



DOC18/247545-06 EF16/14008

Department of Planning and Environment
GPO Box 39
SYDNEY NSW 2001

Attention: Anthony Barnes
By email: anthony.barnes@planning.nsw.gov.au

3 July 2018

Dear Mr Barnes

Salt Ash Sand Quarry (MP 07_0094 MOD4)

Response to Submissions and Recommended Conditions – Redisand Pty Ltd

I refer to your email to the Environment Protection Authority (EPA) dated 12 June 2018 requesting that the EPA review the response to submissions and provide recommended conditions for the proposed modification to the Salt Ash Sand Quarry.

The EPA has reviewed the response to submissions and advises that sufficient information has now been provided to verify predicted air impacts. The predicted impacts from the proposal meet the EPA's impact assessment criteria. EPA's detailed review is set out in Attachment A.

Recommendations

The significant increase in production at the site warrants a review of the air quality management system to ensure it suits the increased scale of activity. The review should include, but not necessarily be limited to, consideration of:

- key performance indicators;
- monitoring method(s);
- location, frequency, and duration of monitoring;
- record keeping;
- response mechanisms; and
- compliance reporting.

The EPA also recommends that the Department of Planning and Environment (DPE) consider restricting truck movements and setting a maximum sand extraction rate in the consent as follows:

1. Truck movements

- (a) No more than 42 sand laden trucks are to exit the premises on any day from Monday to Friday;
- (b) No more than 18 sand laden trucks are to exit the premises on any Saturday; and
- (c) No sand laden trucks are to exit the premises on any Sunday or Public Holiday.

Please note that the proposed condition above is in line with the proponent's commitment outlined in their email to DPE dated 12 June 2018 (email from Luke Johnson of ATB Morton to DPE's Anthony Barnes).

2. Extraction Limit

- (a) Land-based extractive activity must not exceed 400,000 tonnes per year.

Environment Protection Licence

The proponent currently holds Environment Protection Licence (EPL) 13406 under the *Protection of the Environment Operations Act 1997* (POEO Act) for scheduled activities already being undertaken at the premises. EPL 13406 currently includes conditions to minimise dust emissions and require air quality monitoring.

The EPA would also appreciate the opportunity to review the draft Director-General's conditions of consent for the proposal prior to their finalisation.

If you require any further information regarding this matter please contact me Bill George on 4908 6821 or by email to hunter.region@epa.nsw.gov.au.

Yours sincerely



KAREN MARLER
Director Hunter
Environment Protection Authority

Attachment A: Review of further information supplied to the EPA

Summary

The EPA has reviewed the additional information supplied in the letter from Advitech Environmental to ATB Morton dated 08 June 2018 (the letter).

The EPA had requested a full emissions inventory and additional wind roses.

The letter provided tables detailing the emissions inventory and the wind roses the EPA asked for. Sufficient information has been supplied to the EPA to verify the assessment of potential air impacts from the proposal.

The air quality impact assessment¹ (AQIA) predicted no exceedances of the EPA's impact assessment criteria for particle pollution – PM_{2.5}, PM₁₀, TSP, and dust deposition. However, the EPA notes the proposal doubles production. Accordingly, air emissions from the premises will increase significantly.

To ensure that the proponent manages any potential offsite impacts, the EPA recommends a review of the operational air quality management system for the premises. This will ensure that it is appropriate to meet the proposed increased scale of operation and effectively supports the proponent to meet their obligation to prevent and minimise emissions to the air. The review should include, but not necessarily be limited to, consideration of:

- key performance indicators;
- monitoring method(s);
- location, frequency, and duration of monitoring;
- record keeping;
- response mechanisms; and
- compliance reporting.

The EPA notes that EPL 13406 currently requires ambient air monitoring under condition P1.1. The EPA will continue to monitor operations to determine whether all monitoring requirements remain appropriate for the future regulation of the premises.

Information requested

The EPA asked for:

- further detail regarding estimation of emissions, including a detailed emission inventory for all scenarios assessed
 - emission estimation technique, equation and/or factor used for each source and where this was obtained
 - values for all parameters used to calculate emission factors and modelled emission rates
 - activity rates and operational parameters used to calculate modelled emissions and assessment scenarios
 - control factors and justification of their adoption via linkage to on-site management practices;
- further detail regarding wind
 - wind roses from Williamtown Airport equivalent to those presented in figure 4 of the AQIA
 - annual wind rose for the two data sets – Williamtown Airport and CALMET interpolated to the location of the sand mine.

¹ 'Air Quality Impact Assessment – Redisand Salt Ash Quarry', Advitech Environmental, November 2017

Information supplied

1. Emission inventory

Table 1 in letter sets out the methods, parameters, and control factors used to estimate emissions from the 11 sources included in the emissions inventory. The EPA has verified the values listed in AQIA.

The EPA notes that estimates of emissions of $PM_{2.5}$ is based on the observational ratio of $PM_{2.5}$ to PM_{10} at Beresfield of 0.35. This ratio reflects concentrations in the ambient air from all sources. It does not represent likely emissions from sand operations.

In initial comment on the proposal, DOC17/610402-09, EPA requested reasoning to justify any scaling used. Reasoning has not been advanced that the ambient ratio of $PM_{2.5}$ concentration to PM_{10} concentration is conservative for sand mining.

The EPA notes that a survey conducted in Germany provides ratios of $PM_{2.5}$ to PM_{10} in emissions from crushing of 0.21 and for sand conditioning of 0.17. These are slightly lower than the ratio from the central values for handling and processing aggregate and unprocessed ores plotted in appendix B.2 of USEPA's AP-42 Compilation of Air Emissions Factors². That value is 0.231. The ambient ratio used in AQIA is conservative.

The EPA is satisfied with the additional information supplied.

2. Wind information

The additional information provides wind roses of observed wind at Williamstown airport in 2010 (figure 1) and of wind at the site used in the dispersion modelling (figure 2).

The provided wind roses show clearly the operation of CALMET and confirm the low occurrence of calms at the site.

The EPA is satisfied with the response to this request.

² Available at <https://www3.epa.gov/ttn/chief/ap42/appendix/appb-2.pdf>