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Jeremy Knox
Development Planner
Yass Valley Council
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PROPOSED MURRUMBATEMAN DISTRIBUTION BESS: ACOUSTIC ASSESSMENT

Dear Jeremy,

As requested, I have reviewed the acoustic report for the above project – “Murrumbateman Distribution BESS, 3 Turton Place, Murrumbateman, NSW: Acoustic Report – Environmental Noise Emission Assessment” by WatsonMossGrowcott Acoustics, dated November 18, 2024 (“the WMG report”). That report supersedes a previous report for the same site, dated May 6, 2024 (“the previous WMG report”). As instructed I have considered only operational noise aspects, not construction noise.

This letter report provides comments on the WMG report and its conclusions.

Noise Criteria

Noise criteria are formulated based on the EPA’s Noise Policy for Industry (NPfI). The “Intrusiveness” criteria under this policy are typically based on measured background noise levels in the potentially-affected area. However there are minimum criteria that would apply no matter how low the measured background noise levels were, and these conservative values have been adopted in the WMG report. This is appropriate in the absence of measured background noise levels.

“Amenity” criteria are based on maximum acceptable noise levels in various settings. The procedure used by WMG in determining these criteria involves assuming that adjacent industry would operate during the daytime only. The procedure for determining amenity criteria in terms of $L_{Aeq,Period}$ under this assumption is appropriate.

The WMG report adds a “correction” of 3 dB to amenity criteria, to translate a value in terms of $L_{Aeq,Period}$ to one in terms of $L_{Aeq,15min}$. I do not see the justification for this, as the noise source under consideration is very stable over time and $L_{Aeq,Period}$ would be very similar to $L_{Aeq,15min}$. However this point is moot because the “Intrusiveness” criterion will remain the more conservative, and therefore controls the assessment.

The inclusion of adjustments for tonal and low-frequency noise is appropriate in accordance with the NPfI.

I understand that the receiver denoted R07, which is considered as commercial premises in the WMG report, actually contains a residence and should be considered to have the same criteria as other residences considered.

Calculation Procedures

The calculation procedures used in the WMG report are standard and appropriate.

I note that the input sound power levels used in those procedures have changed very significantly since the previous WMG report, suggesting that there is considerable variation in the sound power output from plant performing a similar function. I presume that this would also apply to the spectrum, including the presence of tones.

With this in mind, it would be prudent to ensure that noise monitoring checks are undertaken after commissioning of the plant (even if the proposed noise mitigation is constructed) to ensure compliance with criteria, including those concerned with the presence of tonal noise. If compliance is not found, then remedial works would be required.

Assessment

With no mitigation, exceedances of 6 dB and 2 dB are found at residences R01 and R03 in the evening and night, after adjusting for the tonality of the predicted noise. The adjustment is due to a predicted high-frequency tone at 3.15 kHz.

It is argued that this tonality adjustment may not be necessary because existing ambient noise in adjacent bands may be sufficient to render the total noise non-tonal. This is possible, but from my experience far from certain – night-time ambient noise levels at these frequencies can be very low, and a high-frequency tone even at a level of 29 dB (R01) or 24 dB (R03) may be definitely audible and satisfy the condition for an additional penalty.

Additional Residence

I understand that a nearby landowner intends to lodge a development application for a future dwelling at 4 Crisps Lane. Whether consideration should be given to a DA lodged after submission the proposal for this project is a matter for the relevant authorities.

If such consideration were required, given my understanding of the location of the possible dwelling my view is it is likely that noise levels would be within the relevant criteria. However I do not have details of the topography, and it is possible that levels may be similar to those at R03. The proposed barrier would not shield this residence, and may in fact increase noise levels there due to reflection.

Hence, if it is determined that this future residence should be considered, I would recommend the noise model be updated to calculate and evaluate noise levels at that point.

Proposed Mitigation

I accept WMG's modelling results that the proposed 3m barrier would reduce predicted noise levels at R01 and R03 to within recommended criteria. The construction details provided are questionable – I do not believe that an NRC rating of 0.9 is either possible or necessary, and to my knowledge Megasorber does not provide a product suitable for outdoor noise barriers. However, a barrier of some construction could provide appropriate results.

The main question appears to be whether the barrier should be constructed as part of the project or only after completion if the high-frequency tone appears in practice. My recommendation would be that EITHER:

- Measurements of existing ambient noise should be conducted before approval, both to confirm A-weighted background sound levels and to confirm the spectrum of the background noise. This may result in adjusted criteria and/or the presence of enough high-frequency ambient noise to mask the tone; OR

- The proposed barrier should be constructed as part of the project.

In either case, post-construction monitoring should ensure that noise criteria are met.

I trust that this is satisfactory. If I can provide further information or clarification, please do not hesitate to contact me.

Yours sincerely,

ROB BULLEN CONSULTING

A handwritten signature in black ink, appearing to be 'Rob Bullen', with a stylized, flowing script.

Rob Bullen

Principal