

Appendix 11.1

Legislation

The Environmental Protection Act 1990

Environmental Protection Act 1990 places a duty on Local Authorities to serve abatement notices where noise from premises, vehicles and machinery is judged to constitute a statutory nuisance. Compliance with these controls is required, and the requirement is separate to the planning system.

Control of Pollution Act 1974

The Control of Pollution Act 1974 requires that 'Best Practicable Means' are adopted to control construction noise on any given site. "Best Practicable Means" are defined in Section 72 of the Act as "reasonably practicable having regard among other things to local conditions and circumstances, to the current state of technical knowledge and to the financial implications". The Act makes reference to advice within British Standard (BS) 5228 as comprising best practicable means.

Sections 60 and 61 of the Act provide the main legislation regarding demolition and construction site noise and vibration. If noise complaints are received, a Section 60 notice may be issued by the Local Authority with instructions to cease work until specific conditions to reduce noise have been adopted.

Section 61 provides a means for applying for prior consent to carry out noise generating activities during construction. Once prior consent has been agreed under Section 61, a Section 60 notice cannot be served provided the agreed conditions are maintained on-site.

Applications to the Local Authority under Section 61 are the responsibility of the contractor undertaking the works and are made once construction methodology, plant inventories and programme are known in detail.

The Land Compensation Act 1973 Part 1

The Land Compensation Act 1973 Part 1 includes provision for compensation for loss in property value resulting from physical agents, including noise and vibration, resulting from the use of public works, such as new or improved roads.

The Noise Insulation Regulations 1975 (amended 1988)

The Noise Insulation Regulations 1975 (amended 1988) (HMSO, 1975) were made under Part 2 of the Land Compensation Act for the obligatory and discretionary provision of noise mitigation measures for dwellings adjacent to new highways.

Policy

The National Planning Policy Framework (NPPF)

The NPPF, which was revised in 2019, "sets out the Government's planning policies for England and how these should be applied". Clause 180 of NPPF is relevant to noise and states:

"Planning policies and decisions should also ensure that new development is appropriate for its location taking into account the likely effects (including cumulative effects) of pollution on health, living conditions and the natural environment, as well as the potential sensitivity of the site or the wider area to impacts that could arise from the development. In doing so they should:

- a) Mitigate, and reduce to a minimum, potential adverse impacts resulting from noise from new development – and avoid noise giving rise to significant adverse impacts on health and the quality of life;”.

Footnote 60 of the NPPF refers the reader to policy set out within the Noise Policy Statement for England (NPSE).

The Noise Policy Statement for England (NPSE)

The NPSE came into force in March 2010 and set out the following aims in line with its long-term vision of promoting good health and quality of life through the management of noise.

“Through the effective management and control of environmental, neighbour and neighbourhood noise within the context of Government policy on sustainable development:

- Avoid significant adverse impacts on health and quality of life;
- Mitigate and minimise adverse impacts on health and quality of life; and
- Where possible, contribute to the improvement of health and quality of life”.

Within the aims stated above there are several key phrases that lead to additional concepts now considered in the assessment of noise impact; these and their definitions are details below.

- No Observed Effect Level (NOEL): this is the level below which no effect can be detected;
- Lowest Observed Adverse Effect Level (LOAEL): this is the level above which adverse effects on health and quality of life can be detected; and
- Significant Observed Adverse Effect Level (SOAEL): this is the level above which significant adverse effects on health and quality of life occur.

There are no pre-defined levels for these effect levels as it is acknowledged that they will be different for different sources, different receptors and at different times.

Planning Practice Guidance (PPG)

PPG is a government web-based resource which provides guidance on how the policy set out in the NPPF may be interpreted in practice for a range of issues. PPG advises that: “Local planning authorities’ plan-making and decision taking should take account of the acoustic environment and in doing so consider:

- Whether or not a significant adverse effect is occurring or likely to occur;
- Whether or not an adverse effect is occurring or likely to occur; and
- Whether or not a good standard of amenity can be achieved.

In line with the Explanatory Note of the Noise Policy Statement for England, this would include identifying whether the overall effect of the noise exposure (including the impact during construction wherever applicable) is, or would be, above or below the significant observed adverse effect level”.

Guidance

The World Health Organisation's (WHO) Guidelines for Community Noise

The World Health Organization’s (WHO) ‘Guidelines for Community Noise’ are intended to guide the long-term management of community noise to help meet the WHO’s core objective of “the attainment by all peoples of the highest possible levels of health”. They set out various

recommended noise guide values for specific activities. These values represent the onset of specific effects such as annoyance or sleep disturbance. The WHO Environmental Noise Guidelines for the European Region (ENG) provides evidence-based recommendations on the health effects of noise. The guidelines complement the expert-based recommendations of the WHO Guidelines for Community Noise. For residential areas the WHO Guidelines recommend that during the daytime and evening period (07:00 – 23:00), the annual average external noise level does not exceed 50 to 55 dB $L_{Aeq,16hr}$ within outdoor living areas to prevent moderate to serious annoyance respectively.

BS 5228 Code of practice for noise and vibration control on construction and open sites – Part 1: Noise

BS 5228-1:2009+A1:2014 provides a methodology for predicting noise levels generated by plant and equipment associated with construction operations.

Annex C of BS 5228-1 includes a database of equivalent continuous noise levels (L_{Aeq} dB) generated by a range of fixed and mobile plant used for typical construction activities. Annex F of the Standard describes a methodology that can be used with the database to predict noise impacts from works, taking into account variables such as the proximity of receptors to the works, plant utilisation, the degree of ground absorption and screening attenuation.

BS5228-1 also provides example methods by which the potential significance of construction noise can be evaluated.

BS 5228 Code of construction practice for noise and vibration control on construction and open sites – Part 2: Vibration

BS 5228 'Code of construction practice for noise and vibration control on construction and open sites – Part 2: Vibration' (BSI, 2009 amended 2014) provides guidance on the effect of vibration and the likelihood it will cause complaint and cosmetic damage to buildings. Vibration levels are predicted in terms of peak particle velocity (PPV).

TRL Research Report 53, Ground vibration caused by civil engineering works

Transport Research Laboratory (TRL) has published results of a series of measurements of vibration levels at distances from a range of construction works. The ground conditions in the area of the source and receiver position, and of the intervening ground, are not specified in the report. However, it is considered to be sufficiently robust to inform this assessment.

BS 4142 Methods for rating and assessing industrial and commercial sound

British Standard 4142 provides a means of assessing the likelihood of adverse impacts from the introduction of a new commercial sound source to an area, for example a building services plant.

The level of sound from proposed new plant, the 'rating level' $L_{Ar,T}$, is predicted in terms of $L_{Aeq,T}$, and compared to the existing background sound level, expressed in terms of $L_{A90,T}$. If the new source is impulsive, intermittent or tonal in nature, then the 'rating level' includes a penalty, to account for the character of the sound.

The following conclusions may be drawn based upon the difference between the rating level and background sound level:

- "Typically, the greater this difference, the greater the magnitude of the impact;

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

Noise Council Code of Practice on the Control of Noise from Concerts

The Code of Practice provides a methodology for assessing and controlling noise break-out from concerts and guideline criteria for noise levels at noise sensitive premises (usually residences) close to the venue.

The criteria are reproduced in **Table A11.1.1**.

Table A11.1.1: Concert Venue Noise Criteria

Concert days per calendar year per venue	Venue Category	Guideline
1 - 3	Urban Stadia or Arenas	The MNL should not exceed 75dBA over a 15-minute period.
4-12	All Venues	The MNL should not exceed the background noise level (L_{90}) by more than 15dBA over a 15-minute period.

Source: Table 1 of The Noise Council Code of Practice on Environmental Noise Control at Concerts.

The above criteria do not extend to events which continue beyond 23:00. For such events the Code of Practice states that “the music noise should not be audible within noise-sensitive premises with windows open in a typical manner for ventilation”.

The Design Manual for Roads and Bridges (DMRB)

The DMRB Volume LA111, Noise and Vibration Rev 2 describes a methodology for the assessment of the impacts of noise and vibration of road projects in the United Kingdom (UK). It includes a procedure for the calculation of an operational noise study area, a method of the classification of the magnitude of impact, and examples of design and mitigation techniques that may influence noise and vibration impacts.

Calculation of Road Traffic Noise

Calculation of Road Traffic Noise 1988 provides procedures for predicting noise levels for a given flow of road traffic at sensitive receptors. These methodologies are used in the determination of entitlement under the Noise Insulation Regulations 1975, and for traffic noise change assessments undertaken in accordance with the DMRB guidance cited above.

IEMA Guidelines for Environmental Noise Impact Assessment

The IEMA Guidelines provide guidance on noise assessment in an EIA context. The guidelines define key methodologies used within the noise impact assessment process, and provide advice on their limitations. They are relevant to all scales of project.