1. This is a submission on the CM-2: Draft noise and vibration metrics standard ("the draft standard").

2. The purpose of the submission is to address potential confusion in the draft standard (at para 4) concerning the measurement and assessment of impulsive sound such as gunfire and blasting, which are:

   a) characterised as a peak sound level (with the descriptor $L_{peak}$)

   b) not assessed and measured by applying a rating level expressed in $L_{eq}$ (for a continuous steady sound) or $L_{max}$ in NZS 6802:2008 - as implied by para 4 of the draft standard.

3. The submitters are involved in proceedings with Auckland Council concerning the correct approach to the measurement and assessment of impulsive sound from gunfire.

4. Paragraph 3 of the draft standard states:

   Any plan rule to manage an emission of noise must be consistent with noise measurement methods in the New Zealand Standards listed in table 30: Acoustic New Zealand Standards below.
5. Paragraph 4 of the draft standard states:

Any plan rule to manage an emission of noise must be consistent with the assessment methods in section 6 Rating Level and section 7 LMAX in New Zealand Standard 6802:2008 Acoustics – Environment Noise.

6. The breadth of para 3 and 4 of the draft standard purports to relate to any plan rule to manage an emission of noise.

7. At least as it relates to impulsive sound, paras 3 and 4 of the draft standards appear potentially to be in conflict. This is because impulsive sound such as gunfire or blasting should be described by the measurement of its peak level as indicated by the descriptor $L_{\text{peak}}$ (refer clause 8.6, New Zealand Standard 6801:2008). In comparison, the descriptor for a continuous steady sound is the $L_{\text{eq}}$ which is a time average level i.e. $L_{\text{eq}}$ is ‘a different thing’ from the peak sound level.

8. The assessment and determination of the rating level (as expressed in $L_{\text{eq}}$ with adjustments for duration and special audible characteristics) and $L_{\text{MAX}}$ in New Zealand Standard 6802:2008 will only be applicable and relevant if the type of sound in question is generally within the scope of NZS 6801:2008 and NZS 6802:2008. Impulsive sound (gunfire and blasting) is generally outside the scope of NZS 6802:2008 (refer clause 1.2 NZS 6802:2008).

9. A potential (unintended) implication from the present drafting to the draft standard is a possible interpretation that gun clubs in New Zealand would become subject to assessment criteria requiring the calculation of a rating level (in $L_{\text{eq}}$) and the application of $L_{\text{max}}$. When these are not the correct descriptors for impulsive sound.

10. It would not be logical to have a plan rule or draft national standard implying the emission of impulsive sound is to be assessed in a manner consistent (per para 4 of the draft standards) with section 6 Rating Level and section 7 $L_{\text{MAX}}$ in New Zealand Standard 6802:2008 Acoustics – Environment Noise – when $L_{\text{eq}}$ and $L_{\text{max}}$ are not applicable to the assessment of impulsive sound.

11. It is important to ensure its validity that the draft standard not “overreach” the application of a rating level to types of sounds (such as gunfire and blasting) not intended to be addressed by the descriptors $L_{\text{eq}}$ or $L_{\text{max}}$.

12. In Brooks v Western Bay of Plenty District Council, the Environment Court expressly recognised (based on expert evidence) that general amenity noise standards in New Zealand Standard 6802:2008 were not applicable to impulsive noise.2

Outcome sought

13. Suggested drafting to resolve the potential conflict is to amend para 4 of the draft standard (CM-2: Draft noise and vibration metrics standard) to read (or to same or similar effect):

Any plan rule to manage an emission of noise must be consistent with the assessment methods in section 6 Rating Level and section 7 $L_{\text{max}}$ in New Zealand

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1 Impulsive sound being transient sound having a peak level a very short duration, typically less than 100 milliseconds.
2 Brooks v Western Bay of Plenty District Council [2011] NZEnvC 216 at [20].

14. The intended effect of the outcome sought (above) is to clearly exclude impulsive sound from para 4 of the draft standard, for the reason that impulsive sound is not generally within the scope New Zealand Standard 6802:2008 and requires special assessment.

15. The submitter requests to be heard in relation to this submission.

Date: 16 August 2018

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