



DOC18/849109

Mr Chris Ritchie
Director – Industry Assessments
Department of Planning & Environment
GPO Box 39
SYDNEY NSW 2001

Attention - Bianca Thornton

ELECTRONIC MAIL

15 November 2018

Dear Mr Ritchie

**RE: Genesis Waste Management Facility (MP 06_0139 MOD 6) – Request for Comment –
Further Comments on Air Quality Impact Assessment**

I refer to your request on 28 September 2018 for the NSW Environment Protection Authority (EPA) to provide comments on the modification request, including recommended conditions on the proposal submitted by Dial-A-Dump (EC) Pty Ltd (Proponent) for the Genesis Waste facility located at Lots 1 and 2 in DP 1145808 and part Lot 8 in DP 1200048.

The EPA wrote to you on 19 October 2018 requesting further information on Leachate and the Noise Impact Assessment and stating that the EPA will provide comments on the Air Quality Impact Assessment at a later date. The EPA is now providing comments on Air Quality Impact Assessment dated August 2018 prepared by Ramboll Australia Pty Ltd (Ramboll 2018) and considers that Ramboll 2018 has not adequately addressed the following issues:

1. Validation of the CALMET meteorological data;
2. Assessment of peak emissions does not account for potential peak daily emissions associated with the landfill operations, which is a core component of the proposed modification.
3. It is not clear if the predicted ground level concentrations include accounting for peak daily emissions. Predicted ground level concentrations should be presented for:
 - Emissions estimated from annual production data;
 - Emissions estimated from peak daily production data.
4. The proposed mitigation measures are not clear. Where exceedances are predicted a revised assessment including additional robust pollution control strategies to manage the predicted exceedances should be provided.
5. The isopleth for deposited dust does not align with the tabulated predicted deposited dust impacts. The predicted dust deposition impacts should be reviewed and confirmed.

Detailed advice and recommendations are provided in Attachment A based on requirements in previous letter from the EPA date 15 May (ref:DOC18/79724-02). Further information is required

from the Proponent before comments and advice can be provided for this modification proposal.

If you have any further questions regarding this matter, please contact Carla Thomas on (02) 9995 5302.

Yours sincerely

A handwritten signature in black ink, appearing to be 'L. Barrington', with a stylized loop at the end.

LARA BARRINGTON
A/Unit Head Waste Compliance
Environment Protection Authority

ATTACHMENT A

1. Meteorological year not demonstrated to be representative

Consideration should be given to other meteorological parameters such as wind speed and wind direction to demonstrate the appropriateness of the selected year for meteorological/dispersion modelling. The proponent must provide an analysis of wind speed and wind direction data from an appropriate meteorological station to demonstrate 2016 is appropriate for modelling purposes.

Ramboll 2018 presents five years of meteorological data from the Horsley Park and St Marys Bureau of Meteorology stations. Data from these meteorological stations for 2012 to 2016 (inclusive) are presented as wind rose diagrams. The assessment advises that the wind roses demonstrate a high degree of consistency in winds across the five years, in terms of wind direction, average wind speeds and percentage occurrence of calm conditions.

Recommendation: Adequately addressed

2. CALMET meteorological data file not validated

The CALMET generated meteorological data should be validated against measured data in the modelling domain. Further, a revised AQIA should include a discussion as to why the CALMET generated meteorological data is considered valid.

Ramboll 2018 advises that evaluation of CALMET predicted winds was conducted by comparing the CALMET model results, without data assimilation for the Badgerys Creek Bureau of Meteorology (BoM) site, with the actual meteorological data collected at Badgerys Creek. A general qualitative comparison and discussion between the data sets is provided. This method would seem appropriate however the EPA understands that the CALMET data used for predicting potential air impacts is based on data assimilation using the Badgerys Creek BoM data. Hence the comparison does not seem to be based on the actual CALMET data used for predicted air quality impacts.

Additionally, Ramboll 2018 includes a comparison of CALMET predicted winds at the site with the Prospect meteorological station (located approximately 8 km to the east), which has not been used as a site for data assimilation. A comparison of CALMET predicted data with an actual data set not used for data assimilation would be appropriate, however the data sets for the comparison should be for the same location. Given the distance between the two sites where the data is collected/extracted, the comparison is not considered robust for validating the CALMET data.

Recommendation: Not adequately addressed. The CALMET predicted data at the Prospect meteorological station should be compared with the Prospect meteorological data set.

3. Peak emissions were not considered

The emissions inventory for Scenarios 1 and 2 should be revised to consider peak daily emissions. Emissions derived from peak daily throughput should be modelled, and results compared to impact assessment criteria.

Revised assessment scenario

The original AQIA - Air Quality Impact Assessment Genesis Xero Waste Facility Modification 6, prepared by Ramboll Environ Australia Pty Ltd dated 4 October 2017 (Ramboll Environ 2017) provided for the proposed modification assessed two scenarios. Those scenarios being:

- Scenario 1 based on 2 Mtpa processed within the MPC;
- Scenario 2 based on 2 Mtpa being direct to the landfill.

Ramboll 2018 (the revised AQIA) assesses a single scenario where 1 Mtpa of material is processed through the MPC, and 1 Mtpa being directed to the landfill. The revised AQIA advises that the

modification seeks to increase the landfill limit from 700,000 tpa to 1,000,000 tpa, whilst not increasing the overall capacity. On the basis the scenario represented within the revised AQIA is considered representative of what is being proposed.

Peak daily emissions

Section 6.1.2 of Ramboll 2018 advises:

- that estimated emissions are based on annual production rates of 1 Mtpa for the MPC, which equates to an average daily processing rate of 2,740 tonnes per day (tpd) or 114 tonnes per hour (tph);
- When waste separation is optimal, the maximum processing rate is 150 tph. Therefore, to account for a theoretical worst-case day, the emissions from the MPC are increased by approximately 30%. This combined with a maximum of 1,000,000 tpa directed to landfill provides a worst-case assessment for peak day operations.

Whilst the additional information adequately accounts for peak daily emissions for the MPC, it does not account for potential peak daily emissions associated with the landfill operations, as emissions for the landfill operations are still based on annual production capacities. Given that the modification seeks an increase in the landfill capacity, then the assessment must account for potential peak emissions associated with the landfill operations.

Additionally, the assessment presents predicted ground level concentrations in Section 7. However, it is not clear if these results are based on peak daily emissions. For transparency and clarity, the AQIA should present predicted impacts based on peak daily emissions, and annual based emissions.

Recommendation: Not adequately addressed. The proponent must present:

- **Peak daily impacts associated with the landfill and MPC operating concurrently;**
- **The predicted impacts associated with peak daily and annual production emissions. In particular the predicted impacts from the landfill and MPC operations at peak daily emissions concurrently.**

4. Scenarios 1 and 2 may not be indicative or worst-case emissions

The AQIA should be revised to include additional scenarios such as peak daily emissions from the concurrent operation of the landfill and the resource recovery facility.

This issue is covered concurrently with issue 3 above. The request for additional assessment stated in issue 3 above is applicable to this issue hence no additional comment or advice is required.

5. Unclear how some particulate emissions were calculated

The revised AQIA should provide, in tabular form, emission factors and control factors corresponding to each emission generating activity.

Ramboll 2018 includes tabulated emission factor and emission control factors corresponding to each emission generating activity in Appendix 3.

Recommendation: Adequately addressed

6. Note clear how composting has been accounted for in calculating odour emissions

The AQIA should be revised to include odour sources from composting.

Ramboll 2018 advises that the assessment of odour includes:

- Landfill (active tip face, daily cover, intermediate cover and final cap)
- Greenwaste storage
- Composting (including fresh and aged compost windrows)

Recommendation: Adequately addressed

7. Ground level PM₁₀ and PM_{2.5} concentrations are significant at nearby industrial receptors

In accordance with Section 7.7 of the Approved Methods, the AQIA should be revised to include various pollution control strategies until compliance is achieved at all surrounding existing and future sensitive receptors.

Ramboll 2018 is based on a revised assessment scenario considering 1 Mtpa directed to the landfill. The assessment predicts the potential for an additional exceedance of the PM_{2.5} (24 hour average) impact assessment criteria, and predicts exceedances of PM_{2.5} (annual average) impact assessment criteria. It is noted that adopted background PM_{2.5} currently exceeds the annual average impact assessment criteria.

Section 8 of Ramboll 2018 presents existing and proposed dust controls. However, it is not clear what control measures are existing and which are proposed. Additionally, Ramboll 2018 advises “*the proponent will consider relocating the PM₁₀ monitoring site in Minchinbury to a boundary location*”. This is not an adequate proposal to address the predicted additional exceedance of 24-hour PM_{2.5}.

Noting the issue with presenting peak daily impacts as described in Point 3. Exceedances of the impact assessment criteria are likely to increase given that predicted impacts associated with peak daily landfill operations have not been presented. Where exceedances are predicted, the proponent should revise the assessment to include various pollution control strategies until compliance is achieved. The proponent should commit to:

- a) Additional controls, where feasible and reasonable to implement;
- b) Reduction in capacity being sort; and/or
- c) Specific management measures that are robust and auditable. Reactive management measures based on real-time particulate matter monitoring is an option that the proponent should consider.

Recommendation: Not adequately addressed. The proponent should:

- **Detail the current and proposed mitigation measures;**
- **Where exceedances of the impact assessment criteria are predicted, the assessment should be revised to include additional pollution control strategies. Consideration needs to be given to the assessment of peak daily landfill operations, as advised in issue 3.**

8. Results of TSP and dust deposition data for Scenario 2 not given

The revised AQIA should provide results for TSP and Dust Deposition for Scenario 2.

As advised under issue 3, the revised assessment includes a single assessment scenario based on 1 Mtpa being directed to the landfill. The revised assessment includes the predicted impacts for TSP and dust deposition.

Recommendation: Adequately addressed

9. Concentration isopleths not provided

In accordance with Section 7.6 of the Approved Methods, the revised AQIA should provide concentration isopleths.

Concentration isopleths are provided for PM_{2.5}, PM₁₀, TSP, deposited dust and odour within Appendix 3 of Ramboll 2018. The isopleth for deposited dust does not align with the predicted impacts in Section 7.3 of the main report. The isopleths show significantly higher predicted impacts. The proponent should review the predicted impacts and isopleth to confirm the predicted dust deposition impacts.

Recommendation: Clarity be sort on the predicted dust deposition impacts noting the difference between tabulated deposited dust predictions and the isopleth in Appendix C.