



Department of Planning and Infrastructure  
GPO Box 39  
SYDNEY NSW 2001  
Attention: David Mooney

Your reference:  
Our reference: PART 3A DOC13/4123;  
DOC13/2758; DOC13/4628;  
LIC09/1944-02  
Contact: Karen Marler (02) 4908 6803

27 FEB 2013

Dear Mr Mooney

**DA 52 03 99 MOD 5 - Mount Owen Mining Complex Modifications to the Ravensworth East Mine**

I refer to your email of 29 January 2013 and the document titled "*Ravensworth East Resource Recovery Project Environmental Assessment*" (the EA) prepared by Umwelt (Australia) Pty Limited and dated December 2012 and requesting comments and recommended conditions of approval from the Environment Protection Authority (EPA) for the project.

The EPA has reviewed the EA, and understands that the proponent is seeking approval for the following:

- Allow continuation of mining within the Ravensworth East Resource Recovery (RERR) mining area which is an area previously disturbed by mining and formerly known as Tailings Pit 2 (TP2) to a depth of approximately 200 metres; and
- Emplacement of overburden within the West Pit overburden emplacement area to a maximum height of RL 180 metres (and increase in height of 20 metres from the currently approved height)

The EPA provides the following comments and advice in relation to the project. Recommended conditions of approval are provided at **Attachment A**. Environment Protection Licence (EPL 10860) currently authorises operations at the Ravensworth East Mine. While it appears that the current EPL premises boundary includes the majority of the proposed RERR mining area, the proponent should confirm that all scheduled activities will take place within the existing licensed premises, or otherwise make application to the EPA, if consent is granted, to vary the EPL to amend the licensed premises boundary to authorise mining in the RERR area.

Air Quality

The EA includes an Air Quality Impact Assessment which has been satisfactorily conducted in accordance with the *Approved Methods for the Modelling and Assessment of Air Pollutants in New South Wales*. The assessment indicates the proposed works are unlikely to result in a significant increase in risk of adverse impacts at sensitive receptors above those experienced from existing operations, provided operations are well managed and consistent with those proposed in the EA.

The EPA notes that:

- No exceedances are predicted for project only 24 hour average PM<sub>10</sub>, project only and cumulative annual average PM<sub>10</sub> and TSP at any private receptor not currently subject to acquisition rights;
- The maximum project only 24 hour average PM<sub>10</sub> predicted increment for a private receptor is approximately 5 µg/m<sup>3</sup> during 2016 (worst case modelled year);

- A cumulative 24 hour average  $PM_{10}$  assessment was conducted using the Monte Carlo simulation technique. This assessment indicates that the 24 hour impact assessment criterion is likely to be exceeded at the nearest sensitive receptors for approximately 7 days per year (2%) due to existing background concentrations. When the proposed modification works are included this probability increases to 2.2%, or an additional day;
- Monitoring data from the existing Mt Owen Complex HVAS and TEOM network demonstrates general compliance with the EPA's 24 hour and annual average  $PM_{10}$  criteria with a limited number of readings above  $50 \mu g/m^3$  recorded between January 2008 and January 2012;
- An assessment of  $PM_{2.5}$  impacts was not conducted however given the predicted  $PM_{10}$  impacts it is unlikely that the advisory standard for  $PM_{2.5}$  would be exceeded;

In relation to mitigation of air quality impacts, the EPA notes that the proponent assumes 85% control of emissions from haulage roads through watering. That is, the assessment of potential impacts from the proposed project utilises percentage reductions in emission calculations based on proposed best practice control methods and as such, the predicted potential for impact relies heavily on whether emissions are as effectively controlled as assumed in the assessment.

The air quality impact assessment also assumes a silt surface moisture content of 2% for emission calculations based on the average value of three test samples, which were 3.3%, 1.3%, 1.1%. The EPA recommends that further testing is conducted by the proponent to verify % surface moisture however notes that it is unlikely that adjusting emission calculations to reflect real values will be significant enough to change the outcomes of the assessment. What is clear however is that the proponent needs to be able to quantitatively demonstrate that the proposed watering practices actually achieve the degree of emission control assumed in the assessment. This will be required once best practice management conditions are implemented on coal mining licences via the EPA's Dust Stop Program.

The EPA also notes that the proponent has based their assessment on private receptors not currently subject to acquisition rights. The proponent should note the recent Planning Assessment Commission determination for Tarrawonga Mine in which consent conditions require that reasonable and feasible avoidance and mitigation measures are implemented to avoid exceedances of the criteria at all private residences, while acknowledging that it may not be reasonable and feasible to avoid impacts at certain times at residences identified for acquisition.

The proponent has committed to the management of air quality impacts from the proposed works in accordance with the existing Mt Owen Complex Air Quality and Greenhouse Gas Management Plan. Included in this plan is the use of predictive and real time meteorological monitoring and real time dust monitoring to manage site activities to minimise dust impacts at receptors.

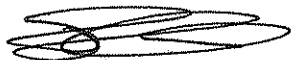
### Noise Assessment

The impacts of temperature inversions were predicted in the EA referring to inversion strength as a temperature lapse rate. However, the EPA proposes requiring the proponent to monitor for the presence of inversion conditions using the sigma-theta method as and that limits would accordingly apply up to and including F class inversions rather than the modelled  $3^{\circ}C/100m$  lapse rate. If this is not acceptable to the proponent, the EPA is willing to consider alternative approaches including direct measurement of temperature lapse rate.

Recommended conditions are provided at **Attachment A**. These conditions do not repeat conditions which already exist in EPL 10860. The recommended conditions to provide updated and revised conditions which should be reflected in any consent granted for the project.

Please contact me on (02) 4908 6803 if you require any further information regarding this matter.

Yours sincerely

A handwritten signature in black ink, appearing to be 'K. Marler', written over a horizontal line.

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

Enclosure: Recommended conditions of approval – Ravensworth Resource Recovery Project

**ATTACHMENT A****RECOMMENDED CONDITIONS OF APPROVAL – RAVENSWORTH EAST RESOURCE RECOVERY****PROJECT****ADMINISTRATIVE CONDITIONS****Works to be undertaken in accordance with information supplied**

1. Except as provided by these recommended conditions of approval, the works and activities shall be undertaken in accordance with the proposal contained in:
  - (a) The development application DA 52 03 99 MOD 5 submitted to the NSW Department of Planning and Infrastructure;
  - (b) The document *"Ravensthorpe East Resource Recovery Project Environmental Assessment"* prepared by Umwelt (Australia) Pty Ltd and dated December 2012

unless otherwise specified in these conditions of approval.

**AIR CONDITIONS****2. General Dust Conditions**

- 2.1 Activities occurring in or on the premises must be carried out in a manner that will minimise the generation, or emission from the premises, of wind-blown or traffic generated dust.

**3. Requirement to monitor weather**

- 3.1 The licensee must monitor (by sampling and obtaining results by analysis) the parameters specified in Column 1. The licensee must use the sampling method, units of measure, averaging period and sample at the frequency, specified opposite in the other columns.

**Point #** (actual point number to be confirmed in the Environment Protection Licence)

Parameter	Units measure	of	Frequency	Averaging Period	Sampling Method (See Note1)
Rainfall	mm/hour		continuous	1 hour	AM-4
Sigma theta	degrees		continuous	10 minute	AM-2 and AM-4
Siting					AM-1
Temperature at 2 metres	kelvin		continuous	10 minute	AM-4
Temperature at 10 metres	kelvin		continuous	10 minute	AM-4
Total solar radiation	watts per square metre		continuous	10 minute	AM-4
Wind Direction at 10 metres	degrees		continuous	10 minute	AM-2 and AM-4
Wind Speed at 10 metres	metres per second		continuous	10 minute	AM-2 and AM-4
Relative humidity	%		continuous	1 Hour	AM-4

**Note 1:** For details of sampling method refer to the EPA's *Approved Methods for the Sampling and Analysis of Air Pollutants in New South Wales*

## **NOISE CONDITIONS**

### **4. Limit Conditions**

**4.1** Noise generated at the premises must not exceed the noise limits in the table below.

		<b>NOISE LIMITS dB(A)</b>			
<b>Locality</b>	<b>Location</b>	<b>Day</b>	<b>Evening</b>	<b>Night</b>	
		<b>L<sub>Aeq</sub> (15 minute)</b>	<b>L<sub>Aeq</sub> (15 minute)</b>	<b>L<sub>Aeq</sub> (15 minute)</b>	<b>L<sub>A1</sub> (1 minute)</b>
Any residential receiver	All privately-owned residential receivers	35	35	35	45

**4.2** For the purpose of condition 4.1;

- Day is defined as the period from 7am to 6pm Monday to Saturday and 8am to 6pm Sunday and Public Holidays.
- Evening is defined as the period 6pm to 10pm.
- Night is defined as the period from 10pm to 7am Monday to Saturday and 10pm to 8am Sunday and Public Holidays.

**4.3** The noise limits set out in condition 4.1 apply under all meteorological conditions except for the following:

- a) Wind speeds greater than 3 metres/second at 10 metres above ground level; or
- b) Stability category F temperature inversion conditions and wind speeds greater than 2 metres/second at 10 metres above ground level; or
- c) Stability category G temperature inversion conditions.

**4.4** For the purposes of condition 4.3:

- a) Data recorded by the meteorological station identified as EPA Identification Point # (Point number to be specified in the Environment Protection Licence) must be used to determine meteorological conditions; and
- b) Temperature inversion conditions (stability category) are to be determined by the sigma-theta method referred to in Part E4 of Appendix E to the NSW Industrial Noise Policy.

**4.5** To determine compliance:

- a) with the L<sub>Aeq</sub>(15 minute) noise limits in condition 4.1, the noise measurement equipment must be located:
  - approximately on the property boundary, where any dwelling is situated 30 metres or less from the property boundary closest to the premises; or

- within 30 metres of a dwelling façade, but not closer than 3m, where any dwelling on the property is situated more than 30 metres from the property boundary closest to the premises; or, where applicable
  - within approximately 50 metres of the boundary of a National Park or a Nature Reserve.
- b) with the  $L_{A1(1 \text{ minute})}$  noise limits in condition 4.1, the noise measurement equipment must be located within 1 metre of a dwelling façade.
- c) with the noise limits in condition 4.1, the noise measurement equipment must be located:
- at the most affected point at a location where there is no dwelling at the location; or
  - at the most affected point within an area at a location prescribed by conditions 4.5(a) or 4.5(b).

**4.6** A non-compliance of condition 4.1 will still occur where noise generated from the premises in excess of the specified noise limit is measured:

- at a location other than an area prescribed by conditions 4.5(a) and 4.5(b); and/or
- at a point other than the most affected point at a location.

**4.7** For the purposes of determining the noise generated at the premises the modification factors in Section 4 of the NSW Industrial Noise Policy must be applied, as appropriate, to the noise levels measured by the noise monitoring equipment.

## **5. Blasting**

**5.1** Blasting in or on the premises must only be carried out between 0900 hours and 1700 hours, Monday to Saturday. Blasting in or on the premises must not take place on Sundays or Public Holidays without the prior approval of the EPA.

**5.2** The airblast overpressure level from blasting operations at the premises must not exceed 120 dB(Lin Peak) at any time at any noise sensitive locations. Error margins associated with any monitoring equipment used to measure this are not to be taken into account in determining whether or not the limit has been exceeded.

**5.3** The airblast overpressure level from blasting operations at the premises must not exceed 115 dB(Lin Peak) at any time at any noise sensitive locations for more than five percent of the total number of blasts over each reporting period. Error margins associated with any monitoring equipment used to measure this are not to be taken into account in determining whether or not the limit has been exceeded.

**5.4** Ground vibration peak particle velocity from blasting operations at the premises must not exceed 10mm/sec at any time at any noise sensitive locations. Error margins associated with any monitoring equipment used to measure this are not to be taken into account in determining whether or not the limit has been exceeded.

**5.5** Ground vibration peak particle velocity from blasting operations at the premises must not exceed 5mm/sec at any time at any noise sensitive locations for more than five percent of the total number of blasts over each reporting period. Error margins associated with any monitoring equipment used to measure this are not to be taken into account in determining whether or not the limit has been exceeded.

**5.6** The airblast overpressure and ground vibration levels in conditions 5.2, 5.3, 5.4 or 5.5 do not apply at noise sensitive locations that are owned by the licensee or subject to a private agreement relating to airblast overpressure and ground vibration level between the licensee and the land owner.

## **6. Monitoring Conditions**

**6.1** The meteorological weather station must be maintained so as to be capable of continuously monitoring the parameters specified in condition 3.1.

## **7. Requirement to Monitor Noise and Blasting**

**7.1** To assess compliance with Condition 4.1, attended noise monitoring must be undertaken in accordance with Conditions 4.5 and:

- a) at each one of Residence 20, Residence 23., Residence 114, residence 143 and residence 155 as shown in Figure 1.3 of the document *Ravensthorpe East Resource Recovery Project Environmental Assessment* (Umwelt (Australia) Pty Limited December 2012);
- b) occur quarterly in a reporting period;
- c) occur during each day, evening and night period as defined in the NSW Industrial Noise Policy for a minimum of:
  - 1.5 hours during the day;
  - 30 minutes during the evening; and
  - 1 hour during the night; and
- d) occur for three consecutive operating days.

**7.2** To determine compliance with conditions 5.2, 5.3, 5.4 and 5.5:

- a) Airblast overpressure and ground vibration must be measured at any residence or noise sensitive site that is likely to be most affected and is not owned by the licensee or subject of a private agreement between the owner of the residence or noise sensitive site and the licensee as to an alternative blasting level for all blasts carried out in or on the premises; and
- b) Instrumentation used to measure the airblast overpressure and ground vibration must meet the requirements of Australian Standard AS 2187.2-2006.

## **8. Reporting Conditions**

### **8.1 Noise Monitoring Report**

A noise compliance assessment report must be submitted to the EPA with each Annual Return. The assessment must be prepared by a suitably qualified and experienced acoustical consultant and include:

- a) an assessment of compliance with noise limits presented in Condition 4.1;
- b) measurement and reporting of C-weighted noise levels; and
- c) an outline of any management actions taken within the monitoring period to address any exceedences of the limits contained in Condition 4.1.

### **Additions to Definition of Terms of the licence**

- NSW Industrial Noise Policy - the document entitled "New South Wales Industrial Noise Policy published by the Environment Protection Authority in January 2000."
- Noise - sound pressure levels' for the purposes of conditions 4.1 to 4.6.
- 'Noise sensitive locations' includes buildings used as a residence, hospital, school, childcare centre, place of worship and nursing homes. A noise sensitive location includes the land within 30 metres of the building.

