

Noise and Vibration Analysis and Solutions

18 August 2016

Borg Construction Pty Ltd 2 Wella Way Somersby NSW 2250 Attention: Victor Bendevski

Dear Victor,

Regarding: Borg Panels Timber Processing Facility Expansion – EPA Comments

Public exhibition of the development application, including the Environmental Impact Statement (EIS), for the above mentioned proposal ended on 27 July 2016. The NSW Environment Protection Authority (EPA) has provided comment on the EIS, dated 2 August 2016.

This letter provides advice regarding the EPA's recommended conditions of project consent. It is recommended additional clarity be sought regarding two dot points within the recommended conditions of project consent.

Mobile Wood Chipper Operation

Dot point 6 of the recommended conditions of project consent relates to operation of mobile wood chippers on the premises. Relevant text is reproduced below:

- The EPA recommends that the following specific conditions be applied to the use of mobile wood chippers on the premises:-
 - The operation of mobile wood chippers are not permissible on the premises from six (6) months
 following the commissioning of the Particle Board factory unless the mobile wood chipper(s)
 operates within an acoustically treated enclosure.
 - No mobile wood chipper can be operated in the open when winds are from the northern hemisphere (i.e. when winds are from the west through to the east or winds from 270°, through 0°, to 90°).
 - Two or more mobile wood chippers are not to operate simultaneously when winds are from the south-west through to the south-east (i.e. 225°, through 0°, to 135°).
 - o The preparation of a mobile wood chipper operation management plan. The plan would include the documentation of the above requirements and other measures that will be implemented (prior to the cessation of all mobile wood chipper operations on the premises) to limit their operation to periods of breakdown or maintenance of the permanent wood debarkers/chippers.

Point one states an acoustic enclosure is required for any mobile wood chipper to be utilised from six months following commissioning of the particle board factory. This point appears definitive, and implies that an acoustic enclosure is required at all times, regardless of meteorological conditions.

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However, Point 2 states mobile wood chippers cannot be operated "in the open" during certain wind direction conditions. It is not clear if the words "in the open" are intended to negate the requirement for an acoustic enclosure during certain wind direction conditions, or, if this is an additional condition to be applied cumulatively with Point 1. If the former is the case, the requirement for an acoustic enclosure would only apply when winds are from the northern hemisphere (from 90°, through 0°, to 270°), and would not apply when winds are from the southern hemisphere. Clarification from the EPA regarding the intent of the words "in the open" is recommended. If acoustic enclosure is not required during certain meteorological conditions, it is recommended Point 1 be modified to reflect that certain conditions apply where acoustic enclosure is not required, and, Point 2 be revised to remove any possible ambiguity.

Point 3 provides further wind direction limitations for simultaneous operation of two mobile wood chippers, but does not make reference to acoustic enclosure, or, operation "in the open". It is assumed clarification of Point 1 and 2 will determine requirements for acoustic enclosure, and additional wind direction constraints listed in Point 3 will apply cumulatively with those requirements.

Further to seeking the above clarification regarding wording of the most recent recommended conditions of project consent, it is noted that any requirement to operate mobile chippers within acoustic enclosures may not be either reasonable or feasible.

Model predictions presented in Table 18 of the Noise Impact Assessment (NIA) indicate that compliance can be achieved during the day period when operating mobile chippers, without acoustic enclosures, during non-enhancing meteorological conditions (neutral atmospheric conditions). Table 19 of the NIA indicates minor exceedance during prevailing wind conditions. This indicates that weather management controls should be sufficient to control noise from mobile chippers. As such, acoustic enclosures for mobile chippers should not be required.

As discussed, Borg agree that conditions relating to use of mobile chippers during enhancing meteorological conditions are both reasonable and feasible. It should be noted that mobile chippers will only be used as a back-up if electric plant fails. As such, mobile chippers should not present a significant, ongoing noise generating activity.

It is not considered reasonable that a requirement for acoustic enclosure is included in the conditions of project consent given the NIA indicates management controls should be sufficient to effectively control mobile chipper noise emission. Managing mobile chipper noise emission during the limited periods they will be required is considered a cost effective solution, that should provide compliance with relevant noise limits. It is suggested that any requirement for acoustic enclosure of mobile chippers only be included in the event that non-compliance is identified.

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Site Noise Model Update

Dot point 9 of the recommended conditions of project consent relates to updating the site noise model. Relevant text is reproduced below:

Updating the site noise model (as described in the NIA) based on the results of the compliance
monitoring and the implementation of all feasible and reasonable mitigation measures, to the satisfaction
of the DPE and the EPA, if the updated model indicates non-compliance with the noise limits for the
premises. This report must be provided to the DPE and the EPA within six (6) months of commissioning
of all elements of the proposal.

It is not clear if this point is referring to "results of compliance monitoring" (as in off site attended compliance monitoring), or, results of sound power compliance testing. The intent of relevant text in the NIA was for sound power compliance testing to be undertaken upon commissioning, with a requirement for the site noise model to be updated should any sound power non-compliance be identified. In that case, the site noise model would be updated with commissioned sound power levels (as measured) to establish whether predicted compliance with relevant noise criteria can be maintained. It is recommended clarification be sought from the EPA as to whether an update to the site noise model is required if compliance with modelled sound power levels is achieved, or, if reporting results of compliance testing would be sufficient..

I trust this information meets your requirements. If you have any questions or need further details please contact me.

Regards,

Jeremy Welbourne Acoustics Engineer