Environmental Impact Assessment Report
Volume 3, Appendix 25.1: Noise and Vibration Relevant Legislation Policy and Technical Guidance

MarramWind Offshore Wind Farm

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MarramWind

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Contents

1. Introduction

1.1.1.1 This Appendix of the Environmental Impact Assessment (EIA) Report presents a summary of the legislation, planning policy and technical guidance relevant to the noise and vibration assessment for the onshore infrastructure of the proposed MarramWind Offshore Wind Farm (hereafter referred to as 'the Project').

1.1.1.2 This Appendix should be read in conjunction with relevant parts of the following chapter: **Volume 1, Chapter 25: Onshore Noise and Vibration**.

2. Legislation

2.1.1 Environmental Protection Act 1990

2.1.1.1 Section 79 of the Environmental Protection Act (EPA) presents a number of matters which may be statutory nuisances, including noise. Under the provisions of the EPA, the Planning Authority is required to inspect its area periodically to detect any nuisance and, where a valid complaint of a statutory nuisance is made by a person living within its area, to take such steps as are reasonably practicable to investigate the complaint.

2.1.1.2 Section 80 of the EPA (Summary proceedings for statutory nuisances) provides Planning Authorities with powers to serve an abatement notice requiring the abatement of a nuisance or requiring works to be executed to prevent their occurrence.

2.1.2 Control of Pollution Act 1974

2.1.2.1 The principal legislation covering demolition and construction noise is the Control of Pollution Act 1974, Part III. Sections 60 and 61 of the Act give the Planning Authority special powers for controlling noise arising from construction and demolition works, regardless of whether a statutory nuisance has been caused or is likely to be caused. Works within the scope of these provisions include repair and maintenance work and road works. These powers may be exercised either before works start or after they have started.

2.1.2.2 Section 60 enables a Planning Authority in whose area work is going to be carried out, or is being carried out, to serve a notice of its requirements for the control of site noise on the person who appears to the Planning Authority to be carrying out the works. Such a notice may also be served on others appearing to the Planning Authority to be responsible for, or to have control over, the carrying out of the works.

2.1.2.3 This notice can:

- specify the plant or machinery that is or is not to be used;
- specify the hours during which the construction work can be carried out;
- specify the level of noise that can be emitted; and
- provide for any changes of circumstances.

2.1.2.4 Section 61 of the Act provides a voluntary mechanism for the contractor or developer to take the initiative and approach the Planning Authority to ascertain its noise requirements before construction work starts. If a formal application for ‘prior consent’ is received by the Planning Authority it is obliged to give a decision within 28 days; failure to do so or the attachment of unnecessary or unreasonable conditions are grounds for appeal by the applicant.

2.1.2.5 In cases where the Planning Authority determines that the proposals for minimising the noise of the construction activities are adequate it will issue a consent, although this may be subject to conditions limiting certain aspects of the consent such as hours of use, noise levels for particular activities, etc. Provided that the applicant takes all reasonable steps to operate within the terms of the consent, even if the Planning Authority subsequently decides to take proceedings under section 60(8), the applicant should be able to rely on the defence provided in the Act and prove that the alleged contravention amounted to the carrying out of works in accordance with a consent given under section 61.

3. Planning Policy

3.1 National policy

3.1.1 National Planning Framework 4 (NPF4) (Scottish Government, 2023)

3.1.1.1 NPF4 sets out Scotland's long-term spatial strategy and national planning policies. NPF4 replaces NPF3 and Scottish Planning Policy. Noise is referenced several times but only at a high level. The policies relevant to noise are summarised below in **paragraph 3.1.1.2** and **paragraph 3.1.1.3**.

3.1.1.2 Policy 11 supports all forms of renewable energy development, including wind farms, grid transmission and distribution infrastructure. Developments in National Parks and National Scenic Areas will not be supported. Development proposals will only be supported where they maximise net economic impact. Development proposals that impact on international or national designations will be assessed in relation to Policy 4. Project design will demonstrate that noise impacts on communities and individual dwellings are addressed:

> *"Policy 11, Energy: … e) In addition, project design and mitigation will demonstrate how the following impact are addressed: i) impacts on communities and individual dwellings, including, residential amenity, visual impact, noise and shadow flicker."*

3.1.1.3 Policy 23 helps to protect health and wellbeing, including by ensuring that air and noise pollution are taken into account, and by planning and managing development to take hazards into account. Development proposals that are likely to raise unacceptable noise issues will not be supported. A Noise Impact Assessment may be required where the nature of the proposal or its location suggests that significant effects are likely:

> *"Policy 23, Health and safety: … e) Development proposals that are likely to raise unacceptable noise issues will not be supported. The agent of change principle applies to noise sensitive development. A Noise Impact Assessment may be required where the nature of the proposal or its location suggests that significant effects are likely."*

3.1.2 Planning Advice Note (PAN) 1/2011: Planning and Noise (PAN 1/2011) (Scottish Government, 2011a) and Technical Advice Note (TAN): Assessment of Noise (Scottish Government, 2011b)

3.1.2.1 PAN 1/2011 provides advice on the role of the planning system in helping to prevent and limit adverse effects of noise. The PAN promotes the principles of good acoustic design and a sensitive approach to the location of new development. It promotes the appropriate location of noisy development within the vicinity of existing noise generating uses, to ensure that quality of life is not unreasonably affected and that new development continues to support sustainable economic growth.

3.1.2.2 Information and advice on noise assessment methods are provided in the accompanying TAN: Assessment of noise. Included within PAN 1/2011 and the accompanying TAN are details of the legislation, technical standards and codes of practice for specific noise issues.

3.1.2.3 With regards to the assessment and control of noise from construction sites, the use of British Standard (BS) 5228-1 1997 is discussed. This version of BS 5228 was superseded in 2009 and amended in 2014 (see below in **Section 4.1.1** and **Section 4.1.2**).

3.1.2.4 With regards to the assessment and control of noise from development generated road traffic noise, the use of the Design Manual for Roads and Bridges (DMRB) HA 213/08 Volume 11, Section 3, Part 7: Noise and Vibration is discussed. This document was superseded in 2020 (see below in **Section 4.1.8**).

3.1.2.5 With regards to the assessment and control of noise from industrial development, the use of BS 4142 1997 is discussed. This version of BS 4142 was superseded in 2014 and amended in 2019 (see below in **Section 4.1.3**).

3.1.3 Noise Policy Statement for England (NPSE) (DEFRA, 2010)

3.1.3.1 The NPSE was published on 15 March 2010 and introduces the concepts for No Observed Effect Level (NOEL), Lowest Observable Adverse Effect Level (LOAEL) and Significant Observable Adverse Effect Level (SOAEL). The NPSE is not directly applicable to Scotland, being an English policy statement, however its concepts have been adopted in this operational noise assessment for this assessment in absence of specific criteria in Scotland.

3.1.3.2 To assist in the understanding of the terms "significant adverse" and "adverse", the NPSE acknowledges that there are two concepts being applied to noise impacts, for example, by the World Health Organization. They are:

- NOEL- This is the level below which no effect can be detected. In simple terms, below this level, there is no detectable effect on health and quality of life due to the noise; and
- LOAEL - This is the level above which adverse effects on health and quality of life can be detected.

3.1.3.3 The NPSE introduces a third concept:

- SOAEL - This is the level above which significant adverse effects on health and quality of life occur.

3.1.3.4 However, the NPSE goes on to state that:

> *"It is not possible to have a single objective noise-based measure that defines SOAEL that is applicable to all sources of noise in all situations. Consequently, the SOAEL is likely to be different for different noise sources, for different receptors and at different times. It is acknowledged that further research is required to increase our understanding of what may constitute a significant adverse impact on health and quality of life from noise. However, not having specific SOAEL values in the NPSE provides the necessary policy flexibility until further evidence and suitable guidance is available."*

3.2 Local policy

3.2.1 Aberdeenshire Council Local Development Plan (LDP) 2023 (Aberdeenshire Council, 2023)

3.2.1.1 The Aberdeenshire LDP was adopted on the 13 January 2023, directing decision-making on all land-use planning issues and planning applications in Aberdeenshire and sets out broad principles for development in the area.

3.2.1.2 Policy P4 Hazardous and Potentially Polluting Developments and Contaminated Land refers to noise and states:

> *"P4.1 We will refuse development, even infill development, if there is a risk that it could cause significant pollution, create a significant nuisance (for example through impacts on air quality or noise), or present an unacceptable danger to the public or the environment."*

3.2.1.3 The Policy P4 goes on to state:

> *"P4.5 Where an Air Quality Assessment or a Noise Impact Assessment indicates that a proposed development could have a significant detrimental impact on air quality or noise levels, appropriate mitigation measures must be provided."*

4. Technical Guidance

4.1.1 BS 5228-1:2009+A1:2014: Code of practice for noise and vibration control on construction and open sites – Part 1: Noise (BS 5228-1) (British Standards Institution, 2014a)

4.1.1.1 This standard sets out techniques to predict the likely noise effects from construction works, based on detailed information on the type and number of plant being used, their location and the length of time they are in operation.

4.1.1.2 The noise prediction methods can be used to establish likely noise levels in terms of the $L_{Aeq,T}$ over the core working day. This standard also documents a database of information, including previously measured sound pressure level data for a variety of different construction plant undertaking various common activities.

4.1.1.3 Three example methods are presented for determining the significance of construction noise impacts. In summary, these methods adopt either a series of fixed noise level limits, are concerned with ambient noise level changes as a result of the construction operations or a combination of the two.

4.1.1.4 With respect to absolute fixed noise limits, those detailed within Advisory Leaflet 72: 1976: Noise control on building sites is presented. These limits are presented according to the nature of the surrounding environment, for a 12-hour working day. The presented limits are:

- 70.0 A-weighted decibel (dB(A)) in rural, suburban and urban areas away from main road traffic and industrial noise; and
- 75.0dB(A) in urban areas near main roads and heavy industrial areas.

4.1.1.5 The above noise level limits are applicable at the façade of the receptor in question (not free-field).

4.1.1.6 The standard goes on to provide methods for determining the significance of construction noise levels by considering the change in the ambient noise level that would arise as a result of the construction operations. Two example assessment methods are presented, these are the 'ABC method' and the '5dBA change' method.

4.1.1.7 The 'ABC method' is summarised in **Table 4.1**.

Table 4.1 Example threshold of potential significant effect at dwellings (construction noise) (BS 5228-1: Table E.1)

Assessment category and threshold value period	Threshold value, in decibels (dB) ($L_{Aeq,T}$)		
	Category A [A]	Category B [B]	Category C [C]
Night-time (23:00-07:00)	45	50	55
Evenings and weekends [D]	55	60	65

Assessment category and threshold value period	Threshold value, in decibels (dB) ($L_{Aeq,T}$)		
	Category A [A]	Category B [B]	Category C [C]
Daytime (07:00-19:00) and Saturdays (07:00-13:00)	65	70	75
NOTE 1: A potential significant effect is indicated if the $L_{Aeq,T}$ noise level arising from the site exceeds the threshold level for the category appropriate to the ambient noise level. NOTE 2: If the ambient noise level exceeds the Category C threshold values given in the table (for instance, the ambient noise level is higher than the above values), then a potential significant effect is indicated if the total $L_{Aeq,T}$ noise level for the period increases by more than 3dB due to site noise. NOTE 3: Applied to residential receptors only.			
[A] Category A: threshold values to use when ambient levels (when rounded to the nearest 5dB) are less than these values. [B] Category B: threshold values to use when ambient noise levels (when rounded to the nearest 5dB) are the same as Category A values. [C] Category C: threshold values to use when ambient noise levels (when rounded to the nearest 5dB) are higher than Category A values. [D] 19:00-23:00 weekdays, 13:00-23:00 Saturdays and 07:00-23:00 Sundays.			

4.1.1.8 With respect to the '5dB(A) change' method, the guidance states:

"Noise levels generated by construction activities are deemed to be significant if the total noise (pre-construction ambient plus construction noise) exceeds the pre-construction ambient noise by 5 dB or more, subject to lower cut-off values of 65 dB, 55 dB and 45 dB LAeq, from construction noise alone, for the daytime, evening and night-time periods, respectively; and a duration of one month or more, unless works of a shorter duration are likely to result in significant impact."

4.1.2 BS 5228-2:2009+A1:2014: Code of practice for noise and vibration control on construction and open sites. Part 2: Vibration (BS 5228-2) (British Standards Institution, 2014a)

4.1.2.1 This standard provides recommendations for basic methods of vibration control relating to construction and open sites. The legislative background to vibration control is described and guidance is provided concerning methods of measuring vibration and assessing its effects on the environment.

4.1.2.2 Guidance criteria are suggested for the assessment of the significance of vibration effects; such criteria are provided in terms of Peak Particle Velocities (PPV) and are concerned with both human and structural responses to vibration. Those applicable to human perception and disturbance are presented within **Table 4.2**.

Table 4.2 Guidance criteria for the assessment of significance of vibration for human perception and disturbance (from BS 5228-2:2009+A1:2014; Table B.1)

Vibration level [A B C] (PPV)	Effect
0.14mms^{-1}	Vibration might be just perceptible in the most sensitive situations for most vibration frequencies associated with construction. At lower frequencies, people are less sensitive to vibration.
0.3mms^{-1}	Vibration might be just perceptible in residential environments.
1.0mms^{-1}	It is likely that vibration of this level in residential environments will cause complaint but can be tolerated if prior warning and explanation has been given to residents.
10mms^{-1}	Vibration is likely to be intolerable for any more than a very brief exposure to this level in most building environments.
[A] The magnitudes of the values presented apply to a measurement position that is representative of the point of entry into the recipient. [B] A transfer function (which relates an external level to an internal level) needs to be applied if only external measurements are available. [C] Single or infrequent occurrences of these levels do not necessarily correspond to the stated effect in every case. The values are provided to give an initial indication of potential effects, and where these values are routinely measured or expected then an assessment in accordance with BS 6472-1 or BS 6472-2, and / or other available guidance, might be appropriate to determine whether the time varying exposure is likely to give rise to any degree of adverse comment.	

4.1.2.3 The standard goes on to present guidance criteria applicable to the vibration response limits of buildings in terms of the component PPV. These are presented within **Table 4.3**. It should be noted that the values presented within **Table 4.3** are applicable to cosmetic damage only. It is stated within BS 5228-2 that minor damage is possible at vibration magnitudes which are greater than twice those given in the table.

Table 4.3 Guidance criteria for the assessment of significance of transient vibration for cosmetic building damage (from BS 5228-2:2009+A1:2014; Table B.2)

Type of Building	Peak component particle velocity in frequency range of predominant pulse	
	4 hertz (Hz) to 15Hz	**15Hz and above**
Reinforced or framed structures Industrial and heavy commercial buildings	50mm/s at Hz and above.	50mm/s at Hz and above.
Unreinforced or light framed structures. Residential or light commercial buildings	15mm/s at 4Hz increasing to 20mm/s at 15Hz.	20mm/s at 15Hz increasing to 50mm/s at 40Hz and above.
NOTE 1: Values referred to are at the base of the building.		

Type of Building	Peak component particle velocity in frequency range of predominant pulse	
	4 hertz (Hz) to 15Hz	15Hz and above
NOTE 2: At frequencies below 4Hz, a maximum displacement of 0.6mm (zero to peak) is not to be exceeded.		

4.1.3 BS 4142:2014+A1:2019: Methods for rating and assessing industrial and commercial sound (BS 4142) (British Standards Institution, 2019)

4.1.3.1 BS 4142 describes methods for assessing sound of an industrial and / or commercial nature, including sound from fixed installations (such as mechanical and electrical plant). It provides a method of determining the 'rating level' for sources of industrial or commercial sound for the purposes of investigating noise impact, assessing sound from new, modified, or additional sources of sound, and assessing sound affecting new residential premises.

4.1.3.2 BS 4142 uses several terms to define the various parameters / indicators used in assessments, including:

- specific sound - the commercial / industrial noise source under consideration;
- residual sound - the sound level at the noise-sensitive receivers in the absence of the specific sound;
- ambient sound - the sound level at the noise-sensitive receivers in the presence of the specific sound (i.e., ambient = residual + specific); and
- background sound level - the sound pressure level which is exceeded by the residual sound for 90 per cent of the measurement period;
- rating level - the specific sound, corrected for acoustically distinguishing characteristics.

4.1.3.3 BS 4142 states it is normally possible to carry out a subjective assessment of characteristics, based on the following correction guidelines:

- tonality: +2dB for a 'just perceptible' tone, +4dB for a 'clearly perceptible' tone, and rising to +6dB for a 'highly perceptible' tones;
- impulsivity (rapidity of change and overall change in level): +3dB for 'just perceptible' impulsivity, +6dB for 'clearly perceptible' impulsivity, rising to +9dB for 'highly perceptible' impulsivity; and
- intermittency: if the on / off-time of the specific sound is readily distinctive at the noise-sensitive receivers, +3dB.

4.1.3.4 Typically, the greater the difference between the background and rating level, the greater the magnitude of impact, although BS 4142 emphasises that this is highly context-specific.

4.1.3.5 BS 4142 states that an initial estimate of the impact can be obtained by subtracting the background sound level from the rating level, and that:

- typically, the greater the difference the greater the magnitude of the impact;

- a difference of around +10dB or more is likely to be indicative of significant adverse impact, depending on context;
- a difference of around +5dB or more is likely to be indicative of adverse impact, depending on context; and
- the lower the rating level relative to the background sound level, the less likely it is that the specific sound will have an adverse impact, depending on context. Where the rating level does not exceed the background sound level, this in an indication that the specific sound will have a low impact, depending on context.

4.1.3.6 This initial estimate of impact can then be modified to take account of context, including reference to factors such as:

- the absolute level of the sound;
- the character and level of the residual sound compared to the character and level of the specific sound;
- the sensitivity of the receptor and whether dwellings or other premises used for residuals purposes will already incorporate design measures that secure good internal and / or outdoor acoustic conditions, such as:
  - façade insulation;
  - ventilation and / or cooling that will reduce the need to have windows open so as to provide rapid or purge ventilation; and
  - acoustic screening.

4.1.4 Association of Noise Consultants, BS 4142:2014+A1:2019: Technical Note, Version 1.0

4.1.4.1 The technical note provides guidance and clarifications for the use of BS 4142:2014+A1:2019 *Methods for rating and assessing industrial and commercial sound*.

4.1.5 BS 8233: 2014 Guidance on sound insulation and noise reduction for buildings (BS 8233) (British Standards Institution, 2014b)

4.1.5.1 This standard provides guidance for the control of noise in and around buildings. The guidance provided within the document is applicable to the design of new buildings, or refurbished buildings undergoing a change of use, but does not provide guidance on assessing the effects of changes in the external noise levels to occupants of an existing building.

4.1.5.2 The guidance provided includes appropriate internal and external noise level criteria which are applicable to dwellings exposed to steady external noise sources. It is stated that it is desirable that the internal ambient noise level does not exceed the following criteria set out in **Table 4.4**.

Table 4.4 Summary of internal ambient noise levels to be achieved in habitable rooms when assessed in accordance with BS 8233: Table 4

Activity	Location	Period	
		0700 to 2300 Hours, for instance, Daytime	2300 – 0700 Hours, for instance, Night-time
Resting	Living room.	35dB $L_{Aeq, 16\ Hour}$	- [A]
Dining	Dining room / area.	40dB $L_{Aeq, 16\ Hour}$	- [A]
Sleeping (daytime resting)	Bedroom	35dB $L_{Aeq, 16\ Hour}$	30dB $L_{Aeq, 8\ Hour}$

[A] For this time period, the guidance does not provide internal ambient noise levels to be achieved for this activity / location.

4.1.5.3 Whilst BS 8233 recognises that a guideline value may also be set in terms of a sound exposure level or L_{AFmax} for the assessment of regular individual noise events that can cause sleep disturbance during the night-time, a specific criterion is not stipulated.

4.1.5.4 With respect to external amenity space such as gardens and patios it is stated that it is desirable that the noise level does not exceed 50dB $L_{Aeq,T}$, with an upper guideline value of 55dB $L_{Aeq,T}$ which would be acceptable in noisier environments. It is then confirmed that higher external noise criteria may be appropriate under certain circumstances such as within city centres urban areas, and locations adjoining the strategic network, where it may be necessary to compromise between elevated noise levels and other factors such as convenience of living, and efficient use of land resource.

4.1.5.5 BS 8233 also describes Noise Rating (NR) curves as a graphical method assigning a single rating number to a noise spectrum. It can be used to assess the acceptability of a noise spectrum for a particular application. BS 8233 refers to Chartered Institution of Building Services Engineers Guide B2:2016 which advises on typical NR curves for typical applications including bedrooms.

4.1.6 International Standards Organisation (ISO) 9613-2:2024 Acoustics – Attenuation of sound during propagation outdoors. Part 2: Engineering method for the prediction of sound pressure levels outdoors (ISO, 2024)

4.1.6.1 The standard defines a method for calculating the attenuation of sound during propagation outdoors, in order to predict the levels of environmental noise at distances from a source.

4.1.7 Calculation of Road Traffic Noise (CRTN) Memorandum (Department of Transport and the Welsh Office, 1988)

4.1.7.1 Published by the Department of Transport and the Welsh Office in 1988, CRTN sets out standard procedures for calculating noise levels from road traffic. The calculation methods use a number of input variables, including traffic flow volume, average vehicle speed, percentage of Heavy-Duty Vehicles, type of road surface, site geometry and the presence

of noise barriers or acoustically absorbent ground. CRTN predicts the $L_{A10,18h}$ or $L_{A10,1h}$ noise level for any receptor point at a given distance, up to 300m, from the road.

4.1.8 DMRB: LA 111, 'Noise and Vibration' (Highways England, 2020)

4.1.8.1 This document sets out procedures for undertaking the environmental assessment of new road schemes, including the assessment of noise impacts from road traffic. In undertaking a DMRB assessment, the calculation of traffic noise levels uses the methodology contained within the CRTN document as described above in **Section 4.1.7**.

4.1.8.2 Although the DMRB strictly applies to new road schemes, the principles can also be applied to the assessment of noise from road traffic in general. The Project has the potential to affect road traffic noise levels along existing roads, hence the need for this assessment.

4.1.8.3 The significance of effect depends upon a number of factors, including the magnitude of change, the sensitivity of the receptor, the absolute noise level and the acoustic context.

4.1.8.4 The DMRB categorises operational road traffic noise into magnitude of change bands. The construction noise traffic classification scales are provided in **Table 4.5** below.

Table 4.5 Magnitude of impact at noise sensitive receptors of construction traffic (DMRB LA 111: Table 3.13 (Highways England, 2020))

Short term magnitude	Increase in BNL of closest public road used for construction traffic (dB)
Major	Greater than or equal to 5.0
Moderate	3.0 to 4.9
Minor	1.0 to 2.9
Negligible	Less than 1.0

5. References

Aberdeenshire Council, (2023). *Aberdeenshire Local Development Plan 2023.* [online] Available at: https://www.aberdeenshire.gov.uk/planning/plans-and-policies/ldp-2023 [Accessed: 21 August 2025].

Association of Noise Consultants, (2020). *BS 4142:2014+A1:2019 Technical Note, Version 1.0.* [online] Available at: https://www.association-of-noise-consultants.co.uk/wp-content/uploads/2020/07/ANC-BS-4142-Guide-March-2020.pdf [Accessed: 21 August 2025].

British Standards Institution, (2014a). *BS 5228:2009+A1:2014: Code of practice for noise and vibration control on construction and open sites – Part 1: Noise and Part 2: Vibration.* London: BSi. [online] Available at: https://landingpage.bsigroup.com/LandingPage/Standard?UPI=000000000030258086 [Accessed: 21 August 2025].

British Standards Institution, (2014b). *BS 8233:2014: Guidance on sound insulation and noise reduction for buildings.* [online] Available at: https://landingpage.bsigroup.com/LandingPage/Standard?UPI=000000000030241579 [Accessed: 21 August 2025].

British Standards Institution, (2019). *BS 4142:2014+A1:2019: Method for Rating and Assessing Industrial and Commercial Sound.* London: BSi. [online] Available at: https://landingpage.bsigroup.com/LandingPage/Standard?UPI=000000000030382132 [Accessed: 21 August 2025].

Control of Pollution Act 1974 (1974 c. 40). [online] Available at: https://www.legislation.gov.uk/ukpga/1974/40/contents [Accessed: 21 August 2025].

Department for Environment, Food and Rural Affairs (DEFRA), (2010). *Noise Policy Statement for England.* [online] Available online at: https://assets.publishing.service.gov.uk/media/5a7956e0ed915d0422067947/pb13750-noise-policy.pdf [Accessed: 21 August 2025].

Department of Transport and Welsh Office, (1988). *Calculation of Road Traffic Noise.* [online] Available at: https://n-somerset.gov.uk/sites/default/files/2022-11/CD13.02%20Department%20of%20Transport%20and%20Welsh%20Office%20%281988%29.%20Calculation%20of%20Road%20Traffic%20Noise..pdf [Accessed: 21 August 2025].

Environmental Protection Act 1990 (1990 c. 43). [online] Available at: https://www.legislation.gov.uk/ukpga/1990/43/contents [Accessed: 21 August 2025].

Highways England, (2020). *DMRB: LA 111 – Noise and Vibration, Revision 2.* [online] Available at: https://www.standardsforhighways.co.uk/tses/attachments/cc8cfcf7-c235-4052-8d32-d5398796b364?inline=true [Accessed: 26 August 2025].

International Organization for Standardization, (2024). *ISO 9613-2:2024: Acoustics — Attenuation of sound during propagation outdoors – Part 2: Engineering method for the prediction of sound pressure levels outdoors.* [online] Available at: https://www.iso.org/standard/74047.html [Accessed: 21 August 2025].

Scottish Government, (2011a). *Planning Advice Note 1/2011: planning and noise.* [online] Available at: https://www.gov.scot/publications/planning-advice-note-1-2011-planning-noise/ [Accessed: 21 August 2025].

Scottish Government, (2011b). *Technical Advice Note: Assessment of noise.* [online] Available at: https://www.gov.scot/publications/technical-advice-note-assessment-noise/pages/1/ [Accessed: 21 August 2025].

Scottish Government, (2023). *National Planning Framework 4.* [online] Available at: https://www.gov.scot/publications/national-planning-framework-4/ [Accessed: 21 August 2025].

6. Glossary of Terms and Abbreviations

6.1 Abbreviations

Acronym	Definition
BS	British Standard
CRTN	Calculation of Road Traffic Noise
dB	Decibel
dB(A)	A-weighted decibel
DMRB	Design Manual for Roads and Bridges
EIA	Environmental Impact Assessment
EPA	Environmental Protection Act 1990
Hz	Hertz
NPF	National Planning Framework
NPSE	Noise Policy Statement for England
PAN	Planning Advice Note
PPV	Peak Particle Velocities
TAN	Technical Advice Note

6.2 Glossary of terms

Term	Definition
British Standard 5228-1	BS 5228-1:2009+A1:2014 Code of Practice for Noise and Vibration Control on Construction and Open Sites – Part 1: Noise
British Standard 5228-2	BS 5228-2:2009+A1:2014 Code of Practice for Noise and Vibration Control on Construction and Open Sites – Part 2: Vibration
British Standard 4142	BS 4142:2014+A1:2019: Methods for Rating and Assessing Industrial and Commercial Sound
British Standard 8233	BS 8233: 2014 Guidance on sound insulation and noise reduction for buildings
$L_{A90,T}$	A statistical noise index defined as the level that is exceeded for 90% of the time over the measurement time period T. The 'A' denotes that the level is determined with 'A-weighting' applied.

Term	Definition
$L_{Aeq,T}$	The 'continuous equivalent sound level' noise index. A single-figure noise index that represents the constant sound level that would contain the same sound energy as the fluctuating noise experienced over the time period 'T'. The 'A' denotes that the level is determined with 'A-weighting' applied.

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