



Our ref: DOC20/922391  
Your ref: SSD 8660

Department of Planning and Environment  
Industry Assessment  
320 Pitt Street  
SYDNEY NSW 2000

Bruce.zhang@planning.nsw.gov.au

Attention: Bruce Zhang

By email  
6 November 2020

Dear Sir

**State Significant Development SSD 6880 – Construct and operate resource recovery facility – 90 Gindurra Road, Somersby**

I refer to your email dated 26 August 2020 requesting comment from the Environment Protection Authority (**EPA**) in relation to SSD 6880 (**the Application**). The Application seeks to construct and operate a resource recovery facility to process 200,000 tonnes per annum of soils and building and demolition waste at 90 Gindurra Road, Somersby.

The EPA has conducted a review of the information provided including the revised EIS. The review has shown that further information is required before the EPA can issue general terms of approval for SSD 6880. The review was undertaken by separate technical branches of the EPA and their comments are attached to this letter.

The requested information described in the attachment (Attachment 1) will need to be provided to the EPA before we can consider issuing General Terms of Approval.

If you have any further queries regarding this matter, please contact Sean Joyce on (02) 4908 6897.

Yours sincerely

A handwritten signature in blue ink, appearing to read 'Steven James', written over a circular stamp or seal.

**STEVEN JAMES**  
**Unit Head Regulatory Operations Metro North**  
**Environment Protection Authority**

## **Attachment 1**

### **A. Revised Noise Impact Assessment**

Ambient noise monitoring was undertaken on the boundary of the Kariong Sand and Soil premises and the adjoining residential allotment identified as 12 Acacia Rd Somersby as part of the original EIA. The NIA notes that industrial and traffic noise sources were the primary noise sources influencing the monitored noise levels. The major road and industrial sources appear to be located to the west of the premises. However, the most noise-affected receiver locations are located to the east of the premises with marginally greater separation distances, and potentially different exposure scenarios to the road and industrial sources.

The EPA requires the proponent to demonstrate the following:

- That the ambient monitoring location is representative of the ambient noise levels likely to be experienced at sensitive receivers located further to the east and at greater separation distances from the road and industrial noise sources;
- Determine whether noise from existing operations at the Kariong Sand and Soil premises influenced the monitored ambient noise levels at the monitoring location;
- The EPA notes that the sound power levels presented for the crushing and screening plant appear low compared to data supplied to EPA for similar items of plant and equipment on similar projects. The proponent needs to demonstrate that the sound power levels are achievable, and are based on the plant and equipment operating under normal load. Additionally, the NIA should present feasible and reasonable contingency measures that could be deployed should the major noise producing items of plant and equipment exceed levels considered in the assessment resulting in non-compliance with applied limits.

### **B. Revised Water Cycle Impact Assessment and Soil Water Management Plan**

The updated report has had minimal revisions with the key changes including:

- Additional flooding information;
- Additional filtration across the metals storage bay (filter sausages);
- Additional 50KL rainwater tank on the main warehouse roof, to be used in the vehicle wash bay;
- Additional floating wetland details;
- Commitment to monitor treated stormwater quality against the ANZECC (2000) Irrigation guidelines;
- Commitment to monitor irrigated soil quality;
- Commitment to prepare an 'Operation and Maintenance Plan' and 'Risk Management Plan' for the stormwater and recycling system; and
- Commitment to undertake a 'Water Quality Validation Programme'.

Consistent with advice previously provided by the EPA, residual risks to water quality can be appropriately managed through conditions of consent. The EPA has updated the previously recommended conditions of consent to reflect the updated terminology in the June 2020 report.

The following conditions of approval are recommended to manage residual soil and water quality risks:

1. *The southern portion of the site (approximately 4ha) will remain as an undeveloped, vegetated buffer during the life of the facility.*
2. *The fate and potential impacts of any leachate from inside the warehouse is considered and appropriately managed (such as an internal sump).*

3. *Prior to construction the applicant must prepare a Soil and Water Management Plan including, but not be limited to:*
  - a. *maintenance and inspection schedules of water quality treatment measures*
  - b. *inspection of the 'floodplain' downstream for erosion following each overflow event*
  - c. *a Trigger, Action, Response Plan with contingency measures to be implemented if water quality triggers are reached or other unpredicted impacts (such as the formation of erosional channels or contamination of soils) and to ensure corrective actions are implemented.*
4. *Prior to construction the applicant must prepare a soil and water quality monitoring program in consultation with the EPA including but not limited to:*
  - a. *soil and water quality monitoring locations*
  - b. *analyte list and sampling frequency for each monitoring location*
  - c. *the sampling method for each location*
  - d. *the method of analysis for each analyte (as per Approved Methods for the Sampling and Analysis of Water Pollutants in NSW, 2004) and practical quantitation limit*
  - e. *a Trigger, Action, Response Plan detailing water quality triggers and operational responses for exceedances.*
5. *The applicant must prepare and submit for approval a Water Quality Validation Programme within six months of operation commencement to confirm that residual sediment and water quality is consistent with appropriate state and national guidelines (such as the Environmental Guidelines: Use of Effluent by Irrigation' (DECC 2004) and the ANZECC/ARMCANZ (2000) long-term irrigation criteria)*
6. *The applicant must conduct surface water monitoring and prepare ongoing annual reports to demonstrate that mitigation measures are effective as expected volumes of waste processed on site increases.*

### C. Revised Air Quality Impact Assessment

The EPA notes that the revised Air Quality Impact Assessment (AQIA, V2, 2020) has adopted additional control measures including:

- Sorting and processing operations are conducted within a Secondary Sorting Warehouse, with accompanying misting systems;
- Partial enclosure of the tipping and spreading bays, with misting systems;
- Partial enclosure of the grinding and mulching operations, with accompanying misting systems; and
- Misting systems on outdoor storage bays for landscaping and civil supply materials.

The incremental dust impacts predicted in the AQIA (V2, 2020) are still significant at some receptors, with PM10 impacts predicted up to 26% of the EPA's impact assessment criterion (24-hour). Also, there is still noted uncertainties arising from the meteorological modelling undertaken and the approach used to estimate cumulative impacts. The EPA also considers the estimated levels of dust control assumed in the assessment are high. Robust justification for the adopted levels of control has not been provided.

The EPA considers the risk of potential dust impacts arising from the project could be further reduced through the implementation of best practice controls, such as fully enclosed buildings around processing equipment and a proactive and reactive dust management strategy.

The EPA recommends:

- 1) prior to project determination, the proponent should undertake a detailed feasibility assessment of engineering controls for controlling dust, including a benchmarking study

against best practice dust management. The assessment must consider the adoption of fully enclosed structures around all key waste processing activities.

- 2) the AQIA (V2, 2020) be revised to address the issues detailed below.

#### Issues:

The proponent provided a Response to Submissions Report to address four particular issues raised by the EPA in our previous advice. The adequacy of the proponent's response to the four issues is discussed below (including recommendations):

### **1) Assessment of the cumulative impacts from other significant emission sources in the area**

- a. Gosford Quarries, (existing operation) located approximately 250 m to the east of the project site. No dispersion modelling of the quarry has been performed, and the potential impacts associated with the quarry are discussed qualitatively. Emissions have been estimated based on an assumed extraction rate of 30,000 tpa. Annual average emissions rate for PM10 only have been considered as no further information was publicly available.
- b. Somersby Resource Recovery Facility (Proposed development SSD 18\_9265) located approximately 20 m to the north of the project site. The project, proposed by Bingo Recycling Pty Ltd, involves the construction of resource recovery facility with an annual throughput of up to 500,000 tpa of waste. Cumulative impacts were not quantified, due to a lack of available information. The EPA's review of DPIE's Major Planning portal found that the current status of the project is listed as 'withdrawn'.

Due to the geographical orientation of the Gosford quarries in relation to the Kariong Sand and Soil premises, those sensitive receivers nearest to the project may experience an increased frequency of impacts on an annual basis. As such, The EPA considers a more robust assessment of the nearby Gosford Quarries should have been undertaken to better quantify the associated emissions and potential for cumulative impacts. There is already noted uncertainty with the meteorological data adopted in the AQIA (V2, 2020) (See point 4). The qualitative approach used further increases the uncertainty regarding the potential for air quality impacts.

**The EPA advises that there is still noted uncertainty associated with the cumulative assessment presented in the revised AQIA (V2, 2020). The EPA recommends a more robust assessment of cumulative impacts from the nearby Gosford quarries be undertaken in a revised assessment.**

### **2) Daily emission estimates that reflect a worst-case scenario**

The revised AQIA (V2, 2020) includes emission rates which represent peak day operations such as material processing rates at maximum throughout and increased vehicle movements. Additional particulate control measures have also been adopted in the revised AQIA (V2, 2020) in response to EPA's comments and community concerns regarding dust emissions. These additional control measures include:

- Partially enclosed buildings around crushing and shredding operations fitted with dust suppression (water sprays) with hopper loading being external to the building; and
- Partially enclosed building for the tip and spread area and the inclusion of water misting sprays.

The EPA considers that partially enclosed structures, such as the ones proposed in the AQIA (V2, 2020), are not consistent with best practice emission control design. The achievable level of dust control using the proposed designs is expected to be low compared with a fully enclosed building, particularly under certain meteorological conditions and wind directions (dependent on the orientation of the structures). There is also no site representative meteorological data available which could be used to inform the optimal orientation of the building structures.

Activities associated with material processing, such as crushing, screening, grinding and shredding have the potential to significantly increase the potential for dust emissions from a facility and must be

appropriately managed and mitigated. The use of best practice engineering controls is recommended.

The AQIA (V2, 2020) predicts emissions from activities associated with material handling and processing are still significant for the project based on equivalent annual average emissions data (calculated using 24-hour activity rates). Activities include;

- Material chipped by shredder ~1030 kg/yr
- Material loading (to vehicles, to screens, to crusher etc) ~125 kg/yr (each activity)

The EPA considers that the proposed engineering controls could be further improved using fully enclosed structures and should be considered in the final design stages for the proposal.

**Prior to project determination, the proponent should undertake a detailed feasibility assessment of engineering controls for controlling dust, including a benchmarking study against best practice dust management. The assessment must consider the adoption of fully enclosed structures around all key waste processing activities.**

### ***3) Updated emissions inventory that includes, where possible, estimated emission rates in g/s***

Additional information and clarification have been provided in the revised AQIA (V2, 2020) to allow replication of emission rate calculations. Annual and Peak 24-hour emissions inventories are included in Appendix C. The peak maximum daily rates have been estimated based on the maximum potential hourly processing rates, which equates to an equivalent 669,000 t/annum. This represents about 3.3 fold increase in processing rates, when compared to the maximum 200,000 t/annum proposed. The EPA considers this approach to be reasonable.

It is noted that high levels of control have been applied to some activities which result has resulted in an overly optimistic reduction in emissions. The estimated total level of control for all activities associated with material processing is about 90% which is considered high, for the types of controls proposed. The EPA would consider such high levels of control are likely more associated with best practice controls such as fully enclosed structures around processing areas.

Despite the high levels of controls, significant incremental dust impacts are still predicted. For example, the maximum incremental (24-hour) PM10 concentration at receptor 3 is 13 ug/m<sup>3</sup>, representing 26% of the EPA's impact assessment criterion. There is also noted uncertainties associated with the meteorological modelling, as discussed in point 4 below.

The EPA has also identified issues associated with the wind erosion calculations. Controlled emissions estimated during peak 24-hour scenario are approximately half of those predicted for the annual scenario (1,782,7 kg/annum vs 891.4 kg/annum respectively). There is no justification provided for the 50% reduction in predicted emissions between the two scenarios.

Notwithstanding this, it is considered the risk of dust impacts arising from the project can be further mitigated via the implementation of best practice controls such as fully enclosed buildings around processing activities and the adoption of an appropriate proactive and reactive dust management strategy.

**The EPA recommends the AQIA (V2, 2020) be revised to include robust justification for all levels of emission control adopted. Additionally, the emissions inventory must be reviewed to ensure the estimated controlled emission rates are accurate.**

### ***4) Additional meteorological data options such as those generated using CALMET run in various modes (no-observation, hybrid).***

The previous AQIA (V1 2019) included discussion of 2 approaches used for meteorological modelling using TAPM. Neither approach provided an adequate representation of the local meteorology when the output data were compared to observations at the Gosford AWS (data validation).

The revised AQIA (V2, 2020) includes results of additional meteorological modelling (approach #3) which was performed using WRF meteorological model output as input to CALMET. This approach again, did not adequately characterise the observed wind conditions.

A fourth approach has been performed using AERMOD. Observational data from Gosford AWS has been adopted as an input to the dispersion model. As such, the predicted wind roses closely resemble those at Gosford Automatic Weather Station.

Furthermore, the meteorological analysis undertaken has only considered 3 consecutive years of data (2014 to 2016), rather than the 5 years recommended in the Approved Methods for the Modelling and Assessment of Air Pollutants in NSW (2016). No justification for this shorter review period was provided. This further increases the uncertainty associated with the AQIA (V2, 2020).

**The EPA notes there is still uncertainty associated with the meteorological modelling undertaken in the AQIA (V2, 2020). However, the uncertainties could be adequately managed via a commitment to improved engineering controls including fully enclosed structures around processing areas.**