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EN010154

6.3 Environmental Statement Appendices

Appendix 11-B: Acoustic Terminology

VOLUME

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Planning Act 2008 (as amended)

Regulation 5(2)(a)

Infrastructure Planning (Applications: Prescribed Forms and Procedure) Regulations 2009 (as amended)

18 July 2025

Planning Act 2008

The Infrastructure Planning (Applications: Prescribed Forms and Procedure) Regulation 2009 (as amended)

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Development Consent Order 202[ ]

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Appendix 11-B: Acoustic Terminology

Regulation Reference	Regulation 5(2)(a)
Planning Inspectorate Scheme Reference	EN010154
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Rev 1	18 July 2025	DCO Submission

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Tables

1. Acoustic Terminology

1.1.1 Acoustic terminology used in the noise and vibration assessment are summarised in **Table 1** below.

Table 1: Acoustic Terminology

Term	Description
"A" Weighting (dB(A))	The human ear does not respond uniformly across the audible frequency range. The "A" weighting is commonly used to simulate the frequency response of the ear.
Ambient Noise Level, $L_{Aeq,T}$	The equivalent continuous A-weighted sound pressure level of the totally encompassing sound in a given situation at a given time that is usually composed of sound from many sources near and far.
Background Noise Level $L_{A90,T}$	The A-weighted sound pressure level of the residual noise at the assessment position that is exceeded for 90% of a given time interval, T, measured using the fast time weighting, F, and quoted to the nearest whole number.
Decibel (dB)	The decibel is a logarithmic ratio of two values of a variable. The range of audible sound pressures is approximately 2 x 10-5 Pa to 200 Pa. Using decibel notation presents this range in a more manageable form, 0 dB to 140 dB.
Frequency (Hz)	The number of cycles per second (i.e., the number of vibrations that occur in one second); subjectively this is perceived as pitch.
Frequency Spectrum	The relative frequency contributions that make up a noise.
$L_{A10,T}$	The A-weighted sound pressure level exceeded for 10% of a given time interval, T, measured using the fast time weighting, F.
L_{AFmax}	The highest noise level that occurs during a measurement period. It is the A-weighted maximum noise level in decibels, measured with a "fast" response time.
Noise	Unwanted or unexpected sound.
Peak Particle Velocity (PPV)	The peak speed of particle movement in the ground due to vibration and used to assess impacts from construction activity induced vibration. The Peak Particle Velocity is defined as millimetres per second (mm/s).
Rating Level, $L_{Ar,Tr}$	The specific noise level plus any adjustment for any characteristic features of the noise.
Reference Time Interval, T_r	The specified interval over which an equivalent continuous A-weighted sound pressure level is determined.
Sound Pressure Level (Lp)	Equal to 20 times the logarithm to the base 10 of the ratio of the root mean squared (RMS) sound pressure to the reference sound pressure. In air the reference sound pressure is 2 x 10-5Pa.

Term	Description
	Mathematically: Sound Pressure Level (dB) =20 log10 {p(t) / P0} Where P0 = 2 x 10-5 Pa
Specific Noise Level, $L_{Aeq,Tr}$	The equivalent continuous A-weighted sound pressure level at the assessment position produced by the specific noise source over a given reference time interval.