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Kings Park Waste Metal Recovery, Processing and Recycling Facility - Response to Council and EPA Comments

Following from Blacktown City Council's review (REF: SSD-5041 MC-11-2620 dated 20 July 2015) and NSW Environment Protection Authority's (EPA) review (REF: DOC15/282500 dated 28 July 2015) of the Supplementary Noise and Vibration Impact Assessment prepared by Renzo Tonin & Associates (REF: TG616F01 (r8) dated 30 June 2015), this letter addresses all review comments. This letter should be read in conjunction with the updated Supplementary Noise and Vibration Impact Assessment dated 3 September 2015.

Blacktown City Council Comments

> *2.19.2 The proposed sound wall along the eastern boundary is unacceptable as it will restrict the overland flow and cause an adverse impact to the upstream properties. Any fencing to the eastern and southern boundaries of the site is to have horizontal louvers or palisade style fencing to a minimum of 0.5 m above the 1 in 100 year ARI flood level. Solid panelling is permitted above. Revised details are to be provided.*

As advised by Council on 20th August 2015, the Council's engineers have determined a 1 in 100 year flood level of 42.1m AHD is applicable for the subject site. Based on this information the revised noise wall design along the eastern boundary is presented in Section 8.1 of the updated report.

EPA's Comments

> *1. In Section 6.1.3 (Table 6.2), the EPA notes that the intrusiveness criteria are the controlling project specific noise goals at Receivers R1, R2 and R3 for the morning shoulder and daytime periods. This appears contrary to the text in the paragraph following which states that "the amenity criteria shown are the project specific noise goals".*

The proponent should update Section 6.1.3 to identify whether the intrusiveness or amenity criteria is determining the project specific goals at Receivers R1, R2 and R3 for the morning shoulder and daytime periods and explain why this criteria is used.

Section 6.1.3 has been updated to identify that at Receivers R1, R2 and R3 for the morning shoulder and daytime periods, the intrusiveness criteria is more stringent than the amenity criteria. For completeness, both the intrusiveness and amenity criteria are considered in the assessment and predicted noise levels against each criteria are presented in Table 7.3.

2. The proponent should provide an assessment of the maximum noise levels from the premises, including the proposed modification for operations, during the morning shoulder period.

The maximum noise levels from the premises were assessed for sleep disturbance during the morning shoulder period. The appropriate sleep disturbance criteria are presented in Section 6.4 and assessment of predicted maximum noise levels from the premises are presented in Section 7.2.1. The maximum noise levels from the premises during the morning shoulder period were found to be within the nominated sleep disturbance criteria at all residential receivers.

3. The EPA understands that an air emissions control system is proposed for the hammermill which may involve a high velocity/high volume air handling plant.

The proponent should ensure that any air emissions control system is designed appropriately so that noise impacts to surrounding sensitive receivers are minimised.

The air emissions control system for the hammer mill is addressed in the second paragraph in Section 7.1.1 of the updated report.

4. The EPA understands that EPA officers have previously experienced vibrations (possibly airborne) that are allegedly attributable to a shaker associated with the hammermill. It is unclear whether these vibrations have been included in the sound power level for the hammermill in the SNVIA (and/or the hammermill vibration measurements), and there is no explicit discussion of this issue in the report.

The proponent should clarify whether the sound power level and vibration levels include emissions from the shaker.

The presented noise and vibration levels for the hammer mill include the operation of the shaker associated with the hammer mill. Table notes to Table 7.1 and Table 10.4 are included in the updated report to clarify this.

Document control

Date	Revision history	Non-issued revision	Issued revision	Prepared	Instructed	Authorised
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03.09.2015	Final		1	WC	WC	WC

APPENDIX A Glossary of terminology

The following is a brief description of the technical terms used to describe noise to assist in understanding the technical issues presented.

Adverse weather	Weather effects that enhance noise (that is, wind and temperature inversions) that occur at a site for a significant period of time (that is, wind occurring more than 30% of the time in any assessment period in any season and/or temperature inversions occurring more than 30% of the nights in winter).
Ambient noise	The all-encompassing noise associated within a given environment at a given time, usually composed of sound from all sources near and far.
Assessment period	The period in a day over which assessments are made.
Assessment point	A point at which noise measurements are taken or estimated. A point at which noise measurements are taken or estimated.
Background noise	Background noise is the term used to describe the underlying level of noise present in the ambient noise, measured in the absence of the noise under investigation, when extraneous noise is removed. It is described as the average of the minimum noise levels measured on a sound level meter and is measured statistically as the A-weighted noise level exceeded for ninety percent of a sample period. This is represented as the L90 noise level (see below).
Decibel [dB]	The units that sound is measured in. The following are examples of the decibel readings of every day sounds: 0dB The faintest sound we can hear 30dB A quiet library or in a quiet location in the country 45dB Typical office space. Ambience in the city at night 60dB CBD mall at lunch time 70dB The sound of a car passing on the street 80dB Loud music played at home 90dB The sound of a truck passing on the street 100dB The sound of a rock band 115dB Limit of sound permitted in industry 120dB Deafening
dB(A)	A-weighted decibels. The A- weighting noise filter simulates the response of the human ear at relatively low levels, where the ear is not as effective in hearing low frequency sounds as it is in hearing high frequency sounds. That is, low frequency sounds of the same dB level are not heard as loud as high frequency sounds. The sound level meter replicates the human response of the ear by using an electronic filter which is called the "A" filter. A sound level measured with this filter switched on is denoted as dB(A). Practically all noise is measured using the A filter.
dB(C)	C-weighted decibels. The C-weighting noise filter simulates the response of the human ear at relatively high levels, where the human ear is nearly equally effective at hearing from mid-low frequency (63Hz) to mid-high frequency (4kHz), but is less effective outside these frequencies.
Frequency	Frequency is synonymous to pitch. Sounds have a pitch which is peculiar to the nature of the sound generator. For example, the sound of a tiny bell has a high pitch and the sound of a bass drum has a low pitch. Frequency or pitch can be measured on a scale in units of Hertz or Hz.
Impulsive noise	Having a high peak of short duration or a sequence of such peaks. A sequence of impulses in rapid succession is termed repetitive impulsive noise.
Intermittent noise	The level suddenly drops to that of the background noise several times during the period of observation. The time during which the noise remains at levels different from that of the ambient is one second or more.
L_{Max}	The maximum sound pressure level measured over a given period.
L_{Min}	The minimum sound pressure level measured over a given period.

L_1	The sound pressure level that is exceeded for 1% of the time for which the given sound is measured.
L_{10}	The sound pressure level that is exceeded for 10% of the time for which the given sound is measured.
L_{90}	The level of noise exceeded for 90% of the time. The bottom 10% of the sample is the L90 noise level expressed in units of dB(A).
L_{eq}	The "equivalent noise level" is the summation of noise events and integrated over a selected period of time.
Reflection	Sound wave changed in direction of propagation due to a solid object obscuring its path.
SEL	Sound Exposure Level (SEL) is the constant sound level which, if maintained for a period of 1 second would have the same acoustic energy as the measured noise event. SEL noise measurements are useful as they can be converted to obtain Leq sound levels over any period of time and can be used for predicting noise at various locations.
Sound	A fluctuation of air pressure which is propagated as a wave through air.
Sound absorption	The ability of a material to absorb sound energy through its conversion into thermal energy.
Sound level meter	An instrument consisting of a microphone, amplifier and indicating device, having a declared performance and designed to measure sound pressure levels.
Sound pressure level	The level of noise, usually expressed in decibels, as measured by a standard sound level meter with a microphone.
Sound power level	Ten times the logarithm to the base 10 of the ratio of the sound power of the source to the reference sound power.
Tonal noise	Containing a prominent frequency and characterised by a definite pitch.