Lake Macquarie City Council

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22 December 2014

NSW DEPARTMENT OF PLANNING & ENVIRONMENT
PO Box 39
SYDNEY NSW 2001

Dear Sir/Madam

Subject: **MISC/32/2010/F - Modification of Project Approval PA10_0080 - Myuna Colliery**

Please find the following advice regarding the proposed modification of the abovementioned project.

Air Quality

The *Air Quality Impact Assessment* (AQIA), as prepared for Centennial Myuna Pty Ltd (CMPL), by SLR Consulting Australia Pty Ltd has been reviewed with reference to the EPA *Approved Methods for the Modelling and Assessment of Air Pollutants in NSW* (Approved Methods), the *National Environment Protection (Ambient Air Quality) Measure (*National Air Quality Standard), and the *National Pollutant Inventory Emissions Estimation Technique for Mining* (NPI EETM, July 2011).

The AQIA and its associated modelling exercise was performed in accordance with the Approved Methods, the extent of air pollutant emissions reduction from control factors was in accordance with the NPI EETM. Results from the modelling exercise suggests that the extended operation will NOT result in a cumulative impact on neighbouring sensitive receptors above thresholds defined in the Approved Methods, and the National Air Quality Standard.

It is noted that the emissions factor calculations provided in Section 5.3 (Table 14) include calculations that are not consistent with their respective references. For instance, the emission factor calculation for conveyor usage, referenced in the AQIA as "NPI EETM (Section 1.1.16) – Miscellaneous Transfer Points including Conveying" - is denoted in the AQIA as:

$EF = k \times 0.74 \times 0.016 \times \ldots$ whereby

k = -0.74 for Total Suspended Particulates (TSP); and

k = 0.35 for particulate matter 10 micrometers in diameter or less (PM_{10}).

The actual calculation in the "NPI-EETM Section 1.1.16" is as follows:

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Using typical values for mean wind speed (3.6m/s) and moisture content (8%), and a k value of 0.74, the emission factor for TSP for each transfer point is calculated as follows:

$$EF_{(kg/t/transfer\ point)} = k \times 0.0016 \times \frac{\left(\frac{U_{(m/s)}}{2.2}\right)^{1.3}}{\left(\frac{M_{(\%)}}{2}\right)^{1.4}}$$

Where:

k_{TSP}	= 0.74 for total suspended particles
$k_{PM_{10}}$	= 0.35 for PM_{10}
$U_{(m/s)}$	= mean wind speed (m/s)
$M_{(\%)}$	= moisture content (%)

In essence, the calculation in the AQIA is not consistent with the NPI EETM emission factor equation as referenced ("NPI EETM Section 1.1.16"), whereby:

1. the "0.74" is in-fact the "k" value for TSP and not a constant in the equation; and
2. the "0.016" should actually be "0.00**0**16".

This concern is also valid for the Coal Handing emission factor calculation.

Council seeks clarification from the proponent, as to why the equation for Conveying and Coal Handling was modified from the reference documentation. Should this have been a typographical error, Council seeks worked examples of calculations and the actual pollution modelling inputs (an extract from the modelling software) so calculations can be verified.

Given the possible issues with emissions factors (presented above), that ultimately underpin the AQIA modelling exercise, Council is not able to comment on the validity of the AQIA, at this time.

Should you require further information, please contact the undersigned on 4921 0197 or by e-mail on dlovell@lakemac.nsw.gov.au.

Yours faithfully

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