

### POLICY

## Defra rejoins nuisance and environmental noise strategies

Environmental and neighbourhood noise policy are to be merged in the forthcoming national strategy. And Defra has also indicated a large shake up of industrial noise nuisance law.

Defra says that merging the two sides of noise policy makes sense to create a 'joined up approach'. This is despite demerging the two disciplines within Defra less than two years ago because of difficulties managing them together. Since that demerger, the nuisance noise team has been developing a nuisance strategy, and the environmental noise team developing its own strategy.

Now the two are to be joined up in the new noise strategy, with Defra saying that two separate policies could leave issues falling between the two. Consultation will take place in late 2006/early 2007 with a launch in 2007. A planned pre-consultation has been shelved.

Meanwhile Defra's noise responsibilities have come under scrutiny under the Hampton Review which seeks to cut

Government red tape.

In the last 12 months, there have been a number of initiatives springing from this review with Defra called in to contribute.

Defra says: "Noise from businesses (ie industrial noise) has been brought under scrutiny just as IPPC and LAPC permitting have been." Alternative sanctioning 'models' under consideration include taking the noise abatement system out of the courts with a new matrix of civil penalties retaining the criminal sanction for non compliance.

There is more. Frustration at the lack of specialist knowledge in magistrates courts means specialist environmental courts might be set up with responsibility for industrial and business noise enforcement.

Defra has questions about this: "Do we want to decriminalise noise? Would a civil offence be as frowned upon as a criminal offence is by civil society? Will a wholly civil approach offer adequate means of appeal?"

Defra last month announced

that it had commissioned Stuart Dryden of consultant Rupert Taylor to carry out research on abatement notices. Defra said: "We are reviewing the use of S80 notices and looking at:

- The variation in the details specified in notices;
- The different noise sources for which notices are used, and whether that affects the drafting of the notice;
- If a notice is used, how the requirements included in it are determined;
- How the decision is made to use a notice, or some other method of controlling the noise;
- Why some types of notice are not used;
- Why some other enforcement options are not used;
- What options are available if the noise is a problem but not a statutory nuisance.

The study will then report on where improvements could be made to current methods of using noise abatement notices, suggest alternatives that could be used, and explain why they are not used at present.

### Legal action starts on horn noise

The railway industry is being hit with legal action on train horn noise.

Lineside residents have complained about the volume of noise from horns fitted to new trains. Rail operators and legislators say the new horns comply with standards and need to be loud to be safe.

Councils and residents have until now been unsure as to how to pursue legal action – in particular whether to serve a notice on the council, Network Rail, the rail operator or the Railway Standards Board. The Noise Abatement Society commenced judicial review proceedings last year against Network Rail and agreed to hold off action for six months to allow for talks, that period is now up.

Tendring District Council in Suffolk has issued an ultimatum to Network Rail and may shortly serve an abatement notice. It says the noise is prejudicial to the health of a resident that has become ill with the noise. The council risked being taken to judicial review itself if it didn't serve the notice.

Meanwhile independent environmental health officers Sanctum Consultants are advising a group of 31 residents who may serve section 82 notices on a combination of Network Rail, rail operators and the Office of the Rail Regulator centred on the siting of whistle boards. An insider close to the proceedings said that continued inaction by the railway industry meant that it had little option but to cause "legal mayhem" in order that something was done.

Last month the railway authorities said they would launch a study to 'cost' the impact of the train noise. This would allow a better comparison of the safety benefits of loud horns compared with the nuisance.

### INFORMATION

## A new newsletter for noise professionals

Welcome to the first edition of *Noise Bulletin*, a brand new monthly newsletter aimed at environmental health officers, consultants, NGOs, suppliers, government and agencies working in the noise field.

The *Bulletin* will capture all the news and information you need to do your job more efficiently. With five year's experience of reporting on noise, editor Jack Pease, formerly of *Noise Management*, will keep you ahead of the news. Pease is ably assisted by associate editors Lis Stedman and Lisa Russell who also worked for *Noise Management*.



Launch customer: John Coates of Richmond (left) and editor Jack Pease

London Borough of Richmond's John Coates was *Noise Bulletin*'s launch customer: "I have had a sneak preview of this edition and am looking forward to future editions with interest. The newsletter is concise and to the point, yet broad in its coverage. It will make a handy reference across the many facets of noise – for Richmond that means noise from Heathrow planes, noise from residential, commercial and licensed premises and planning issues."

"There is a lot going on in the noise world just now, but I am confident that the *NB* will help us keep up to date."

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## IN BRIEF

### First noise maps handed to Defra

Consultants Entec and Hepworth Acoustics are the first of many consultants to complete noise mapping for Defra's *Noise Mapping England* project.

The road noise map contract is the first of 15 across England commissioned by Defra to provide a snapshot of road noise to comply with European Noise Directive mapping requirements. Rail, air and industrial maps will follow on after some delays.

Entec and Hepworth's two maps cover Manchester and Merseyside, a total area of 2,000km<sup>2</sup>. Due to the large geographical area and detailed resolution required, the project team used specialist Lima noise mapping (produced by German firm Stapelfeldt) and ArcGIS software. In total, more than seven million calculation points were determined at a horizontal grid resolution of 10m, resulting in highly detailed maps for the two contract areas.

### When the cock crows

Daventry District Council has taken a cock owner to court for breach of a noise abatement notice.

The council served the abatement order on Colin Hill ordering him to abate the nuisance (for instance by keeping the cock in the dark until later on). But recordings of the cock crowing 20 times in 20 minutes between 4am and 5am convinced the court that the bird constituted a nuisance.

### Community code launched

Noise campaigner Val Weedon has launched a 'community code' to coincide with Noise Action Week (to be held next month 22-26th May).

The code gives guidance on dos and don'ts of being a good neighbour.

● [www.noisenetwork.org.uk](http://www.noisenetwork.org.uk)

## RESEARCH

# Sandpit 'ideas factory' thinktank sets out noisy future workplan

A 'sandpit' meeting of invited noise specialists held earlier this year is proposing a £1.5m research bonanza.

The *A noisy future* initiative is sponsored by the EPSRC with a view to try and "make the world sound better" and "challenge assumptions about future soundscapes and predict how they might evolve over the next 10-20 years". It was organised by a team including Trevor Cox of Salford University.

Cox said: "Although individual sources of noise such as cars and planes have become quieter, this has been offset by rising traffic levels. Policy is aimed at measuring noise levels and controlling or reducing noise levels in order to meet targets and limits for exposure. What isn't addressed is the issue of the sounds we want to hear. What makes sounds attractive or unattractive? Can we find out? Then can we develop ways of measuring "sound quality" rather than noise. Ultimately can we

design desirable soundscapes in the same way that we design buildings, lighting or landscape effects in urban areas.

The following three projects (costed at £1.5m) were shortlisted:

- *The Positive soundscape project*: A re-evaluation of environmental sound. This project seeks to bring together insights from sonic art, ethnographic investigations of the soundscape and quantitative psycho-acoustics to provide a better account of the relationship between the soundscape and the perceptions of those within it. In particular, it will challenge the thinking that acoustics is all about noise and abatement, and try and get industry and government to think about how sound can be used positively;
- *Noise futures network* is a new interdisciplinary network to facilitate multi-interest research on future soundscapes. The network aims to fully involve stakeholders from industry, and

policy makers at local and national levels to offer informed policy advice;

● The *ISRIE* instrument – an *Instrument for Soundscape Recognition, Identification and Evaluation*.

As legislative controls on noise are dependent upon what can be measured, the ISRIE instrument has the potential to revolutionise how noise is considered by industry and government.

Building on techniques developed in other fields, such as bioacoustics and mobile telephony, this instrument will be able to separate and identify the sounds that make up a typical soundscape. This will enable a proper evaluation of potential acoustic impacts from different sound sources, which will directly benefit policy makers.

● The soundscape project has its own homepage which carries further details: [www.acoustics.salford.ac.uk/soundscape](http://www.acoustics.salford.ac.uk/soundscape)

## OCCUPATIONAL

### Workplace noise rules now in – but not for pubs & clubs

New standards have been introduced aimed at reducing and eventually eliminating workplace noise injuries.

The *Control of Noise at Work Regulations 2005* came into force on the 6th April, replacing the *1989 Noise at Work regulations*. The entertainment industry has an additional two years to comply.

The new regulations introduce exposure action levels that are 5dBA lower than currently. The aim is that by 2030, there should be no employee who has their hearing damaged.

The new regulations require employers to:

- Assess the risks to their employees from noise at work;
- Take action to reduce the noise exposure that produces those risks;
- Provide their employees with

hearing protection if they cannot reduce the noise exposure enough through other methods (making hearing protection available on request at 80 dB and ensuring it is worn at 85 dB);

- Make sure the legal limits on noise exposure (87 dB daily or weekly exposure or peak sound pressure of 140 dB taking account of hearing protection) are not exceeded;
- Provide employees with information, instruction and training;
- Carry out health surveillance where there is a risk to health;

The Health and Safety Executive has produced a simple guide to the regulations and advice for employers to reduce exposure.

● This can be downloaded from [www.hse.gov.uk/pubns/indg362.pdf](http://www.hse.gov.uk/pubns/indg362.pdf)

## NUISANCE

### New powers to tackle alarm noise

Powers under the *Clean Neighbourhoods Act* have come into force.

The Act covers issues such as littering, graffiti and noise. Local authorities can enter premises without force to silence an alarm that has been ringing for over 20 minutes and there are now powers to require residents to register their burglar alarms and nominate alternative key holders.

"NSCA welcomes these new powers to help local authorities tackle problem alarms – a significant source of noise disturbance," said Mary Stevens of NSCA. "However, fire alarms as well as intruder alarms can cause problems, and these are not currently covered."

During consultation, the powers attracted some criticism from local authorities for being unworkable and incomplete.

● Guidance: [www.defra.gov.uk/news/2005/050408a.htm](http://www.defra.gov.uk/news/2005/050408a.htm)

## NEWS FROM THE IOA SPRING CONFERENCE HELD IN SOUTHAMPTON

# Noise unrelated to property values claims Flindell

A study of property values suggests that a noisy environment does not depress house prices.

The findings are distorted by expensive 'lifestyle' city centre flats that command a premium as compared to run of the mill inner city housing that can often be found in noisy transport corridors. But the price distortion means that it may be inappropriate to 'cost' noise based on its impact on house prices.

Speaking at the Institute of Acoustics spring conference held in Southampton earlier this month, Ian Flindell said: "Existing standards and

regulations are mostly based on the generic observation that adverse effects of noise increase with increasing noise levels. The consensus is that residential property prices are likely to be depreciated by between 0.5% and 1% per decibel increase in outside noise."

Researchers studied population data for areas in London, Birmingham, Sutton Coldfield and compared them with data for the rest of England. "All three of our data sets for city centre areas of London, Birmingham and Sutton Coldfield show similar trends for the highest offer prices for sale or rent to be found at medium or high outdoor sound

levels. The highest offer prices are not found in areas with the lowest outdoor sound levels as might be expected."

Researchers say that the explanation is that either 1/ the lifestyle choices of the types of buyers (essentially young and without a family) means that noise is not the main issue when compared to the availability of city centre accommodation.

Or 2/ an alternative explanation is that prices would be even higher than they are now if there was a genuine choice between quiet and noisy city centre lifestyle apartments.

● More from the spring conference next month.

## IN BRIEF

## Research update

The Institute of Acoustics has organised a meeting to outline recent research.

*Developments in noise research* will include an overview of the Defra noise research programme, and papers about ongoing and recently completed Government sponsored research projects on neighbourhood and environmental noise issues.

Current projects include research to help derive the appropriate criteria for a new night noise offence from licensed premises, understanding the attitudes and behaviour of noise sufferers and noise makers, research on the use of noise abatement notices, research into the acoustic performance of open windows and research on the human response to vibration.

● See noise events, p8

## Wind meet repeat

Heightened interest in wind turbine noise has prompted the Institute of Acoustics to reprise its wind turbine conference on the 25th April at Stratford upon Avon.

## Help on low frequency

IoA is also holding a conference on how to handle complaints about low frequency noise.

To be held on the 15 May at the University of Salford, the meeting will build on recent research work and guidance released by Defra. It will include a laboratory session so as to give a chance to listen to genuine low frequency noise recorded during recent field tests.

Delegates will be asked to rate their reactions to the sounds, the results of which will be collated and presented at the end of the day. Delegates will also have the opportunity to listen to room modes and to witness the relationship between loudness and sound pressure level for low frequency sounds.

● See noise events, p8

## PEOPLE

## New chief executive for IoA as Bratby retires

The Institute of Acoustics has appointed Kevin Macan-Lind as its new chief executive. He will succeed Roy Bratby who is retiring after nine years with the IOA.

Macan-Lind started his professional life in banking working for the Australia and New Zealand Banking Group and Barclays. He has many years' experience of business administration in the publishing, event management and mail order industry.

Welcoming Macan-Lind on his



Kevin Macan-Lind: new chief exec

appointment, IoA president Tony Jones said: "We are delighted to have Kevin as our new chief executive. I have high expectations that his entrepreneurial experience, knowledge and enthusiasm will ideally suit him to the task of building upon the substantial progress already achieved by the Institute.

"We would also take this opportunity to pay tribute to Roy Bratby whose diligence and professionalism have been instrumental in the success of the Institute during his time here."

## NUISANCE

## Dial 101 for noise

A single, memorable number – 101 – is being trialed as an alternative to the 999 emergency number.

The intention is to give the public a memorable number to use when there are non-life threatening complaints such as noise disturbance. The Single Non-Emergency Number (SNEN) is being rolled-out in a series of 'waves', each involving partnerships between local authorities and police forces.

The first wave will begin in Hampshire, Northumbria, and areas of Leicestershire, South Yorkshire, and South Wales. It will be available to the public in these areas in summer 2006.

The second wave will follow in 2007, expanding from the first wave sites and allowing for resource sharing. National roll-out is planned for 2008, following testing. The planned 'core' service will include:

● Vandalism, graffiti and other

deliberate damage to property;

- Noisy neighbours;
- Intimidation and harassment;
- Abandoned vehicles;
- Rubbish or litter;
- People being drunk or rowdy in public places;
- Drug-related anti-social behaviour; and
- Street lighting.

The Home Office/ODPM says public expectations of the new SNEN service will be high.

● <http://snen.homeoffice.gov.uk>

# Focus falls on flights after Lords defeat

Campaigners near busy airports are fighting several proposals that are set to increase the number of flights, reports Lisa Russell.

Last month's amendment by the House of Lords of a key clause in the Civil Aviation Bill highlighted a fundamental disagreement about how best to take account of the disruption of night flights.

A majority of 40 Lords opposed the Government's plan to remove the current caps on flight numbers and rely entirely on quotas which allow more flights if each is quieter. The existing system has both a quota count and an overall limit on the number of aircraft movements.

"The removal of the movements limit and the reliance on the quota count system will have a devastating consequence for the millions of people who live under major airports' flight paths," said Lord Hanningfield in proposing the amendment.

"The most compelling reason to retain the movement limit is that most people are annoyed by the number of noise events, not just by their respective volumes," says Aviation Environment Federation director Tim Johnson. "Even the quietest aircraft cause significant disturbance."

Hanningfield said there were shortcomings in the use of  $L_{eq,16hr}$  metric which average the noise level over a 16-hour day and express it as a continuous level. "The same total noise exposure can be achieved with a few noisy aircraft or a larger number of less noisy ones. Furthermore, whether those aircraft are bunched together or spaced at long intervals during the night period does not make any difference to the noise dose."

He believed that the use of both quotas and movement limits provides the most effective protection for communities living near airports or under flight paths.

Removing the cap on numbers would have a major effect, says Hounslow Council's head of environmental strategy Rob Gibson. "Here in Hounslow, noise is at levels where people are woken up by each individual aircraft." Abolishing the movement limit will affect both those under the flight path and people living near the roads that are used for airport access, says Stop Stansted Expansion campaign director Carol Barbone.

But this is not the only potential change that is causing concern. Night flying restrictions at three designated airports – Heathrow, Stansted and Gatwick – are controlled by the government and reviewed every five or six years. New movement limits and noise quotas are due to take effect at the end of October – a year later than originally intended – covering the period to 2012. Publication is expected at any time now, following a second stage consultation which

ended in September 2005.

"We do not think that now is the right time to be making these changes," says Anna Mazzotti, assistant director of the Local Government Association SASIG (the Strategic Aviation Special Interest Group). The Government commissioned research in 2001 on attitudes to noise from aviation sources, she points out. "The work is still ongoing, yet in the absence of that information the Government is intending to change policy, both in the Bill and in the

**“Removing the cap on numbers would have a major effect” – Hounslow’s Rob Gibson**

night flying restrictions." The clause on movement limits should be removed from the Civil Aviation Bill, believes Mazzotti, and the current night flying restrictions should be rolled on for another year.

Meanwhile, the decision has been postponed on a separate issue: the adoption of so-called mixed mode working at Heathrow. This would end the current arrangement of alternating use of the two runways to give people fixed periods of respite from noise.

Even when the Bill, night flying restrictions and mixed mode issue are all resolved, campaigners face the prospect of fighting planning applications for new runways. "They are all identifiable issues – but they are all compounding," says the London Borough of Richmond's special projects manager John Coates. "The total annoyance is greater than the sum of the parts."

The only real way to control noise is through operational restrictions, says Johnson. "But the restrictions we have – like the movement limits on night flights – are the very issues that seem to be being eroded at present by the various government consultations."

Night flights continue to be of enormous concern, believes John Stewart, who chairs HACAN ClearSkies which represents people adversely affected by Heathrow. The cap on movements is hugely important to people, he says. "If the government were to take that away then it opens the skies, possibly even

doubling the number of flights at night at Heathrow."

But there is little chance of the amendment being supported by the Commons when the Bill returns there shortly. The House of Lords majority of 40 on the issue did however send a strong message to the Commons, Stewart believes, and he predicts that some MPs will rebel on the issue.

The prospect of mixed mode operations at Heathrow is one of today's most important noise issues, says Johnson. Heathrow has two main runways running east-west. Normally, one is used for departures and the other for arrivals. When aircraft are departing into the west, runway use is swapped at 3pm. This enables people to have predictable respite and plan events.

"Mixed mode operation would mean that both runways would be used all the time for both take offs and landings. "At the moment there is noise and quiet – we would then have just noise," says Gibson. Last month a consultation was delayed until later this year.

Johnson says that the capacity increase from mixed mode operations would be only marginal – but losing the respite would mean so much to thousands of people. The additional 35,000 movements would make a tremendous difference to the people on the ground, even though the  $L_{eq}$  values would not change much.

New runways would increase capacity still further. Coates points out that Heathrow's third runway would be shorter and used by smaller planes, which would increase the concentration of bigger planes on the existing runways.

For assessment of future planning applications at Stansted, chairman of SSE's noise group Chris Bennett has been urging the use of a system that has become known as Australian metrics, which gives a more readily understood feel for the impact of aircraft noise than the overall averaging from  $L_{eq}$  figures. It involves "numbers above" noise contour maps which indicate the number of events in a given period that exceed a particular threshold level.

Not every change has however been bad. There have for instance been improvements in the way aircraft approach the airport, says Coates.

The increased use of a "continuous descent approach" makes life quieter for residents than the traditional method of coming in level and dropping lower in a series of steps. And new technology such as guiding aircraft in along a curved radar beam will give options for different routings.

# All you need to know about insulation

Lis Stedman uncovers a staggeringly useful 300 page guide on sound insulation that must surely become a bible for both professionals and DIY'ers

From Napier University comes a new and significant housing and sound insulation guide written by Dr Sean Smith, deputy director of the Building Performance Centre, John Wood, who lectures in architectural technology at Napier's School of the Built Environment and Professor Robin Mackenzie, the Centre's director.

The document aims to provide clear guidance for tenants, homeowners, landlords and other housing agencies in Scotland on how to improve existing attached dwellings and design for conversions in terms of their sound transmission.

The guide's clear and well-illustrated format lends itself to use by non-professionals, but as it provides a comprehensive overview of the types of attached dwellings that are found north of the border and the likely noise problems and potential solutions available, it also makes interesting reading for the noise fraternity.

The report's importance can be judged by the fact that it is funded by several key Scottish institutions: Historic Scotland, the Scottish Building Standards Agency and Communities Scotland. Given that Scotland appears light years ahead of the rest of the UK on noise issues, the guide can be forgiven for being very Scot-centric.

As Professor Mackenzie says in his introduction: "Approximately 55% of Scotland's housing stock was built prior to sound insulation standards being introduced and the current performance requirements

have not significantly altered in the last 18 years. The levels and types of noise found within dwellings have increased however and improved levels of sound insulation may therefore be required."

The wish of the authors is that the report will be a "helpful guide to improving sound insulation and understanding the factors to be considered prior to undertaking any work".

A useful pictorial guide presents some of the typical many architectural styles found in Scotland and indeed elsewhere across the UK, which range from the old-style tenement buildings – generally low-rise, stone-built flats opening onto a central stairway with ash-deafened floors – to more modern pre- and post-war masonry semis, the high-rise towers typical of inner cities across the UK, and today's timber-framed dwellings.

The guide provides a comprehensive set of methods and descriptions that look at how to improve sound insulation between attached dwellings, to help owners to decide on the levels of sound insulation that might be needed, and to provide information on key separating wall and floor types and the influences that possible remedial treatments are likely to have.

The guidance targets general living noise, where problems arise due to poor sound insulation of the separating walls or floors. It therefore warns that "although some of the treatments may be useful in significantly increasing sound insulation in particular dwellings, they are not designed to deal with

noise arising from anti-social behaviour".

The guide is particularly pertinent to Scotland as four out of five properties there share an adjoining wall with another dwelling, but as Smith notes, it is also relevant (apart from Chapter 8, of which more later) to the whole of the UK and to a "whole variety of people", not just landlords and householders.

He explains the thinking behind the guide: "There is a lot of information that acoustic consultants hold – repeat information that they give to their clients – and if we can make this available to people it will help them to understand why buildings perform in a certain way. The ethos nowadays is about knowledge transfer – the time that people have for education is limited and CPD can only achieve so much, so an off-the-shelf reference can have an educational role for both students and consultants that are learning the ropes."

The guide came about, he says, because of a case that the Centre is aware of where a housing association in Scotland spent £15,000 in fees alone to assess its housing stock's sound transmission qualities. The staff at the centre were struck by the fact that if this were repeated across the country a vast sum, around £30 million and possibly more, would be spent on gaining essentially same information over and over again.

Guidance, they thought, would be very useful, so they asked for funding from the three key sources listed above, gaining a very positive response. Work started in 2003, and the electronic version of the guide is now available for download and the paper version has just been published.

The advantages of having such a guide are clear: for a housing authority, instead of assessing all of its stock the guide enables it to look at the key dwelling types in the guide to judge where its housing falls relative to these. The value of the guidance is that an association can test a few floors or a few blocks for under £2000, and get an idea of what they are dealing with, spending its money on necessary upgrades instead of going round the treadmill of investigation. "We are not saying don't do tests, but you can assess your housing relative to this," explains Smith.

The guidance answers the sort of questions that clients commonly ask, such as where to start on improvements, and provides basic information about technical terms. Materials

## HOW THE GUIDE CAME ABOUT

The guide provides pictorial, tabular and written information on a wide range of information necessary for anyone thinking of attempting a conversion or building upgrade. It provides construction details and information on potential existing problems for a range of dwelling types and the impacts of remedial treatments.

The guide provides a simple explanation of measuring sound insulation and also introduces standard construction terms found in noise measurement. There is a brief overview of some of the effects of noise and how to conduct a survey to evaluate current levels of sound insulation. Preparations for sound tests, and basic information about testing, are also covered.

The guide also looks at the factors needed to obtain satisfactory sound insulation, and provides an extensive listing of types of remedial treatments for walls, floors, ceilings and service pipes, and their implications.

There are also product specifications, notes on the types of alterations that may be encountered and considerable detail on the types of construction encountered, mainly from dwellings built during the past 150 years.

Chapter 8 goes into details related to conversions, as explained, and a set of case studies provide guidance as to the routes taken by experts in various situations.

There are also a series of annexes, the first providing a Q&A section with queries and solutions, the second giving a bibliography for further study, a third containing details of organisations and their websites, concluding with a fourth annex that has a glossary of terms.

● continued on p6 overleaf

# A-Z of quietening your home

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manufacturers also gave invaluable assistance in the form of information and photographs relating to some of the excellent products available that can be used in remedial works.

The situation in Scotland, where grant money and subsidies are available for thermal insulation but not sound insulation is one that has long been criticised by various sources, but the Centre's ingenious suggestion provides a win-win answer.

Smith explains: "You can get grants for thermal insulation, which is often applied to external walls and doorways, which are both issues in terms of noise consequences because of flanking sound through external walls or stairwells. By choosing the right product that is both thermal and sound based you can kill two birds with one stone." It's a move that will save the government money too, which will no doubt be appreciated.

The only section of the guide that is Scotland-specific is Chapter 8, on conversions. Smith explains that the ODPM had already commissioned its own project for England and Wales, and the Centre "did not want to step on any toes".

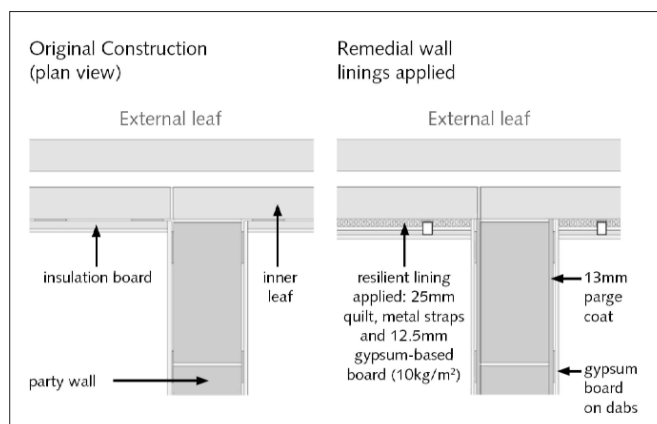
Historic Scotland was particularly interested in the conversion section, he notes, because over 90% of the buildings they deal with are pre-1919 Georgian or turn-of-the-century and they have to reconcile the conflicting desires of owners to improve their

dwellings and their own wish to keep the historical features as best they can.

The Centre recommends pre-conversion testing as a "tremendous way to preserve historical features". Smith says: "Before you undertake any work, we say to clients, as soon as you have got the keys, give them to us and we will go in with the plan of the proposals and test the existing walls and floors that will become party walls and floors for the level of existing insulation."

If such work is undertaken at an early enough stage it can save a significant amount in terms of avoiding architects' over-specifications – sums Smith is aware of range from £2,000 for a small scheme to £500,000 for a set of office blocks. "It cuts the architects' workload significantly," he notes "Sustainability-wise it is superb, it cuts material use, and Historic Scotland and others are able to preserve original features."

As a result of the Centre's advocacy of this approach it was called in by Historic



**Example of the clarity of the sound insulation details**

Scotland to work on a World Heritage Site in Edinburgh, where the owners were keen on conversion but Historic Scotland was not. The Centre tested the existing dwelling and found it complied with the requirements and there was no reason to lose the building's ornate cornices or beautiful old tiled floors.

A case study within the guide provides another example, where a conversion entailed sealing a large doorway from one side, which had become a common hallway, but leaving the door and architrave on the inside of the new flat to preserve the balance of the room – the full details make extremely useful

## CASE STUDIES TACKLED IN THE GUIDE

Investigating noise complaints	
Ash-deafened separating floor	Improvement to ash-deafened tenement floor undertaken at the same time as other work
Non-deafened tenement separating floor	Improvement to tenement floor using new secondary lowered ceiling
Solid block separating wall	Complaints about being able to hear speech, TV and general living noise from neighbours through a solid party wall in a block of flats
Inner leaf flanking at separating wall	Complaints about hearing all types of noise from neighbouring dwellings as a result of inner leaf being continuous between dwellings
Cavity block separating wall	Complaints about hearing speech, TV and general living noise from neighbouring dwellings through a cavity wall
Concrete separating floor	Complaints about impact (footstep) noise transmission to lower dwellings through concrete floor with existing timber floor
Flanking at concrete	Complaints about hearing all types of dwelling noise in separating floor lower flat due to inner leaf run past floor slab
In-situ concrete frame	Complaints about speech, TV and general living noise with blockwork infill
In-situ concrete floor	In-situ concrete floor and complaints about footstep noise
Timber separating floor	Complaints about sound transmission from upper dwelling through timber frame separating floor

reading.

The Centre has undertaken many interviews over the years when its staff have been taking sound measurements, asking people on either side of a flanking wall what they think of the sound insulation, giving gradings on a banded scale from 'excellent' to 'poor' – this has produced a criterion known as the 'occupant equivalent rating' (OER) that can be related to measured airborne sound insulation levels. On site, investigators also look at factors such as room use, whether the road is quiet or major and the level of background noise.

One observation carried through to the guide is that the responses must be seen as subjective. Room use, they found, was critical to the tone of feedback, and this and the other criteria were matched against the feedback to produce useful guidance. Bedrooms have higher priority in terms of requirements for quietness than living rooms, for instance, and these in turn have a higher priority than kitchens.

Smith cites another case study in the guide, in which two respondents on either side of a wall gave polar opposite views of the quality of the insulation, with one denouncing it as poor and the other extolling it as excellent. Further investigation revealed that one resident used the room against the party wall as a second bedroom, which was not used, but the other resident used the equivalent space in his dwelling as a living room and had installed built-in speakers in the party wall. Naturally he thought the insulation was excellent, but his neighbour knew otherwise. "Clearly you have got to discount the 'excellent' response," Smith notes.

Such examples provide valuable insight for property owners into the investigatory work needed to gain a true picture from residents' feedback. In tone, the guide is clear but precise, restraining technical detail to necessary terms. "We were worried that sometimes it might be too technical," Smith comments. "A lot of information was taken out – the document started at twice the length. Perhaps at times this was too technical and if we had gone into this detail we might lose the reader. Of course, there could be a volume two," he jokes.

The paper copy of the guide is modestly priced, which Smith feels is appropriate for a publication that has been part-funded by government bodies. "We are not receiving an income from it," he stresses. "We kept the price low so as many people as possible could get a copy."

● To obtain a copy of the guide, visit [www.arcamedia.co.uk](http://www.arcamedia.co.uk) where an electronic version can be downloaded or a paper version ordered.

## FREQUENTLY ASKED QUESTIONS ON NOISE REDUCTION

**Q** What methods are there for improving insulation of a separating wall against speech and general living noise?

**A** Prior to undertaking any work it is important to determine the sound is transmitting through the wall or via other structures, such as the external floor or ceiling. Examples of wall lining treatments are presented.

**Q** Our bedroom backs onto our neighbours' kitchen and we can hear their cupboard doors closing. The house construction is brick or blockwork. Can we insulate the wall on our side and will it make much difference?

**A** The best method of reducing this impact noise is to line the bedroom side of the wall with a resilient wall lining or independent wall lining, described in the guide.

**Q** We can hear low frequency "bass" music through our separating wall with the adjoining house. The volume is not loud and our neighbours are not being anti-social. We think it may be due to poor sound insulation or bad construction. What system would be best to try and reduce this noise?

**A** The primary method of reducing this noise is to use an independent lining. The greater the cavity the better the insulation and normally you should not use less than two layers of gypsum-based board for the linings (min 12kg/m<sup>2</sup>) each layer.

**Q** We can hear conversations through the separating wall. The building is high-rise concrete flats. Can we reduce this noise without making too many changes to the size of our room?

**A** If it is primarily conversations being heard, you may be able to use a mineral fibre backed board which is discussed in the guide.

**Q** I want a sound test carried out for the wall between my house and my neighbour as we want to improve the sound insulation. Where can I get information on what I need to do? Does the person doing the test need to get access to my neighbour's house?

**A** Access into the adjoining dwelling will be required. The guide describes what is involved for a sound insulation test and provides a guide for occupants preparing for a sound test.

**Q** We manage a wide range of dwelling types. Some of these dwellings seem to repeatedly be associated with noise complaints. How can we assess these for sound insulation? Do we need to measure all of the houses and walls?

**A** Providing the dwelling types to be tested are similar in construction you do not need to test all of the dwellings. Only a sample of tests will be required.

**Q** Our organisation manages several blocks of flats and we have received a number of complaints about footstep noise. How can we best reduce this without having to lower ceilings or disturb the occupants too much?

**A** The best way to reduce footstep noise (or impact noise) is to install a resilient layer directly onto the existing floor hard surface. If there is only thin carpet or vinyl tiles then installing a high performing bonded soft floor covering, typically 15mm thick will make a significant difference. Alternatively using a very shallow platform floor with a pre-bonded resilient layer will also improve performance markedly without raising floor levels significantly.

**Q** The flat above ours has hard floor finishes that may be laminate. Previously we could sometimes hear their television and conversations (airborne noise) but now we constantly hear them walking across the floor. The apartment block is a traditional tenement style. We can only provide remedial treatments to our ceiling or walls. Can we install ceilings that will reduce both the airborne and impact noise?

**A** Secondary ceilings can provide improved insulation for both airborne and impact sounds and these are discussed in the guide. Check to see if any sound is flanking down via the perimeter walls, and if so, these may also need treatment. Secondary ceilings will increase insulation but it may still be possible to hear some footstep noise.

**Q** We manage an apartment block and are considering upgrading the separating floors due to the number of complaints about footstep noise. Carpets are laid throughout the flats. For a test, do we need to test all floors and do we need to pull back the carpet?

**A** Only part of the floor decking under the carpet requires to be exposed. It is best to pull the carpet back (and any underlay) at a corner to allow easy refitting.

## SOUND BITES

### Annoying animals

Just as there's huge pressure to keep the noise down (indeed Noise Action Week looms), so it appears there are those not averse to deliberately making noise for use as an offensive weapon.

We're not talking about jobs with boom box stereos in cars – rather animal deterrents.

'Inaudible' ultrasonic mole devices are frequently very audible and not ultrasonic at all. Now we hear of a retail park in Fraserburgh that played 'distressed gull' noises over a loudspeaker to deter nesting seagulls. Unsurprisingly the sounds managed to annoy the neighbours more than the seagulls, and the device has been turned off.

Perhaps also classed as an 'animal deterrent', a security firm is doing roaring business with its Mosquito anti-thug deterrent. It looks like a burglar alarm, but when mounted in front of premises, it gives off a whine pitched just so that it annoys young people loitering outside.

The Mosquito trial in South Wales has been halted while the authorities work out whether there are human rights issues – presumably its perfectly fine for jobs to make excess noise – but not to be

subjected to the noise themselves.

We note with irony that last week Defra consulted on its *Amendments to the animal gatherings (England) order (AGO) 2004*. We suspect it's a coincidence.

### Middle England revolts

Perhaps inevitably middle England is not about to take the proposed expansion of airports sitting down.

If rural folks were not desperately happy at seeing new roads built, they are even less happy at having new runways built. The road protesting 'swampies' of the 1990s are being replaced by direct action runway protesters who will no doubt come up with eye-catching and imaginative ways to stall expansion at Stansted and other airports.

Already, six activists have been arrested for chaining themselves to BAA's head office at Heathrow.

A spokesman for the campaign group, Joss Garman, explained, "This morning we have opened up a new front in the fight. These arrests are merely the first in a direct action campaign we expect to become a cause célèbre for the environmental movement over forthcoming

months."

Interesting times ahead.

### Honking madness

At first sight (or should we say sound) the issue of train horn noise seems a bit of a storm in a teacup. Unless of course you live anywhere near a railway line.

The rail authorities have been indifferent to the plight of the complainants, simply citing safety as a non-negotiable catch-all excuse for ordering new trains with excessively-loud horns. Complainants are livid, horns have been perfectly adequate for the 1960's trains being phased out, why change them?

To add insult to injury, the rail authorities are now going to 'value' train horn noise. This exercise will no doubt be passed to some wet-behind-the-ears economist who will soberly ask lineside residents how much the noise bothers them, put some entirely arbitrary cost on that disturbance and then compare this to the value of the lives saved.

Quite how dead people will be polled to find out whether they would have survived had the horn been louder remains to be seen.

## NOISE EVENTS 2006

**April 25**

### WIND FARM NOISE

Institute of Acoustics meeting to be held at Stratford upon Avon. Contact Linda Canty, Institute of Acoustics, 01727 848195

**April 27-29th**

### PRINCIPLES OF ACOUSTICS

B&K course to be held in Stevenage, contact 01438 739006.

**May 22-26**

### NOISE ACTION WEEK

Series of events held across the week to highlight noise and environmental problems, coordinated by Mary Stevens, NSCA 01273 878770

**May 23rd**

### DEVELOPMENTS IN NOISE RESEARCH

Institute of Acoustics environmental noise group/Midlands Branch conference to be held at the Arden Hotel, Birmingham. Contact Linda Canty, Institute of Acoustics, 01727 848195

**June 4th-6th**

### TRANSPORT NOISE AND VIBRATION SYMPOSIUM

to be held in St Petersburg, Russia, [www.eiforum.org.uk](http://www.eiforum.org.uk)

**June 5th-7th**

### EURONOISE 2006

to be held in Tampere, Finland, [www.acoustics.hut.fi](http://www.acoustics.hut.fi)

**July 3rd-7th**

### ICSV13

13th International Congress on sound and vibration to be held in Vienna, <http://info.tuwien.ac.at/icsv13>

**September 18-20th**

### LOW FREQUENCY 2006

to be held in Bristol UK, [www.lowfrequency2006.org](http://www.lowfrequency2006.org)

## NOISE BULLETIN



Welcome to *Noise Bulletin*, a monthly newsletter covering noise pollution, its management and its consequences.

We welcome your comments and contributions and hope you enjoy reading it.

*Jack Pease*

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