



DOC19/933781-9; EF13/3037

Department of Planning, Industry and Environment
By: Major Projects Portal

Attention: Melissa Anderson

6 December 2019

Dear Ms Anderson

**SANCROX QUARRY EXPANSION PROJECT (SSD 7293)
ADDITIONAL INFORMATION REQUIRED**

I refer to your email to the Environment Protection Authority (EPA) received on 25 October 2019, inviting comments and recommending conditions in relation to proposed Sancrox Quarry Expansion project (SSD 7293) at Sancrox Road, Sancrox (the Premises).

Hanson Contruction Pty Ltd (Hanson) is seeking to increase its current quarry extraction and processing rates from 455,000 to 750,000 tonnes per annum (tpa) at the Premises. The proposed quarry expansion will be completed in five stages over 30 years. Additionally, the proposal includes the construction and operation of a concrete batching plant (20,000 tpa), a concrete recycling facility (20,000 tpa) and an asphalt plant (50,000 tpa).

Hanson currently holds Environment Protection Licence 5289 for the scheduled activities of extractive activities and crushing, grinding and separating for up to 500,000 tonnes per annum.

The EPA has reviewed the EIS and has determined that to be able to properly assess the environmental impacts of the proposal it requires the following additional information:

Noise monitoring

1. Justification for including data in the *Sancrox Quarry Expansion Noise and Vibration Impact Assessment, dated 28 August 2019, Environmental Resources Management Australia Pty Ltd, reference: 0418291_Final* (noise report) where wind speeds exceed 5 m/s. Alternatively the proponent could undertake further noise monitoring to record sufficient periods where wind speed is below 5m/s.

The noise monitoring graphs in Annex E of the noise report appear to show that the measured wind speed at 10m was in excess of 5m/s for the majority of the monitoring period during the day period. The noise report states that the only measurements removed were when the wind speed at 10m was above 7m/s.

2. Explanation of how measurements and analysis of the noise monitoring data at monitoring location L02 accounted for extraneous noise affects in the evening and night periods and during the evening period at monitoring location L03.

3. Demonstration that the background noise monitoring was not influenced by existing operations at the premises.

Table 7.2 of the noise report presents Leq,15min noise levels in excess of 40 dBA from the existing premises during the day period at a number of residential receivers. This indicates that the existing quarry has potential to influence the background noise levels at the nearest receivers.

Operational noise assessment criteria

4. Information about the existing level of industrial noise during all assessment periods to appropriately derive the Project Specific Noise Levels (PSNL) and analyse the amenity level in the derivation of the PSNL.

The assessment adopts the Industrial Noise Policy (INP) intrusiveness criteria. However, the INP requires that the most stringent level between the amenity and intrusiveness should be used. The quarry is situated in a location where there are existing and planned industrial developments. The INP requires the existing industrial noise levels in the area are determined in order to inform the project specific amenity level. Attended noise monitoring was not carried out during the evening and night periods and the noise report has not described the existing noise environment or quantified sources during the most sensitive periods of the proposed operation. Based on the current information in the report, it is not possible to determine if sole use of the intrusiveness criteria is appropriate. INP methodology requires the more stringent of the intrusiveness and amenity criteria be adopted as the PSNLs.

Noise modelling

5. Explanation of how the specific meteorological conditions have been modelled.

Meteorology conditions for the report's noise predictions were derived using the INP method. Specifically, calm conditions, G-class temperature inversions and specific wind speeds and directions have been stated in Chapter 2.10 as being modelled. Chapter 5 of ISO 9613-2 defines the meteorological conditions which apply to the standard. Some of the meteorological conditions used in the noise report appear to be outside of these conditions.

6. Validate the noise model to demonstrate that it is capable of predicting noise levels to a reasonable level of accuracy. The validation should compare measured noise levels with predicted levels of the same operating scenario(s) at reference points.
7. Provide a reference or other information to support the use of the assumed sound power level (SWL). The SPL of the CAT 980H loader is 105 dBA in Table 7.1. The EPA considers this low when compared to other data available in the public domain for this type of loader.

Noise modifying factor adjustments

8. Assessment of modifying factors against the Noise Policy for Industry (NPfI) Fact Sheet C and adjustment at the receiver, based on the total noise level from the premises to be consistent with EPA Policies.

Item 8 of the EPA's Transitional arrangements for the NPfI Fact Sheet C replaces INP Chapter 4 for modifying factors where the INP is referenced in existing statutory documents. The noise report repeatedly refers to applying penalties for annoying characteristics to the sound power level or sound source. However, the analysis and any applicable penalty for modifying factors is performed on the total noise emission level at the receiver, not the source or sound power level.

Noise mitigation measures

9. Details of how noise mitigation measures will be achieved and implemented, and which items of plant can meet its sound power level requirements.

Blasting

10. Justification of the approach not to use existing blast monitoring data to inform the assessment.

The assessment relied on generic assumptions to calculate the blast over-pressure and ground vibration. The quarry is an existing operation that conducts regular blasting. Therefore, it is expected that existing blasting data would be used in the assessment.

Construction assessment

11. Reassessment of any penalties to predicted noise levels using the Interim Construction Noise Guideline (ICNG).

A note to Table 6.1 indicates that an INP penalty for annoying characteristics has been applied to the SWL of a noise source. However, there is no requirement in the ICNG to apply corrections for annoying characteristics from the INP. The ICNG does nominate a 5 dB penalty to the predicted level (i.e. not at the source) for certain activities on page 16 of the ICNG.

12. Inclusion of building the noise bunds in the construction noise assessment.

The noise mitigation measures include very large bunds on the property boundary. The construction of these bunds is likely to temporarily increase noise levels and needs to be accounted for in the construction noise assessment.

Road traffic noise assessment

13. Consideration of total traffic noise levels caused by the project, providing justification and evidence for the existing traffic noise levels. This should:

- a. consider both light and heavy vehicle movements generated by the quarry.
- b. provide the calculation method and detail the inputs and assumptions used to calculate the predicted road traffic noise.
- c. identify the roads considered in the assessment and identify which are the closest and most potentially affected receivers adjacent to these roads.
- d. address impacts of vehicle movements on public roads generated by the proposal during the night period.

The project will generate traffic. The report has assumed that the existing traffic noise level is 5 dB below the RNP criteria, but provided no evidence that this is an appropriate assumption.

Chapter 7.4 of the noise report states that there will be no road traffic noise movements during the shoulder or night period. However, in Chapter 7.3 of the noise report, night time truck movements have been included in the assessment. Chapter 12 of the EIS also includes references to trucks operating at night.

Hours of Operation

14. Provide justification for the need to operate 24 hours, 7 days a week including measures to reduce adverse impacts to the surrounding rural-residential land users.

Air quality assessment

15. Modelling of the worst-case scenario based on maximum daily material handling for each one of the plant operations.

The AQIA presented results for one modelling scenario that included quarry activities for the operations of the quarry and all the proposed plants. This modelling scenario was based on annual throughputs for each one of these operations. Given the predicted additional exceedances based on annual throughput, it is likely that modelling results based on a maximum daily material handling would result in higher project-related increments and extra additional exceedances.

16. Tabulated incremental and cumulative impact assessment results for the most impacted receptors for all particle size fractions and averaging periods.

Cumulative results for 24-hour PM₁₀ concentrations presented in Table 11.1 show predicted additional exceedances at 13 different receptors (R1-R4, R12-R19 and R42) located to the west and south of the project boundary. The AQIA should also state the total number of predicted additional exceedances. These results should be presented in accordance with section 11.2.3 of the Approved Methods.

The Level 2 assessment (contemporaneous assessment) results presented in the AQIA only present the largest increment and the corresponding background on the day. This analysis needs to include a summary of various days, pairing the highest background concentrations with the corresponding predicted increments, as well as, the highest predicted increment concentrations with the corresponding background concentrations on the same day.

17. Assessment of the potential impact of the proposal on all potential sensitive receptors in the area currently being developed to the south and east of the project.

Areas to the south and east of the project are currently under development and the Air Quality Impact Assessment (AQIA) must assess potential impacts for pollutants at these future sensitive receptors. The approved methods require potential impacts to be assessed at the nearest existing or likely future sensitive receptors.

18. Revised modelling incorporating additional control strategies to achieve compliance with the EPA criterion at all sensitive receptors.
19. Source apportionment results to better understand what plant operations and/or specific activities are driving the predicted large PM₁₀ increments.

Modelling predicts large project-only increments. For example, the proposal is predicted to increase PM₁₀ at receptors R4, R13 and R19 by 10.1, 16.8 and 14.5 µg/m³ respectively. Each of these increments represents more than 20% of the EPA's impact assessment criterion.

20. A list of controls that are consistent with best practice control of fugitive emissions to minimise potential impacts.
21. A table presenting the estimated annual emissions for the activities carried out at the premises.

This must be done in accordance with section 3 and 9.3 of the Approved Methods.

22. Discussion of the assumptions used in the calculation of the emission rates, including a table with all parameters used for their calculation.

Table 6-2 and Annex B of the AQIA present most of the emission rates used in the modelling and provide some explanation of the assumptions made in their calculation. However, further explanation is needed for parameters, including mean wind speed and road lengths, have not

been clearly presented. Alternatively, this information can be provided as part of the total emission concentrations for the premises.

The assessment needs to segregate estimated annual emissions for the activities carried out at the premises. Section 3 of the Approved Methods states that *“a thorough air emissions inventory for a premise identifies all sources of air pollution, the air pollutants emitted from each source, and estimates the emission concentration and rate of all air pollutants emitted”*.

The EPA requires further explanation of how the emission estimations for hauling activities accounted for the different stages of the quarry operations. Although, most of the emission rates were calculated based on maximum annual throughputs, the AQIA has not transparently presented the assumptions made regarding distances covered in the modelling scenario or how representative they are of the different stages and future operations.

23. Additional information used to calculation of the emissions inventory to enable replication of the emissions.

Soil Properties

24. Revision of the need to extend the development and sediment basins into the very strong acidity Euroka Soil Landscape.

Alternatively, provide a more detailed assessment of the potential impacts and mitigation measures addressing the potential risk to water quality.

Water Balance

25. Include the volume of water required to suppress dust on the overburden stockpiles in the site water balance.

If you have any questions about this matter, please contact Jenny Lange on 4908 6891 or by email to hunter.region@epa.nsw.gov.au

Yours sincerely

MITCHELL BENNETT
Head Strategic Operations Unit
Environment Protection Authority