts refined methods that may cause uncertainty; and
- the assessment may have omitted an important source of fine particles (diesel exhaust).

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Detailed comments on the EPA's assessment of the AQIA for the project are provided in **Attachment 1**.

The EPA recommends that the AQIA for the project revised to provide additional information to address the issues raised above and to confirm that:

- assessment methods adopted for the proposal are robust, fit for purpose and suitable for predicting likely worst case impacts at all off site receptors; and
- unacceptable air quality impacts are not likely to result from the project, including demonstration that the project is designed to achieve compliance with relevant air quality impact assessment criteria.

## **Noise**

The EPA reviewed the EIS, Appendix 7 - Noise Impact Assessment (NIA), and Appendix 8 - Blast Impact Assessment (BIA) in relation to noise and blasting matters.

The predicted  $L_{Aeq(15min)}$  levels in Appendix J of the NIA are different to the predicted levels presented in the main text (Table 6.1) of the NIA. It is not clear what the reason for the difference is, or which predicted levels should be relied on for consideration as licence limits.

The *New South Wales Industrial Noise Policy* (INP, EPA 2000) remains the NSW Government's policy defining acceptable assessment methodology for industrial noise. However, alternative approaches can be considered where the INP approach leads to demonstrated perverse outcomes, for example receivers further away from the project receiving acquisition rights, or a proponent having an incentive to emit higher levels of A-weighted noise to reduce the C-A difference. This should be taken into account in the Department of Planning and Environments (DPE's) assessment of the acceptability of residual noise impacts.

Until the issue of low frequency noise assessment resulting in residual impacts more than 5 dBA above the Project Specific Noise Level (PSNL) is resolved, the EPA is unable to recommend conditions of approval for noise. To assist in providing recommended conditions, the EPA requests the following information:

1. Explanation of the differences in A-weighted predictions between Table 6.1, and Appendix J, of the NIA;
2. Clarification of which predicted levels should be considered in determining licence limits; and
3.  $L_{Ceq(15min)}$  results that correspond with the results in Table 6.1 of the NIA.

Once the requested information is provided, the EPA expects to be able to recommend licence limits for noise. Where noise levels are predicted to be above the PSNLs, DPE is best positioned to weigh any benefits of the proposal against potential adverse noise impacts according to Chapter 8.2.1 of the INP, and to determine if a noise limit above the PSNL is justified. Planning may choose to negotiate lower levels with the proponent or to adopt the predicted levels as consent conditions. The EPA will usually not place limits on a licence which are more than 5 dB above the PSNL.

## **Surface Water**

The EIS states that controlled discharges may occur to the Hunter River via Swamp Creek and Bowmans Creek and that these discharges will be conducted in accordance with existing Environment Protection Licences (EPLs) and the Hunter River Salinity Trading Scheme (HRSTS).

However, the current EPLs 4460 (Mount Owen Mine) and 10860 (Ravensworth East Mine), both of which are the subject of the project, do not authorise the discharge of saline water under the HRSTS.

On 7 November 2014 EPL 4460 was varied through variation notice 1525741 removing licence conditions relating to water discharge and monitoring requirements. This variation was made based on the licence variation application letter, dated 1 October 2014, requesting the discharge point and associated licence conditions be removed as the discharge point had not been used since its commissioning due to the Greater Ravensworth Water Sharing Scheme (GRWSS).

As the EIS and Appendix 9 'Surface Water Assessment', dated October 2014, states that any water that cannot be shared or managed through the GRWSS will be discharged through the HRSTS, it should be noted that neither the Mount Owen Mine nor Ravensworth East Mine currently have permissible HRSTS discharges.

As the EIS does not have sufficient detail on potential mine water discharges and has made no assessment of potential tributary impacts, the EPA is not able to provide specific recommended conditions of approval in relation to surface water impacts.

The EPA requests that the EIS be amended to include a Tributary Impact Assessment (TIA). The TIA should examine the likely impact of the proposed discharge volume on the hydraulics, geomorphology, ecology and downstream water users and residents of both Swamp Creek and Bowmans Creek.

The TIA should also:

- Include a contact list of downstream landholders/tenants including a record of permanent or seasonal activities;
- A description and list of all crossings, culverts and other in-stream structures;
- An assessment of physical and biological impacts including:
  - Existing flow and stream characteristics, including current bank and bed profiles, potential flow volumes at key points of inflection within the stream course, stability of stream banks and beds and an assessment of soil types; and
  - An assessment of likely impacts of proposed discharge including impacts on flow characteristics, potential for erosion of banks, beds or damage to riparian vegetation.
- Includes details of proposed measures to:
  - Minimise the impacts of discharge on downstream landholders, including a discharge notification procedure; and
  - Reduce potential erosion hazards at vulnerable points in the stream banks, protect and maintain riparian vegetation and bank stability, and provision for energy dissipation of discharge waters where necessary

### **Blast Fume Emissions**

The EPA has concerns around the potential blast fume impacts from the project, as detailed in Appendix 6 'Air Quality Impact Assessment' (AQIA) of the EIS. The results presented in Tables 11.1 and 11.2 of the AQIA show the number of predicted exceedances of the 1-hour average NO<sub>2</sub> concentrations will exceed the 1-hour average criteria of 246 µg/m<sup>3</sup> at two privately owned residences.

The assessment criteria of 246 µg/m<sup>3</sup>, adopted from the National Environment Protection (Ambient Air Quality) Measure (NEPM), is predicted to be exceeded 12 times annually the private residence referred to as R114 in the EIS, and 10 times annually at residence R116. This is significantly above the allowable one exceedance per year detailed in the NEPM.

Table 11.1 does not specify the maximum 1-hour average NO<sub>2</sub> concentrations that may be reached at residences R114 and R116. The table displays results in categories with the maximum category being ">246". The EIS does not clarify the maximum 1-hour average concentrations that may be experienced at these receivers.

The EPA acknowledges that these predictions are modelled under conditions said to be conservative, however the EPA does not consider the number of predicted exceedances at these off-site privately owned residences as appropriate.

Section 13.3 of the AQIA lists a number of mitigation measures in place to reduce the risk of off-site impacts from blasting, however the EPA recommends DPE consider additional mitigation measures that could be implemented at residences R114 and R116.

**Environment Protection Licences 4460 and 10860**

The EPA notes that it is the intention of the proponent to consolidate current Environment Protection Licences 4460 (Mount Owen Mine) and 10860 (Ravensworth East Mine). Table 3.7 of the EIS notes that if approval is granted, amendments will be sought for EPL 4460 to consolidate the expanded operations and that the proponent will seek to surrender EPL 10860. If approval is granted for the project the proponent will have to make a separate application to the EPA addressing the proposed variation to EPL 4460 and potential surrender of EPL 10860.

If you require any further information regarding this matter please contact Michael Howat on 4908 6819.

Yours sincerely



6.3.15

**KAREN MARLER**  
**Head Regional Operations Unit – Hunter**  
**Environment Protection Authority**

Encl: Attachment 1 – EPAs detailed Air Quality Assessment comments

**Attachment 1****EPA'S DETAILED AIR QUALITY ASSESSMENT COMMENTS  
MOUNT OWEN CONTINUED OPERATIONS PROJECT, SSD 5850**

The EPA reviewed the EIS and Appendix 6 'Air Quality Impact Assessment' (AQIA), dated 29 October 2014, prepared by Pacific Environment Limited of matters relating to air quality.

The assessment was conducted in general accordance with the EPA's *Approved Methods for the Modelling and Assessment of Air Pollutants in NSW*, however, the EPA's areas of concern in relation to the assessment are:

- the predicted exceedances of relevant air quality criteria;
- the assessment adopts refined methods that may cause uncertainty; and
- the assessment may have omitted an important source of fine particles (diesel exhaust).

**Particulate matter exceedances**

The assessment predicts exceedances of the annual average particulate matter (PM) 2.5 criteria at several private residences on a cumulative basis. These results are not discussed in the assessment text, including the assessment conclusions, but are shown in the contour figures in Section 10 and Appendix E of the AQIA. The exceedances are not included in Appendix F – *Predicted Exceedances* of the AQIA.

The assessment also predicts exceedances of the relevant PM10 impact assessment criteria at privately owned residences.

**PM10 modelling**

The adopted annual average PM10 background value appears low ( $13.2 \mu\text{g}/\text{m}^3$ ), noting that this PM10 value is less than 50% of the adopted PM2.5 background value in a region where ambient air quality is likely to be predominantly influenced by major PM10 emission sources. Further, the dataset used to devise the annual average PM10 background has been analysed in a manner that reduces the influence of extreme values without sufficient justification.

Section 8.6 of the assessment provides a brief model evaluation and 'calibration' of model results. Project modelled (plus adopted background) values are compared to based year (2011/2012) monitored values for annual average PM10. Results vary between a ratio of 0.2 and 0.8 (table 8.17). Where the ratio approaches zero, this infers that the assessment/model prediction has performed poorly against measurements (i.e., a ratio of 0.2 – 0.3 indicated a significant over prediction). The devised ratio is subsequently used to adjust future year model predictions by multiplying future year predictions by the devised ratio. In some cases this would lead to a five (5) fold adjustment of model predictions for future years. Adjustment of modelled values by such a large factor could significantly change the assessment results at some receptor locations and indicates a potential high level of uncertainty in the project model results.

Section 10.4 of the assessment includes a probabilistic assessment of cumulative impacts, as requested by the projects Director-Generals Requirements. The assessment used a Monte Carlo simulation to randomly pair predicted project increments with adjusted ambient monitoring data. The Monte Carlo method is adopted, in part, based on an underlying assumption that the modelled project increment that occurs on a given day is independent of the measured background that occurs on the same day. However, adjusting the measured ambient data, (time paired project increments for a base year are subtracted from the corresponding monitored value) assumes a high degree of correlation or dependence between modelled and measured values.

**Diesel particulate emissions**

From the EPA's review of the AQIA it is unclear if particle emissions, specifically fine particles as PM2.5, have been assessed from diesel exhaust. If diesel particulate emissions have been omitted, the assessment may have under predicted fine particle impacts from the project. Further clarification is required

from the proponent on if diesel particulate emissions have been taken into account as a potential source of fine particulates in the assessment.

### **Recommendations**

The EPA recommends that the air quality assessment for the project should be revised. The proponent should provide additional information to address the issues raised above and to confirm that:

- assessment methods adopted for the proposal are robust, fit for purpose and suitable for predicting likely worst case impacts at all off site receptors; and
- unacceptable air quality impacts are not likely to result from the project, including demonstration that the project is designed to achieve compliance with relevant air quality impact assessment criteria.