Appendix 11A

Glossary of Terms

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SSE Tarbert Next Generation Power Station

Environmental Impact Assessment Report (EIAR)
Volume II
Appendix 11A: Glossary of Terms

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Delivering a better world

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Appendix 11A: Glossary of Terms

Between the quietest audible sound and the loudest tolerable sound there is a million to one ratio in sound pressure (measured in Pascals, Pa). Because of this wide range, a noise level scale based on logarithms is used in noise measurement called the decibel (dB) scale. Audibility of sound covers a range of approximately 0 to 140dB. The human ear system does not respond uniformly to sound across the detectable frequency range and consequently instrumentation used to measure noise is weighted to represent the performance of the ear. This is known as the 'A weighting' and annotated as dB(A). Table 11.A1 lists the sound pressure level in dB(A) for common situations.

Table 11.A1: The sound pressure level in dB(A) for common situations

Approximate Sound Pressure Levels (dB(A))	Example
0	Threshold of hearing.
30	Rural area at night.
50	Quiet office, no machinery.
80	General factory noise level.
100	Pneumatic drill.
140	Threshold of pain.

The noise level at a measurement point is rarely steady, even in rural areas, and varies over a range of dependent upon the effects of local noise sources. Close to a busy motorway, the noise level may vary over a range of 5dB(A), whereas in a suburban area this variation may be up to 40dB(A) and more due to the multitude of noise sources in such areas (cars, dogs, aircraft etc.) and their variable operation. Furthermore, the range of night-time noise levels will often be smaller, and the levels significantly reduced compared to daytime levels. When considering environmental noise, it is necessary to consider how to quantify the existing noise (the ambient noise) to account for these second-to-second variations.

A parameter that is widely accepted at reflecting human perception of the ambient noise is the background sound level, *LA90.* This is the noise level exceeded for 90% of the measurement period and generally reflects the noise level in the lulls between individual noise events. Over a one-hour period, the *LA90* will be the noise level exceeded for 54 minutes.

The equivalent continuous A-weighted sound pressure level, *LAeq* is the single number that represents the total sound energy measured over that period. *LAeq* is the sound level of a notionally steady sound having the same energy as a fluctuating sound over a specified measurement period.

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