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The Department of Planning and Environment
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Attention: Ms Emily Murray

Request Additional Information – Tomingley Gold Operations Pty Ltd (Tomingley Gold Extension Project) Environmental Impact Statement- SSD-9176045

Dear Ms Murray

Thank you for the invitation from the Department of Planning and Environment (DPE) sent to the Environment Protection Authority (EPA) on 25 February 2022 seeking comment on Tomingley Gold Operations Pty Ltd's (Proponent) Tomingley Gold Extension Project for SSD-9176045 (Project).

The EPA has reviewed the Tomingley Gold Extension Project, Environmental Impact Statement and accompanying Appendices (EIS) prepared by R.W Corkery & Co. Pty. Limited, January 2022.

The EPA understands that the Project proposes 7 phases which include:

- The realigned Newell Highway, Kyalite Road and associated intersections
- The SAR Open Cut, consisting of the North, Central and South Pits
- The SAR Waste Rock Emplacement, with a geomorphic design with slopes of 1:6 (V:H) or less and a maximum height of approximately 70m
- The Caloma Waste Rock Emplacement which would backfill the existing Caloma 1 and 2 Open Cuts
- Residue Storage Facility 2 which would be increased in capacity from the currently approved Stage 2 to Stage 9
- The SAR Administration Area consisting of administration and workshop infrastructure and services
- The SAR Amenity Bund, Haul Road and Services Road, SAR Pastefill Plant and Roswell Ventilation Rise and SAR Water Storage Dam

As requested, the EPA has reviewed the EIS for the Project. In summary the EPA require additional information to adequately assess the Environmental and Human Health Impacts of the Project for Noise and Blasting.

The EPA has concerns that the EIS does not adequately address the potential impacts for Noise. It is essential that the EIS appropriately assesses the noise impacts for the proposed extension to the Tomingley Gold Operations Pty Ltd, Tomingley Gold Mine.

The EPA has provided comments and requires Tomingley Gold Operation Pty Ltd to provide clarification and additional information for Noise and Blasting listed below.

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1. Noise Emission Modelling

Section 6 of the Noise and Blasting Impact Assessment (NBIA) states that noise emissions were modelled using DGMR iNoise software, and that the calculation method used was in accordance with ISO9613:1 and ISO9613:2 including corrections for meteorological conditions using CONCAWE. It is unclear what CONCAWE parameters were used in the modelling. Also attached is correspondence between the iNoise/Predictor manufacturer and the EPA, for your information.

For noise levels predicted under noise enhancing conditions, the NPfI states, inter alia, that noise levels should be predicted under a 3m/s source to receiver wind. Clause 5 of *ISO9613-2 Attenuation of sound propagation outdoors – General method of calculation* specifies noise levels are calculated according to average downwind conditions, which are defined as:

- wind direction within an angle of + 45” of the direction connecting the centre of the dominant sound source and the centre of the specified receiver region, with the wind blowing from source to receiver, and
- wind speed between approximately 1 m/s and 5 m/s, measured at a height of 3 m to 11 m above the ground.

Therefore, use of ISO9613-2 to predict noise enhancing conditions could be consistent with the conditions required in the Noise Policy for Industry (NPfI). ISO9613-2 also includes the ability to modify the predicted downwind noise level based on long term meteorological variances. It does this using the Cmet correction (defined in Clause 8) that can be added to an ISO9613-2 calculated noise level to account for long term variances in meteorological conditions that are favourable and unfavourable to noise propagation. The calculation of Cmet relies on an arbitrary factor C0 in its calculation and there is no provision in the Standard to calculate Cmet based on specific individual meteorological conditions, like those required by the NPfI. According to Notes 20-22 in Clause 8, Cmet corrections generally only maintain or reduce the predicted downwind noise levels.

The manufacturer of iNoise and Predictor, the software program used to predict noise for the proposal, has confirmed that you are able to specify replacement of Cmet in ISO9613-2 with the meteorological correction from another noise prediction method called CONCAWE. This CONCAWE meteorological correction is called K4 and calculates the noise level enhancement based on a number of specific meteorological factors including wind speed, direction, and stability class.

If Cmet is set to zero, or is not used, then the resulting noise levels are representative of the default downwind ISO9613-2 conditions, defined above. If Cmet is replaced by K4, and K4 is set to represent 3m/s downwind conditions, the resulting noise level will then have two corrections for downwind; one from ISO9613-2 which is downwind by default, and another from K4. This means that the model will likely overestimate the enhancing effect of downwind conditions.

While the EPA considers the approach used is likely conservative, we are also cognisant that license limits above NPfI PNTLs are being sought for the proposal, which will likely be derived from predicted noise levels. The EPA must be satisfied that proposed noise levels, which may be adopted as statutory requirements in an environment protection licence (or similar) are appropriate and best achievable. While the EPA does not generically mandate the noise models and specific inputs to be used on projects, EPA will assess the appropriateness of the model used in the context of the individual circumstances.

Therefore, before further consideration of the suitability of the use of ISO9613-2 + K4 to calculate noise enhancing conditions for these projects (i.e. a 3m/s source to receiver wind), the EPA requires evidence that the approach is not effectively applying a double positive correction for the NPfI noise enhancing meteorological conditions i.e. that the approach is not overly conservative in this situation. The EPA acknowledges that there are a number of different noise prediction methods available and the proponent should use an appropriately justified method of calculating noise levels under noise enhancing conditions.

As the proposal involves the extension of existing approved operations, the noise model should be validated/calibrated through the use of noise measurements of existing operations under known meteorological conditions and at locations free of extraneous noise, to provide confidence in the accuracy of the modelling.

Information Required

The Proponent must ensure the Noise Model has been validated/calibrated through the use of noise measurements of existing operations under known meteorological conditions and at locations free of extraneous noise, to provide confidence in the accuracy of the modelling.

2. Assessment of Low Frequency Noise

Section 7.1.2 of the NBIA assesses the potential for low frequency noise from the proposal, however puts forward alternative criteria to those in Noise Policy for Industry (NPfI) Fact Sheet C. The Noise Policy for Industry (NPfI) requires low frequency noise (LFN) to be assessed against the requirements of Fact Sheet C. Where LFN is or is likely to occur, and cannot be mitigated to below NPfI LFN triggers, the NPfI requires a modifying factor correction to be applied to the measured or predicted noise levels at the noise-sensitive receiver locations before comparison with the project noise trigger levels. Fact Sheet C has two requirements to determine the presence of LFN:

a. a ‘screening’ test to identify the potential for LFN by assessing whether there is a difference of 15 dB or more between C- and A-weighted measurements; and where this is the case,

b. a detailed evaluation of the 1/3 octave frequencies between 10Hz to 160Hz in Table C2 of Fact Sheet C.

The EPA (or other regulatory authorities) will consider the outcome of a noise assessment undertaken in accordance with the NPfI, including any modifying factor arising from the presence of LFN, when recommending noise limits in an environment protection licence or other approval. The EPA acknowledges that there are practical constraints to assessing low frequency noise when using standard assessment approaches including:

- limited availability of published sound power level data below 63Hz for plant and equipment that may generate LFN; and
- limitations in the ability of commercial noise modelling software to predict noise levels below 31.5Hz (and in some instances below 63Hz).

The following outlines how low frequency noise can be assessed in different circumstances to satisfy the requirements of Fact Sheet C of the NPfI. Alternative methods may be used where this is supported by sufficient evidence to demonstrate that LFN has been considered in accordance with the requirements set out in Fact Sheet C of the NPfI.

Determining LFN modifying factor corrections for existing developments

- Measure source contributions in the one-third octave band range of 10Hz to 160Hz at the existing development.
- Document the measurement methodology including: the prevailing meteorological conditions; the operating conditions of the existing development during measurements; the location of the measurements; and any adjustments applied to the measurements to assess LFN in accordance with Fact Sheet C of the NPfI.

Determining LFN modifying factor for a new development

- Predict the one-third octave band noise levels using proprietary noise modelling software down to the lowest one-third octave band that can be predicted by the noise model. The noise model used, the lowest one-third octave band noise level that can be predicted by that noise model, and the sound power level data used should be reported.
- Supplement the modelling results with measurements from comparable sources of noise to the proposed new development.
- Using this measurement data, develop a low frequency curve (or a "tail") in the one-third octave band frequency between the lowest one-third octave band noise levels that can be predicted by the modelling software and down to 10Hz.
- Apply an adjustment to the measured frequency curve based on the difference between the predicted and measured noise level at the lowest one-third octave band noise levels that can be predicted by the modelling software. For example, if the lowest one-third octave band frequency that can be modelled is 63Hz, then the data measured below 63Hz should be adjusted in each one-third octave band between 10Hz to 63Hz based on the difference between the predicted and the measured one-third octave band noise levels at 63Hz.
- Once the frequency curve down to 10Hz has been established, this should be used to assess LFN in accordance with Fact Sheet C of the NPfI.

Note that all measurements should be undertaken using a Class 1 sound level meter conforming to AS IEC 61672.1-2013 with appropriate wind screen protection over the microphone (Refer NPfI, Fact Sheet C); and at measurement location(s) where LFN can be measured in the absence of extraneous noise to accurately capture LFN.

Information Required

The Proponent must adequately demonstrate that the NBIA has considered LFN against the requirements of Fact Sheet C of the NPfI.

3. Assessment of Maximum Noise Level

Section 7.1.1 of the NBIA discusses the assessment of maximum noise levels from the proposal. It states that detailed LAmax levels are presented in Appendix E, however no such levels could be found in the report. It is unclear what events/activities generating maximum noise levels were modelled (including their location(s), and whether a 120 dBA sound power level was assigned to all of these events, or whether different activities attracted different sound power levels.

Information Required

The proponent must clearly state the nature, location and sound power level of all activities/events modelled in the maximum noise level assessment, as well as the predicted noise levels at all sensitive receivers.

4. Clarification of Noise Mining Scenario

Table 27 shows that a quantity of 14 x 45t Drill Rigs was anticipated for the FY26 Mine Scenario, and Table 29 indicates that each of these would attract a sound power level of 114 dBA, which is acoustically significant. Table 29 also shows that only 1-5 Drill Rigs are expected to be used, which does not align with Table 27.

Information Required

The proponent should explain why the FY26 mine scenario was not included in the modelled scenario on this basis, or alternatively consider adding FY26 to the list of modelled scenarios.

If you have any questions about this matter, please contact Teigan Cummins on (02) 6883 5333 or by email at info@epa.nsw.gov.au, marked to my attention.

Yours sincerely

MATTHEW QUINN
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