

2.1.1 Noise Policy Statement for England (NPSE)

In March 2010 the Government issued a Noise Policy Statement for England (NPSE). The aim of this document is to “provide clarity regarding current policies and practices to enable noise management decisions to be made within the wider context, at the most appropriate level, in a cost-effective manner and in a timely fashion.”

The NPSE sets out the long-term vision for Government noise policy 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

The NPSE categorises noise exposure into “no observed effect level”, “significant adverse” and “adverse” These concepts have been developed by the World Health Organisation and they follow established concepts from toxicology to noise impacts:

NOEL – No Observed Effect Level. 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.

LOAEL – Lowest Observed Adverse Effect Level This is the level above which adverse effects on health and quality of life can be detected.

The NPSE expands these terms leading to the concept of a Significant Observed Adverse Effect Level.

SOAEL – Significant Observed Adverse Effect Level. This is the level above which significant adverse effects on health and quality of life occur.

The NPSE goes on to state that it is not possible to have a single objective noise-based measure that defines SOAEL that will be 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.

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In the absence of nationally published and agreed values for SOAEL and LOAEL for residential properties, Worcestershire Regulatory Services (WRS) have derived these values from recognised sources and existing Local and European standards.

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Noise sensitive developments such as residential should not be exposed to high levels of ambient noise from future development proposals.

Noise sensitive developments will be discouraged in areas that are so noisy that they satisfy the criteria for the preparation of noise action plans.

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NOISE AND VIBRATION ASSESSMENT

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3.10.1

Significant adverse effects on health and quality of life should be avoided while also taking into account the guiding principles of sustainable development (NPSE paragraph 1.8).

This aim is underpinned by the NPPF which states that “planning policies and decisions should avoid noise giving rise to significant adverse impacts on health and quality of life”.

The Noise Policy Statement for England (NPSE) states that “the Government’s aim is to ensure that noise does not give rise to significant adverse effects on health and quality of life. This aim is underpinned by the NPPF which states that “planning policies and decisions should avoid noise giving rise to significant adverse impacts on health and quality of life”.

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3.10.2

Noise Policy Statement for England aims to mitigate and minimise adverse impacts on health and quality of life from environmental,

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Noise Policy Statement for England seeks, where possible, to positively improve health and quality of life through the pro-active management of noise while also taking into account the guiding principles of sustainable development (NPSE paragraph 1.8), recognising that there will be opportunities for such measures to be taken and that they will deliver potential benefits to society. The protection of quiet places and quiet times as well as the enhancement of the acoustic environment will assist with delivering this aim.

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for buildings – Code of Practice’	functions. It includes design criteria and deals with the control of anonymous noise from outside the building and noise from plant and services within.
British Standard 4142:1997 ‘Method for Rating industrial noise affecting mixed residential and industrial areas’	This standard is intended to be used for assessing the measured or calculated noise levels from both existing premises and new or modified premises, for noise of an industrial nature. It recognizes that the standard may be helpful in certain aspects of environmental planning and may be used in conjunction with recommendations on noise levels and methods of measurement published elsewhere
British Standard 6472-1:2008 ‘Guide to evaluation of human exposure to vibration in buildings’	This standard provides guidance on predicting human responses to vibration in buildings and includes advice on measurement methods to be employed. Methods of assessing continuous, intermittent and impulsive vibration are presented.
Building Bulletin 93: ‘Acoustic Design of Schools’	This document provides acoustic design criteria for schools and has been referenced in this document particularly with regard to criteria to ensure that schools are not subject to unacceptable levels of external noise.
Institute of Acoustics Good Practice Guide on the Control of Noise from Pubs and Clubs.	This document provides guidance for the assessment and control of noise affecting noise-sensitive properties from public houses and clubs, and other premises holding similar events. The main noise sources considered are music, singing and public address systems

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SOAEL and LOAEL values for residential properties have been derived for common noise sources. These are included in the table below. The criteria selected will depend upon the specific proposal (i.e. new residential development or introduction of a noise source to existing residential development).

Noise source	Assessment Location	LOAEL	SOAEL	Times
General environmental noise, road traffic, rail traffic	Outdoor living space Façade	50 dB LAeq,1hr ^(A)	55 dB LAeq,1hr ^(D)	Day 07:00 – 23:00
	Facade	50 dB LAeq,16hr ^(A)	72 dB LAeq,16hr ^(E)	Day 07:00 – 23:00
	Façade	45 dB LAeq,8hr ^(B)	67 dB LAeq,8hr ^(F)	Night 23:00 – 07:00
	Habitable room	30 dB LAeq,8hr ^(C)	40 dB LAeq,8hr ^(G)	Night 23:00 – 07:00
	Habitable room	35 dB LAeq,16hr ^(C)	45 dB LAeq,16hr ^(G)	Day 07:00 – 23:00
Air traffic	Façade	50 dB LAeq,16hr ^(A)	69dB LAeq,16hr ^(E)	Day 07:00 – 23:00
	Façade	45 dB LAeq,8hr ^(B)	64 dB LAeq,8hr ^(F)	Night 23:00 – 07:00

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For indoor spaces there is, in theory, no restriction to the outdoor noise level as long as the building envelope provides sufficient insulation although this will result in a very poor outdoor environment. The Future of Air Transport (Government White Paper)³ made the following recommendations:

Accordingly, with immediate effect, we expect the relevant airport operators to:

- offer households subject to high levels of noise (69dBA Leq or more) assistance with the costs of relocating; and

- offer acoustic insulation (applied to residential properties) to other noise-sensitive buildings, such as schools and hospitals, exposed to medium to high levels of noise (63dBALeq or more).

This suggests that a noise level greater than 69 dB LAeq due to aircraft is unacceptable. Therefore it would be unwise to permit the development of new noise sensitive premises where noise levels (due to aircraft noise) exceed 69 dB LAeq and may be considered the SOAEL for aircraft noise. As the community response is generally less sensitive to other transportation sources⁴ it is suggested that the day time SOAEL for rail and road traffic should be 72 dB LAeq.

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The impact of an increase (or reduction) in noise level is provided in a variety of documents including DMRB⁵.

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1.2.4. Noise sensitive premises

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1.2.4.1. Noise sensitive premises

Where applications contain noise sources which may have an impact upon existing noise-sensitive uses, the applicant will be required to provide supporting information to allow this impact to be evaluated, in line with the provisions of this section. For the purposes of this document noise sensitive premises are taken to be places where the building occupants may be resting, sleeping or studying, or spending recreational time. This includes

considered tranquil where the introduction of a new noise source would significantly change the noise characteristics of the area.

Development proposals will therefore be expected to be sympathetic and in keeping with the general noise climate of the area.

It will also be necessary to demonstrate that the proposed development does not overtly conflict with any nearby amenity

Glossary of Terms

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 'Hac í ÄBDÄÄBFDCÖGLÖHPPäCA frequency dependent correction which weights sound to correlate with the sensitivity of the human ear to sounds of different frequencies.

H î ŠBÄFÄCŁÆBÄÄäCA measure of the typical noise (excluding any unusual events) present at a site. This is usually described in terms of LAeq,T.

HFÆFË î ÆEÄCFÆBÄÄäC Noise that cannot be attributed to a single (specific source). For example noise from cars on a road would be considered anonymous whereas a noisy ventilation unit would not.
 HEGBSËÄäC Sound that can be heard or is perceptible by the human ear.

LÊÄ IDÄÆEFGCŁÆBÄÄ: A measure of the underlying noise (excluding any unusual events) which is present at a site before a new noise source is introduced. This is usually described in terms of the LA90 level: the sound pressure level exceeded for 90% of the time.

ÄÄÈÖÄÄÄÄE î CËGËÖÄÄBÆFCÄÄÄ î äCA correction added to a sound insulation quantity (such as Rw) to take account of a specific (traffic noise) spectra. See BS EN ISO 717-1:1997. For example the difference between internal and external

traffic noise levels in dB(A) is calculated using A CäC ÄÄC (equivalent to ÄÄÈÖBÄPC

ISO 717-1: 1997

U_A dB(A) is a unit used for many acoustic quantities to indicate the level of sound with respect to a reference level.

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Environmental Health, Trading Standards
& Licensing, PO BOX 866, Worcester. WR1 9DP.

N_o is noise measurements made outside an external wall of a structure (usually 1 metre from the wall).

W_o is a room used for sleeping or recreation/relaxation/study.

L_o is sound that cannot be heard or is imperceptible to the human ear.

L_o is sound that cannot be heard or is imperceptible to the human ear.

leisure and recreation of the occupants of the dwelling. This will include gardens, landscaped areas, balconies.

ÈÆEFGCÄGEÄÄBÆFCBFGÄSäCA quantity which characterizes the airborne sound

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Give details of the assessments made based on the measured and/or predicted data. State any assumptions made.

Show any calculations made to sufficient detail that they could be checked for accuracy. If the calculations are complicated, the details may be included as an appendix.

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Give details of any mitigation measures that are / may be required and the anticipated effect

- i. Enhanced glazing and doors
- ii. Reorientation of buildings
- iii. Barriers or bunds
- iv. Alternative plant or machinery

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Detail what steps should be taken by the developer to meet the relevant criteria

- i. Glazing specification
- ii. Ventilation specification
- iii. Heights, locations and specifications of barriers or bunds
- iv. Appropriate technical specifications for plant or machinery (e.g. refrigeration compressors, extract systems)
- v. Any other data required by the developer to meet the required noise standards /guidance

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A brief resume of the process described above and a confirmation that if the recommendations are carried out satisfactorily that appropriate standards / guidance will be complied with.

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Scale plans showing the site location and the location of any measurement or prediction positions in sufficient detail to enable them to be readily identified. Aerial photos from online mapping sources may be useful.

Unabridged noise monitoring / measurement results on which the assessment is based.

Details of any calculation(s) relied upon.

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Reasonable Listening/Study and Work	<p>ÝEÄBÄCÇÆÆ Í ÄC</p> <p>ÒÈÄDÄCEÄÄÆÄÄCÄÆÆ Í ÄCÄCÚÑCÖÄÆEOÉÄC</p> <p>UÄÊ Í ÊCÇÆÆ Í ÄC</p>	<p>30 dB LAeq,T</p> <p>plus</p> <p>55 dB LAFmaxC</p>
	<p>Audio visual video conference rooms</p> <p>Assembly halls, multi purpose halls</p> <p>Individual study, withdrawal, remedial work, teacher preparation, interview/counselling</p> <p>General teaching areas, classrooms and class bases, small lecture theatres < 50 people, seminar and tutorial rooms, language laboratories, small lecture rooms</p> <p>Libraries</p> <p>Nursery quiet room</p> <p>Nursery play roomC</p>	<p>35 dB LAeq,T</p> <p>plus</p> <p>55 dB LAFmaxC</p>
	<p>Science laboratories, metalwork/woodwork classrooms, resource/light craft and practical</p> <p>Offices, staff rooms, open plan classrooms / resource areas</p> <p>Indoor sports / indoor swimming poolsC</p>	<p>40 dB LAeq,T</p> <p>45 dB LAeq,T</p> <p>45 dB LAeq,TÇ</p>
	<p>Toilets, coats and changing areas, corridors and stairwells</p> <p>Dining roomsC</p>	<p>45 dB LAeq,T</p> <p>45 dB LAeq,TÇ</p>

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Source: Building Bulletin 93: 'Acoustic Design of Schools'

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Room Type	Example	Criteria for noise intrusion to be met inside the spaces from external sources
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		50dB L _A F _{max}
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Source: Department of Health 'Health Technical Memorandum 08-01 Acoustics'

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