



Pinewoods Wind Farm Substation & Grid Connection

Annex 11.1: Glossary of Acoustic Terms

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A variety of acoustic parameters and terminology are used throughout **Chapter 11**. Significant definitions are identified at this stage to inform the reader.

A-Weighting	The "A" suffix denotes the fact that the sound levels have been "A-weighted" in order to account for the non-linear nature of human hearing.
Background Noise	The noise level rarely fallen below in any given location over any given time period, often classed according to daytime, evening or night time periods. The $L^{A90,10min}$ is the parameter that is used to define the background noise level in this instance. LA90 is the sound level that is exceeded for 90% of the sample period. It is typically used as a descriptor for background noise.
dB (decibel)	The unit normally employed to measure the magnitude of sound. It is defined as 20 times the logarithm of the ratio between the RMS pressure of the sound field and the reference pressure of 20 micro-pascals (20 μ Pa).
dB(A)	An 'A-weighted decibel' – a measure of the overall noise level of sound across the audible frequency range (20 Hz – 20 kHz) with A-frequency weighting (i.e. A – Weighting) to compensate for the varying sensitivity of the human ear to sound at different frequencies.
Noise	Sound that evokes a feeling of displeasure in the environment in which it is heard, and is therefore unwelcomed by the receiver
Noise Sensitive Location (NSL)	Any dwelling house, hotel or hostel, health building, educational establishment, place of worship or entertainment, or any other facility or other area of high amenity which for its proper enjoyment requires the absence of noise at nuisance levels.
Pascal (Pa)	Pascal is a unit of pressure and so sound pressures are measured in Pascals.
Sound Power Level (L_w)	The sound power level radiated by a source is defined as: $L_w = 10 \times \log_{10}(W/W_o) \text{ dB.}$ Where W is the acoustic power of the source in Watts (W) and W_o is a reference sound power chosen in air to be $10^{-12}W$.
Sound Pressure Level (L_p)	The sound pressure level at a point is defined: $L_p = 20 \times \log_{10}(P/P_o) \text{ dB.}$ Where P is the sound pressure and P_o is a reference pressure for propagation of sound in air and has a value of $2 \times 10^{-5}Pa$.

