

# NOISE

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BULLETIN

## NOISE REGULATIONS

# Regs laid – concern remains

Defra has laid regulations enacting the European Noise Directive.

The regulations formalise mapping work underway in England, and sets out how Defra will comply with future requirements of the directive – essentially action planning based on the findings from the mapping exercise and dissemination of the information to the public. The regulations came into force some 18 months after consultation closed.

The National Society for Clean Air has welcomed the publication of the regs – but hasn't welcomed the minimal role set out for local authorities in the process: "With the competent authority for mapping confirmed as the secretary of state removing ownership of the maps from local authorities, the potential practical application of the maps and associated data on noise exposure in noise management is severely undermined. This represents a lost opportunity to integrate action on noise into local and regional planning, transport and

environmental plans and strategies.

"Aviation continues to be treated as a special case, as in other areas of central Government policy. The competent authority for mapping noise and developing action plans for non-designated airports is the airport operator – not an elected local authority.

"Further, it states that action plans are to cover 'places near the airport'. The NSCA has little confidence that any action plans developed in relation to these noise sources will address the needs of people likely to be affected by aviation and

associated noise from airport operations. We are concerned that there is no mention of resources for the implementation of noise action plans or for the updating of noise maps and noise action plans."

NSCA fears that the plans will not lead to a "substantial reduction" in the number of people affected by noise by 2012 as proposed by the directive.

● *Environmental Noise (England) Regulations 2006* can be viewed on [www.defra.gov.uk/environment/noise/ambient.htm](http://www.defra.gov.uk/environment/noise/ambient.htm)

## NSCA raises licensing fears

NSCA has commented on proposed changes to apply the Noise Act to licensed premises (*Noise Bulletin July p1*).

It says it prefers a permitted level inside a habitable dwelling of 35dB (where the underlying level does not exceed 25 dB), and where the underlying level exceeds 25dB, 10 dB in excess of that underlying level (this level applying to dwellings).

NSCA is concerned that situations may arise where the offending noise is generated by part of a premises that is not licensed (eg the smoking area in a beer garden). In view of these concerns, more consideration of how this new power and guidance can be used in relation to existing nuisance legislation would be helpful.

● More details, see feature p4

## NOISE MAPPING

# Scotland makes a start on noise mapping

A team led by consultant Hamilton & McGregor has been chosen by the Scottish Executive to carry out provide noise mapping Services in Scotland.

The consortium includes transport consultancy MVA, ACCON and GEMsoft7.

Scotland is following England in producing noise maps to comply with the Environmental Noise Directive (END) (2002/49/EC).

Hamilton & McGregor will lead the noise modelling and analysis. MVA Consultancy will integrate the transportation data sets and spatial data layers in a GIS database, produce and

disseminate the noise maps in GIS format, and lead the development of the action plans for public consultation. GEMsoft7 will provide web based software for change management during the evaluation process and ACCON will facilitate bulk processing of the noise model.

Bernadette McKell of Hamilton McGregor told *Noise Bulletin* that the first round of mapping would focus on the Glasgow and Edinburgh agglomerations, major airports and transport links. Maps would be of a similar form and compatible with those being produced by Defra for England.

Monitoring would be discussed later.

McKell continued: "Local authorities and other stakeholders will be consulted in relation to the data used in the production of the maps. The maps when finalised will, as per the Environmental Noise Directive, be forwarded to the EU.

"We are delighted to have won the contract. Our firm, in conjunction with Jacobs Babcie, undertook research work for the Scottish Executive on mapping – before that I project managed early research work while at Casella Stanger – so it is good to actually do the work."

## IN BRIEF

### Consultants win EHO debate

Consultants meet the needs of local authorities, an Institute of Acoustics Central Branch debate concluded in Stevenage last month.

Consultants and local authorities joined together to debate the motion "This house believes that noise consultants routinely produce reports that satisfy the needs and expectations of environmental health officers." The debate was carried – but not without some argument.

Nigel Cogger of English Cogger proposed the motion. He criticised 'BANANA' authorities (Ban Any Noise Anywhere Near Anyone) saying that conditions could be used to avoid conflict. And he said that many UDPs were too vague – consultants needed detailed policy guidance to work with: "Consultants can take a constructive view of guidance while environmental health officers can take a dogmatic 'my mind is made up – don't confuse me with facts' view."

Andrew Godman of North Herts District Council was on hand to defend environmental health officers and opposed the motion.

He said that it was not local authority officers that made decisions – rather members often with no technical expertise: "Consultant's reports need to be able to explain their rational and be understandable by lay members."

Iain Campbell of Campbell Associates sided with the environmental health professionals and said local authorities needed to challenge consultants: "It is the duty of the EHO to test and push consultants to drive down noise."

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**IN BRIEF**

**DIY wind power**

DIY retailer B&Q is now selling domestic wind turbines in its stores.

For £1,498 including installation, shoppers can buy a Windsave 1kw system. Planning authorities have been told by Government that such installations should be classed as permitted development without the need for planning permission (*Noise Bulletin July p3*).

Windsave says: "There is a degree of noise caused by wind-rush on the structure and by the blade tips cutting through the air. Customer feed back is positive, the sound often being described as a swishing sound."

Typical noise levels (Windsave's own figures) measured when free spinning (the loudest noise potential) are LA<sub>eq</sub> 33dB 5m behind blades gusting to 5m/s /12mph, rising to 52dB at 7m/s/16mph winds.

● [www.windsave.com](http://www.windsave.com).

**Home turbine agreed**

The Royal Borough of Windsor and Maidenhead has dismissed noise objections to a domestic wind turbine at a house in the borough. It approved the application – the first in the borough – saying it would neither be an eyesore nor too noisy. But it did condition its approval: "Noise levels on all boundaries of the site shall not as a result of this development exceed ISO noise rating 35 (about 40-45dBA)."

**Good neighbours**

The DCLG (former ODPM) has set out how good neighbour agreements can be used to help cut anti social behaviour and noise.

Good neighbour agreements cover issues such as noise nuisance to drug dealing, prostitution, and violence. Although complaints about nuisance behaviour tended to increase with the introduction of good neighbour agreements, this reflected tenants and residents' increased expectations.

● *Using good neighbour agreements* [www.communities.gov.uk/embedded\\_object.asp?id=1502189](http://www.communities.gov.uk/embedded_object.asp?id=1502189)

**JACK PEASE REPORTS FROM LOW FREQUENCY 2006 HELD IN BRISTOL**

**Turbine disease link refuted**

Wind turbines are unlikely to cause vibro acoustic disease as claimed by some objectors, last month's *Low Frequency 2006* international conference held in Bristol was told.

Malcolm Hayes of wind turbine noise specialist Hayes McKenzie told the conference that a reworking of data gathered for the recent DTI study (*Noise Bulletin Aug/Sept p1*) showed that noise levels were simply too low to generate vibro acoustic disease. This 'whole body' disease can be caused by excessive exposure to low frequency noise over long periods.

Hayes said that levels found

in UK homes in the DTI study were well below the thresholds that are considered to cause the disease. Some members of the audience questioned whether vibro acoustic diseases was a real impact at all.

Also emerging from the same study was an attempt to measure the additional annoyance of the fluctuating sound that emanates from a turbine, often wrongly considered to be infrasound.

Andy Moorhouse of Salford University carried out lab tests on 18 subjects (including some low frequency noise sufferers) who were presented with samples of low frequency noise.

Based on their findings, it was found appropriate to include a 5dB penalty for fluctuations.

"In addition a sound should only be considered fluctuating when the rate of change of the fast sound level in the third octave band of interest exceeds 10db per sec."

Moorhouse also reported results from work for Defra on investigating low frequency noise. He said that while it may prove controversial, the typical sufferer was of an older age (above 55), mostly female, had a quiet house (apart from the low frequency noise) and was financially well off.

**Quiet means more low frequency nuisance**

Reducing ambient sound may prompt more people to be disturbed by low frequency noise, the Bristol conference was told.

Piet Sloven of the Dutch Environment Ministry told delegates at the *Low Frequency 2006* conference of modelling carried out of the impact of noise policy using some 1,000 simulations.

110 different sound sources were modelled in nine different situations at distances of 25m, 100m and 400m on three different types of houses. He said: "The simulation was found to replicate real life very well. But a key conclusion is that

attempts to reduce general noise levels will worsen the impact of low frequency noise." Higher frequency background noise levels – such as traffic – tend to mask more annoying low frequency noise.

"The situation will worsen by pressures to build densely packed housing in noisy areas using insulation to keep background noise to an acceptable level. The insulation will cut out a lot of urban noise but do nothing to reduce low frequency noise." He added that doubling the separation distance between a noise source and dwellings will double the relative amount of low

frequency noise experienced in the dwelling.

David Waddington of Salford University said "We need somewhere to refer low frequency noise sufferers that are quite normally hearing sounds at very low levels."

And Dutch noise expert Frits van den Berg added from the floor: "In controlled tests normal people hear something in absolutely quiet rooms. We should promote this when dealing with low frequency noise sufferers."

"And perhaps we should see to it that there is more sound in the environment rather than making it quiet."

**Purring: low frequency noise is good for you?**

US research presented to the *Low Frequency 2006* conference suggests that low frequency noise has significant healing properties.

Elizabeth Muggenthaler explained that members of the cat family use purring as a means of increasing healing. Despite the size difference between species such as domestic cats and cheetahs – they purr at remarkably similar frequencies (25hz is the dominant frequency) both when content and when in severe stress. "There is an expression among vets 'if you put a cat and a sack of broken bones in the same room, the bones will

heal". Cat bones heal remarkably fast. "It can be shown that the vibrations have a therapeutic effect and arthritis is unusual in cats – except in the tail where the vibrations can't reach.

"An accelerometer measured the strength of domestic cat purrs on various portions of the body. Purr frequencies of all cats recorded corresponded exactly or within +/-2 hertz of

frequencies used in treatment for bone growth/fractures, pain, edema, muscle growth/strain, tendon strength/strain, joint flexibility, dyspnea, and wounds," she added.

"There is ample evidence to suggest that low frequencies are therapeutic. These frequencies facilitate bone growth and fracture healing, pain relief, tendon and muscle strength/repair, and joint mobility."

Low frequency expert Geoff Leventhall added from the floor that infrasonic generators are used to improve healing, particularly on horses to help mend joints.

**Proceedings**

Proceedings from the Low Frequency 2006 conference are available from organiser @lowfrequency2006.org

NEWS FROM THE UKNA *WITHIN THESE WALLS* CONFERENCE IN EDINBURGH**MEP criticises noise inaction**

MEP Brian Adam criticised noise policy at the opening of the UK Noise Association's *Within these walls* conference on sound insulation held at Napier University last month.

Adam said that poor sound insulation affected 2.5m people – with 93% of social housing tenants reportedly annoyed by noise: "I am disappointed at the lack of effective government action to deal with the problem. There is no comprehensive plan either by the Scottish Executive or Westminster to tackle poor sound insulation.

"It is my view that noise annoyance should be regarded as a housing management issue. We need enforcement against bad behaviour within public sector housing to have more teeth. Why not grant Asbo powers to registered social landlords given courts are extremely reluctant to grant eviction notices for anything other than rent arrears?"

Building insulation researcher Robert Hanson reiterated his call for better sound insulation: "The building industry only builds to

minimum standards. Robust Standard Details are a step forward but represent only the same standard as was the case in 1985. He proposed a star rating system for noise so that home buyers had the option of paying more for homes with better sound insulation. "Only with transparent sound insulation ratings would standards rise above minimum," he said.

UCL Bartlett School researcher Alina Congreve said how sustainably-built homes could improve thermal insulation, use green materials as well as improve sound performance. She demonstrated wall and floor insulation products made from natural and recycled materials that performed far better than conventional products such as mineral wool.

Iain Fairnington of insulation maker The Proctor Group agreed: "The industry builds to minimum standards. When a developer talks about a luxury home they mean one with a corner bath and gold taps – not one with better plasterboard to cut down on noise."

He criticised the Ecopoints system that attempts to score homes depending on how green they are: "Points for extra sound insulation are optional – extra points are awarded for a 5dBA improvement in sound insulation but it is far easier to get the same number of points by putting up a few bat boxes or locating homes near a bus service or post box that are already there.

Wilson Shaw of BCA Insulation reported on a pilot project carried out for the Maryhill Housing Association. A survey of 970 flats showed that 70% of the tenants were dissatisfied and that the cost of dealing with disputes could run to thousands of pounds.

BCA operates a noise insulation service – homeowners or housing associations commission BCA to insulate walls and floors where there are complaints. A wall might cost £500 to treat – and a wall and floor £1200. BCA's whole-flat pilot at Bilsland Drive cost up to £10,000 – but tests showed a 9dBA improvement in noise transmission.

**Ashton counts true cost of housing noise**

Ron Ashton manages houses for Angus Council and told the UKNA conference: "Noise is the big one for us making up to 76% of complaints. Arbitration and mediation hasn't worked at all, costing £800 per case with a 35% success rate and taking a long time.

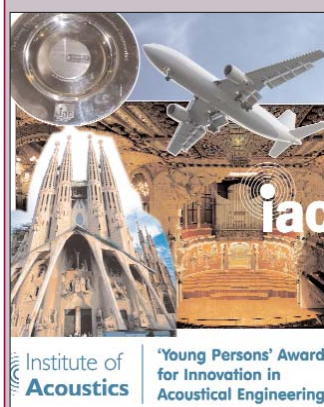
"Noise costs us a lot of money by the time you count the hidden costs of neighbour disputes that can quickly turn into community disputes. Going to court costs on average £2,400 – sometimes as much as £8,000. It takes 28 weeks to get an asbo – so if the complaint is about a New Year party – it is summer before the council can act. There must be a better way."

He reported that once a noise problem had developed, many tenants didn't want sound insulation – they just wanted to be rehoused – sometimes telling the court that they had made themselves intentionally homeless because they could not reasonably be expected to occupy the noisy property.

He also reported on a study with the Arbroath health authority looking at one street with a particularly bad problem with noise and antisocial behaviour. The council took action on sound insulation and community protection and in the six months following the action, visits to doctors reduced, medical prescription rates reduced and there were fewer

calls to the police. "We need resources to do more work like this to be able to spend money to save money."

He also criticised the Scottish Executive for missing the opportunity with the Scottish Housing Quality Strategy: "Environmental issues were taken out of this strategy and it will be difficult to change this now."

**Call for young persons nominations**

The Institute of Acoustics is inviting nominations for the second round of its 'Young Persons' Award for Innovation in Acoustical Engineering'. The biennial prize is sponsored by IAC and the closing date is 30 March 2007. Judges will be looking for entries that are: innovative and inventive; feasible and practicable; money-saving; green; end-user friendly; time-saving and that are improvements to existing processes.

● [www.ioa.org/medals.asp](http://www.ioa.org/medals.asp)

**IN BRIEF****RSD progress**

Robust Standard Details Ltd says 97% of new homes it tests pass or exceed new Part E sound insulation requirements.

In its 2006 annual report, it lists common reasons for failure:

- Flanking constructions are not built properly;
- Robust details used inappropriately in conversions;
- Non robust details.

It has also announced it is scrapping its detail on screeded precast concrete plank separating floors as too many are built badly. RSD has produced an animated cartoon and quizzes showing how the mistakes are made.

● [www.robustdetails.com](http://www.robustdetails.com)

**Colchester's first Asbo**

Colchester Borough Council has secured its first Asbo based on noise.

The Crasbo (criminal Asbo) was granted by Witham Magistrates Court to control the behaviour of Gemma Morris of Colchester.

The post conviction ASBO was applied for following the successful prosecution for breaches of a noise abatement notice and lasts for a period of five years.

**Transport assessment**

DfT is consulting on new transport assessment guidance for developers.

Developers must produce transport assessments (or transport statements for minor developments) that set out the environmental and other impacts of the development (including noise and air quality impacts).

● *Guidance on transport assessment* can be seen on [www.dft.gov.uk/stellent/groups/dft\\_roads/documents/page/dft\\_roads\\_612257.pdf](http://www.dft.gov.uk/stellent/groups/dft_roads/documents/page/dft_roads_612257.pdf)

**IoA spring call**

IoA's spring conference will focus on the up and coming Olympics in 2012 and other related issues and it is calling for papers on topics including sustainability, venues/facades, transport, modular construction, urban regeneration, update on schools & BB101, and sound insulation

● [www.ioa.org](http://www.ioa.org)

# Noise act licensing changes probed

Will English and Welsh local authorities embrace their new powers to issue licensed premises with fixed penalty notices under the Noise Act? Lisa Russell listened to an Institute of Acoustics discussion on the new system.

Amendments to Noise Act came into force this month, giving local authorities a straightforward and rapidly-applied tool for dealing with excessive night time noise from licensed premises. A £500 fixed penalty notice (FPN) can now be issued when specified noise levels are exceeded, as was already the case (though rarely applied) for noise from dwellings.

"If the Noise Act is going to be used, it's got to offer something special to local authorities over and above the powers they've got already," said Bristol City Council pollution control manager Tim Clarke. It sits alongside existing powers, rather than replacing them (see box below). He was giving a paper at a meeting held last month to discuss the Institute of Acoustics' response to Defra's consultation on the changes and accompanying guidance. He outlined some benefits of the Act. "The

immediate penalty – or threat of it – may be a deterrent," he said. And the use of an objective measure means that there is no need to prove a nuisance – the situation either does, or does not, merit a penalty. Furthermore, money raised from FPNs can be retained and used by the local authority for specified purposes.

"In my view it will be a very effective short, sharp, shock treatment. It will work and it is a very useful additional weapon to bring about some peace of mind," said Lionel Fynn of solicitors Horsey Lightly Fynn.

But what exactly constitutes the licensed premises is not as obvious as might be supposed, Clarke and Fynn both warned in their presentations.

The Act applies only to the exact areas covered by the licence or a temporary events notice. Applicants have to submit an

operating schedule, which has to include a plan delineating the extent of the premises subject to the licence. If the garden isn't covered by the licence, it won't be covered by the Noise Act, said Clarke, unless a temporary events licence has been obtained for the function taking place.

Premises licences and temporary event notices are granted under the Licensing Act 2003. The Noise Act only covers premises which are licensed under the Licensing Act, stressed Fynn. "I would observe that this is quite a big limitation." Nevertheless, it has the potential to catch a lot of offenders, he felt. "It is going to be necessary to look at the licensed premises plan and to make sure that the area being complained about is the area that is in the licence," he said. If it is wanted to bring other areas within the Noise Act then "it seems to me that there'll have to be an amendment to the Act because they

## HOW THE NEW POWERS SIT ALONGSIDE OTHERS

Before this month's change, the Noise Act 1996 could only be used to deal with night-time noise from dwellings. It is in addition to existing powers using the statutory nuisance regime under Part III of the Environmental Protection Act 1990.

This permitted level of noise only applies for the purposes of the Noise Act 1996 – it has no bearing on any other legislation. Local authorities are not obliged to use it – they can decide whether to use their powers under the Act should a complaint be made between 11pm to 7am. Defra summed this up in introducing the consultation: "The Noise Act 1996 is a power which local authorities have complete discretion on when to use. There will be instances when local authorities consider it inappropriate to use the Noise Act 1996 even when they suspect that noise complained of is exceeding the permitted level, and may instead decide to use other powers such as those contained in Part III of the Environmental Protection Act 1990 or Part 6 of the Anti-social Behaviour Act 2003."

Abatement notices for statutory nuisance are often issued without any prior consultation or warning, said solicitor Lionel Fynn. The recipient has neither time nor opportunity to instruct a noise consultant and take comparative measurements. Appeals must be undertaken within 21 days. However, Fynn pointed out that the relevant time for consideration of whether there was a noise nuisance or not is now the time when the abatement notice was served, rather than the date of the court hearing – as it used to be.

This arose from the case of *SFI v Gosport Borough Council* 1999. There is no point appealing unless to say that the circumstances giving rise to the notice did not amount to a nuisance at the time it was issued, explained Fynn. There is no formal procedure for withdrawing of an abatement notice once it has become effective and it can be registered a land charge against the deeds of the property, said Fynn. "Apart from being an obvious blight which can affect resale values, it also means that a breach at any time can lead to further immediate criminal proceedings."

Fynn pointed out that a new provision in the Environmental Protection Act 1990 is an amendment which gives local authorities power to defer serving an abatement notice, even if they think that a statutory nuisance exists, for up to seven

days. "During this period it can take such steps as it thinks appropriate in order to achieve an abatement of the nuisance or to prevent its recurrence," he said. "One of the appropriate steps could be to use the power of the Noise Act 1996 for night noise."

The Licensing Act gives senior police officers the power to make a closure order where a public nuisance is being caused by noise emitted from the premises. The closure can be made to last up to 24 hours. Similar powers are available to the chief executives of local authorities under the Anti-Social Behaviour Act 2003.

Breaches of the conditions on the premises licence are very expensive, pointed out Fynn, with a potential loss of the licence and a £20,000 fine. Owners should be advised to consider very carefully whether to accept the conditions being proposed by the licensing authority, particularly on inaudibility matters. He talked about the IoA's *Good practice guide's* use of inaudibility criteria and said that it was being avidly applied by local authorities and adopted as their own criteria. "You can see why – if you've got an inaudibility test you don't have to send expensive EHOs out with noise measuring equipment – you can just say "I heard it" and the courts usually accept that."

Complaints about pubs often arise from noise on the streets, which tends to be dismissed by the owners as not being their problem. However, there are three ways in which complaints can be pursued, says Fynn. The common law case of *Halsey v Esso Petroleum* 1961 involved a neighbour to an Esso oil depot being successful in establishing a private nuisance by noise from equipment and tankers in the depot and public nuisance from the concentration of petrol tankers outside his property.

Breaches of the Road Traffic Act can be used to deal with issues such as horns on a restricted road at night.

Until the case of *Lidster v Owen* 1983 it was thought that if there was no complaint about the running of premises and the behaviour of patrons within the premises, then objections to the licence were not sustainable. This case changed that approach by holding that the occurrence of public disorder in the neighbourhood from patrons after they had left the premises was a material factor that could be taken into account in connection with the future existence of the licence.

## SUPPORTING RESEARCH TO JUSTIFY THE SINGLE NUMBER

simply won't be covered."

This restriction also means that the Noise Act cannot be used if there is a licensable activity which for some reason didn't obtain a licence, Clarke pointed out. Keeping track of the licensed areas could be a major task, he added, as different council departments are involved. "Noise control services operating at night will probably need access to a database of all premises licences and what parts of the premises it relates to," he said. Anti-smoking legislation could increase the problem, with more people driven outdoors.

These new powers stem from the Noise Act 1996 being amended under the Clean Neighbourhoods & Environment Act 2005. The amendment came into force on 1 October. The permitted level has been set in Directions under the Noise Act, following consultation. Under the new regime, licensed premises will be subjected to the same noise levels as for the existing offence for domestic dwellings. This means that the permitted level of noise which may be emitted during night hours shall be:

- Where the underlying level of noise does not exceed 25 dB, 35 dB;
- Where the underlying level of noise exceeds 25 dB, 10 dB in excess of that underlying level of noise."

At the same time, Defra has revised the directions for dwellings to improve readability, although the permitted level remains the same. The offence under the Noise Act can now be used in situations where an outbreak of noise from either dwellings or licensed premises occurs between 11pm and 7am and exceeds the permitted level, as measured from within the dwelling of the complainant following service of a warning notice.

Defra's consultation had covered the draft guidance and proposals for the permitted levels for noise from licensed premises between 11pm and 7am. "We postponed the commencement date to 1 October to enable us to have sufficient time to carry out a search into decibel levels for licensed premises," Defra's Jonathan Lartice told the IoA meeting. Defra hadn't been certain that the level for dwellings would prove suitable. Consultees were asked about the merits of subjecting licensed premises to the existing level used for dwellings, or using a new absolute level of 35dB measured inside a habitable room at night with windows closed.

Three further options had also considered. One involved a variation in the suggested absolute level, using a value between 34dB and 37dB based on research carried out for Defra. The other two options would have involved changing the levels for offending dwellings to match whatever absolute value had been picked for licensed

The scope of the research covered entertainment noise – amplified music, singing or speech broadcast from within the premises – occurring after 2300 hours, explained Vanguardia Consulting's Jim Griffiths. The research determined sound levels that were definitely unacceptable, and the aim was for it to be relatively easy to enforce. Laboratory and field testing was carried out to determine people's reactions to different levels of noise. The experiments took place in a realistic setting using two houses (*Noise Bulletin June P1*).

Several measurement methods correlated well with subjective responses and two of these formed the basis of the Defra consultation. The third involved taking a background reading with the noise turned off, but this was felt to be too impractical.

For an absolute LA<sub>eq</sub>, results showed that a value between 34dB to 37dB was generally regarded by test subjects as "just unacceptable". The Defra consultation therefore canvassed views on which level in this range should be picked if an absolute approach were adopted.

The other approach explored in the consultation – and the chosen method – uses the existing methodology whereby the background is assessed during lulls in the music. This avoids the need for a reading with the noise turned off.

premises.

The option for a 35dB absolute level would have meant that the permitted level for licensed premises was exceeded when the noise level inside a habitable room at night with windows closed was at or above 35dB measured as an A-weighted five minute equivalent continuous sound pressure level, denoted as 35 dB LA<sub>eq</sub>, 5min (*Noise Bulletin June p1*).

The IoA meeting in Birmingham discussed the draft guidance and the proposed levels, with speakers setting the scene before an open discussion was held to frame the Institute's response.

Meeting chairman Nigel Cogger of the English Cogger Partnership felt that the guidance on the legislation was reasonably clear, though members also sought improvements to clarify some issues such as whether more than one notice could be served in a single night.

The audience was divided on the central question of whether to use relative or absolute readings to determine the level that triggers an offence. A clear – though by no means overwhelming – majority favoured the approach already used for dwellings, which takes account of background levels. Seventeen voted for this, while 10 preferred the suggestion for an absolute level.

One issue that concerned people was the need to be able to back up their professional judgement if challenged. Use of an absolute level with no background readings might lead to appeals on the grounds that the noise was not proved to be coming from the premises concerned, felt some. However, it was pointed out that there was nothing to prevent the measurement of the underlying level even if an absolute level had been set.

The general view was that the criteria should be the same as for the domestic offence – though someone commented that there was a danger in this. It has been little used, though is now easier to apply as local authorities no longer need to adopt it in order to use it. Fynn pointed out that the local authority team might simply go home at 5pm and not make any provision for the receipt of late night complaints. "It has to be admitted that in that area the Noise Act is a bit of a damp squib."

Clarke also highlighted some other

concerns. A report published by Defra in July reviewed the use of noise abatement notices served under section 80 of the EPA 1990 and also discussed concerns with the Noise Act.

Debate among delegates showed that there was some confusion about whether the new powers under the Noise Act could be applied to regular events, given that the underpinning research was carried out on the basis of people's reactions to infrequent ones. A lesser level would cause annoyance if the noise were occurring every night, pointed out one.

The answer was that it can be used in any circumstances where the level is breached. "In the research it was stated that the Noise Act was for infrequent events," said Lartice. But, he said, the subjects of the research were not told this, and it hasn't affected the findings. This is an alternative power for local authorities, he stressed. "We're not saying when it should be used and what counts as infrequent noise. It is for local authorities to decide if it would be appropriate to use the Noise Act."

Cogger felt that it is intended to deal with the "really serious events where you need to have a quick solution". The noise would be such that there would be unlikely to be an argument that it was intrusive.

Delegates were also concerned that there may be some pressure to meet quotas as the fines are retained by the local authorities. Some could envisage officers hanging around for hours taking successive readings, in the hope of finding one over the limit.

There were some concerns for both complaints and licencees about the need measurement having to be taken in the complainant's premises. Measuring in the complainant's premises has long had some support, Fynn recalled, although the courts have not always been consistent. It was important to stress in the guidance that complainants should not be identified, believed several delegates.

"It would be fairer to the noise maker to measure at his location," said Fynn. "It is very difficult for the noise maker to challenge the notice, as he is not going to be in the bedroom, has only just received the warning and has no acoustic consultant available."

# Helicopter noise worsens over London

As the London Assembly prepares to release its report on helicopter noise in London, Lis Stedman finds that helicopter operations in London are less regulated than might be imagined, making noise control more difficult

The London Assembly environment committee inquiry into helicopter movements over the capital provoked an intense debate. Its report, due out on 16 October, is awaited with considerable interest both by the flying and noise fraternities and aggrieved residents.

The inquiry set out to look at what impact the increase in helicopter traffic has had and what is being done to address this, to see whether helicopter traffic management and routing could be improved, to establish typical noise performance, find what types of helicopters are being flown over London, and look at the effectiveness of the three strategies on helicopter noise in the Mayor's noise strategy. Its findings on this latter issue will also feed into the government's consultation on the national noise strategy due later this year.

The key messages from the inquiry, overwhelmingly, were about a lack of information and coordination. There is also a lack of regulation – essentially, the same standards set by the then Greater London Council for performance of helicopters around London, set in the late 1980s, remain the latest guidance.

In London there are particular problems – there are rules about minimum separation, both between helicopters and fixed-wing craft on the Heathrow flight path and between helicopters and structures (generally 200ft, but varying depending on where the craft are within the air traffic control zone) – but these minima are not always adhered to for various reasons.

The main problem is that there are an increasing number of fixed-wing flights from Heathrow and City Airport, and as more planes go into Heathrow they have to join the flight path further east, forcing City Airport flights lower, with a knock-on effect on helicopters.

Over the City of London all helicopters except police and those with special permission have to stay at 1500ft; at Sunbury the ceiling is 800ft and at Stanwell heli flights 'are often pushed' down to 500ft, so the (for instance) police think very carefully about overflying especially at night.

The Weston London heliport at Battersea has also become a focus for complaints as it has grown busier and expensive housing has been built near it – it is now the only public helicopter landing site in London. Helicopter flights by Government and MoD representatives, which are exempt from normal quotas, have mushroomed in a way that the GLC could never have envisaged.

Battersea is also hugely busy during major events, when corporate hospitality

organisations will ferry dozens of customers to and from such occasions as the Derby and the Silverstone Grand Prix. Indeed, complaints from neighbours emphasise the irregular number of flights as a real source of disgruntlement – on some days there may be just 10 movements, on others 100.

There are various general problems in the wider London area – single-engine aircraft, for safety reasons, have to fly down a set corridor, essentially over the Thames in case they suffer engine failure. However, many old riverside warehouses are now trendy and expensive apartments and there has been an increase in the number of twin engine helicopters. These aren't restricted to the 'safe' Thames route, meaning they are able to overfly whole new areas of the city.

The London Borough of Wandsworth, which gave evidence to the London Assembly inquiry, undertook a residents survey that showed far more people were annoyed by noise from the Battersea heliport than had been previously thought.

Main findings included the discovery that riverside residents were annoyed by noise at levels far lower than those in current government planning guidance. There was also frustration at the lack of information available in the public domain about helicopter-related issues such as flight paths, takeoff and landing profiles, and concerns about daily variations in numbers and routings as well as times of day.

Wandsworth environmental health officer Colin Stanbury, who gave evidence at the inquiry, says the event was "very helpful and useful". Although the representatives of the Battersea heliport were unable to attend, they were supportive, he says, and in the short time since then have agreed with Wandsworth to set up a local consultative committee.

This move came ahead of a very recent decision by the DfT to encompass the heliport within Section 35 of the Civil Aviation Act, which means that the site would in any case have to set up such an oversight organisation, along the lines of the existing Heathrow consultative committee.

Stanbury notes: "One of the most interesting things we learned was that the technology for quieter helicopters is not feeding through because the current tax regime does not provide any benefits at all to buy new – it's better to maintain older ones. The system doesn't offer helicopter operators the opportunity to write them down as you would with other plant and machinery."

This means that newer, quieter craft are not being adopted. "We were very surprised to hear it – it's bizarre," Stanbury says. One

of the possible inquiry outcomes, he adds, could be the go-ahead for a second heliport in East London, serving the 2012 Olympics.

Wandsworth certainly doesn't want to force the closure of Battersea, he stresses. "We accept that the heliport is there – what we don't want to see happen and I'm sure we would resist is any expansion of traffic."

Flight height is a problem, he agrees: "Helicopters try to keep to the river route as far as Barnes, but there are real problems in doing that – that stretch of river is directly under the Heathrow flight path so there are real reasons why they fly as low as they do."

Stanbury concludes: "One of the things that is clear is that the helicopter industry has regulated itself. I am sure it is very responsible, but it has not been subject to any third party audit or regulation in terms of being a good neighbour."

Outside the current London focus, helicopter noise is still very much a hot topic. Darran Humpheson, technical director of consultant RPS Environment, says that helicopter noise is particularly annoying during hovering: "It's a low frequency noise, very repetitive, throbbing. If there's a police helicopter overhead at night, no matter how good your sound insulation is, you will always hear it, and they can stay in one spot for five to ten minutes. It's very noticeable – people tune into it very quickly."

Humpheson feels that helicopters should be treated differently to fixed-wing aircraft, having separate movement criteria possibly based not on decibel levels but on frequency and the characteristics of the noise.

There are low-noise helicopters, he points out, such as the MD 900 and some Eurocopters that have quieter configurations of rotor blades and no or shrouded tail rotors (Fenestrans), but again points out there are no incentives to push their use, although the police (not wanting suspects to hear them hovering) and air ambulances tend to use quieter craft.

Helicopter noise expert Ray Browne of consultants Qinetiq, which has undertaken a great deal of research on military helicopter noise, stresses the complexity of the noise – work that the consultancy has put to good use by developing a model that takes most of the variables into account.

He says: "The main noise is made by the blades of the main and tail rotors moving through the air. The main blades generate a whole series of tonal noises and harmonics, that start at a fairly low frequency and have a lot of energy at the low end. This is below hearing but it causes vibration in houses,

and it can be these secondary effects that people object to.”

Tail rotor noise often annoys as it has higher frequency components, which is why many smaller helicopters have moved to using Fenestrans or fans. However, there is a size cut-off point, because the tail rotor’s function is to offset the torque of the craft – a large helicopter without a tail rotor, or with a shrouded one, would spin round and round. “You have an engineering limit where you can’t get enough counteracting force,” he notes.

The noise made also varies considerably depending on which side of the craft the listener is on (rotor blades on the side advancing into the air flow are noisier); whether they are upwind or downwind; how heavy the craft is; whether it is hovering (which is noisier); the airframe itself; meteorological effects; buildings; speed; handling (smooth is better); topography and terrain (for instance, grass absorbs noise, tarmac and water reflect it). Modelling as many of these factors as possible – as Qinetiq’s tool does – can enable airports and helicopters to work out the best routes whatever the meteorological conditions.

On the ground, however, there is still much annoyance. The CAA recently consulted on changes to some designated routes and has generated a considerable amount of research and policy documents relating to helicopter and general aviation noise.

David Butcher, of the CAA’s complaints section, says: “We get complaints from all over the country and helicopters feature quite largely, whether from private sites or on regular routes.”

The main problem is with helicopters flying from private sites, he explains. “If someone flies a helicopter from private land as they are entitled to do, people phone and say ‘aren’t there any rules?’ And there aren’t, unless there are planning

constraints.”

These would kick in if, for instance, the helicopter was being flown from a field adjoining the property that owned the helicopter, where it could be argued there was a change of use. However, if the flights originate from within the grounds of the property, there is nothing that can be done. Butcher explains: “It is part of the normal domestic use of the site, like taking a car up a driveway. There are no restrictions, any more than there are on a car.”

The CAA has just begun to catalogue helicopter-related complaints in various categories related to activities – one for helicopters from private sites, another for London helicopter routes, one for police helicopters and a general one, but as this only went live a couple of months ago it is too early to give meaningful information, Butcher says.

However, Butcher observes that police helicopters excite people “particularly in the early hours, if they are not aware it is a police helicopter, they will complain if it is hovering over their house for a prolonged time – 99% of the time these turn out to be police tasked with a particular activity, and that will show up in our statistics”.

The CAA database will not be definitive, Butcher warns, as some complaints will go to the DfT, others to particular airports or – for private flights – to the person concerned. “It’s a complex subject,” he concludes. “Noise from helicopters is particularly intrusive because they fly at a low level and it’s not just the engine but also the rotor blades.”

The police point out they are not flying for the fun of it – their operations are usually in response to emergencies and they tend to avoid routine surveillance flights (that involve stationery hovering to monitor suspects) late at night.

The police are re-equipping their fleet, noise was an issue in purchasing, but the quietest copter was not big enough to carry all the gear. They say there is one twin-engined helicopter with a fan, the McDonnell-Douglas MD902, and that there are around six used by police forces across the country, but they have not been more widely taken up because police forces have had difficulties keeping them running. “Of course, the police need twin-engined craft in London so they are not restricted to the Thames corridor. Surrey police use the new MD135 which has an enclosed tail rotor and is

therefore quieter.

The police continued: “We don’t like taking complaints but I really understand why they are complaining – however, we save lives. The police say that “nine out of ten” calls to the division are asking about why the helicopters are flying, not complaints about noise. “Each one of us is noise conscious and we do try not to upset anyone by flying as high as possible.”

The MoD has had a number of high-profile run-ins with the public over low-flying helicopters, notably being blamed in 2003 for the death of a rider, Heather Bell, in Lincolnshire, whose horse was spooked by the noise from an Apache attack helicopter on a low-flying exercise. Following this, the MoD pledged to ensure helicopters did not fly below 30m, although subsequent reports from eyewitnesses allege they have been flying as low as 10m. On land where they have permission military helicopters can hover as low as hedge height, with flight levels determined only by considerations such as power lines.

The MoD has done some work on public perception, notably when setting up the Defence Helicopter Flying School at RAF Shawbury, undertaking a survey of local residents to work out how to define noise impact, correlating the findings with noise levels and giving a weighting to low frequency noise.

Wing Commander Trevor Field says: “We’ve done quite a lot in terms of minimising the impact of helicopter noise and noise from other aircraft – we’ve done work with Qinetiq and Defence Estates, who have had teams do scientifically-tested noise footprints around bases.”

MoD’s rules allow helicopters to work down to the ground in the 25% of the UK where they have permission to do so – MoD land and other rural areas. He notes: “Pilots must be familiar with flying at that level. We do an enormous amount of flying in trainers but there is nothing like reality – trees, wind shear, power cables – the only way to be comfortable is by doing it. But we do monitor it very closely.”

He confirms the problems with horse riders. “It’s been a big issue for us. We’ve done a major review.” He adds: “We are working a lot with the horse community in particular, spending a lot of money with them ensuring riders have hi-visibility vests and horse coats – these can alert a pilot to a person on a horse much sooner.”

It is to be hoped that the London inquiry will provide some clarity, and perhaps guidance that the rest of the country will be able to adopt or adapt. Much is expected; it remains to be seen whether much of use is produced.



**External tail rotor design can worsen higher frequencies**

## Now you hear it, now you can't

Call it junk science if you will, but it was an impressive demonstration of the benefits of 'green' materials at UKNA's *Within these walls* conference on sound insulation.

UCL researcher Alina Congreve was there demonstrating green materials based on recycled rubber, coco fibres or cardboard. To prove the point, she turned on a battery powered cassette player blaring out a dreadful noise – and encased it in traditional polystyrene. It was still noisy.

But encased in Homatherm board made with recycled newspaper and jute – the noise virtually disappeared. Green and quiet!

At the same conference Angus's Rob Ashton talked very eloquently about the trials and tribulations for a council trying to keep a lid on noise problems.

But he made the observation that given the increasingly noisy lifestyle of those in their 20s and 30s with iPods and loud music – neighbourhood noise problems will go away of their own accord: "We are all going to be so deaf that no one will notice nuisance noise."

Hey – shush – that's a sort of do-nothing, cost-nothing policy that might

may find itself included in the Government's noise strategy.

## Dicing with danger?

Is noise a dangerous profession? In recent year's we've reported that Dani Fiumicelli has broken his leg, your editor broke his back – and now west country EHO Keith Horton has broken two bones in his wrist in the line of duty.

Horton was keeping an eye on noise at a music event in Swindon – and broke his wrist in an argument with some railings in the dark. So it's physio for Horton's right hand before it can hold a sound meter again.

## Gloves off in debate

The Central Branch of the IoA's consultant versus environmental health officer debate was politely worded but an eagerly anticipated chance to see council officers and consultants slug it out in public rather than behind each other's backs.

Local authorities got off to a bad start with poor attendance – one up to the consultants before the debate started. The title of the debate was "This house believes that consultants routinely produce acoustic reports that meet or

exceed the expectations of local authorities" prompting one wag to say that that the debate would of course be carried – because councils had such low expectations of consultants that by definition their expectations would be exceeded.

But then Nigel Cogger said: "We do produce good reports – what a shame that some planning committees don't read them." The consultants won!

## Roman nuisance

A recent trip to Rome proved a bit of an eye opener – and some explanation why European-wide rules on noise are so elusive.

Noise (and pollution) were shocking – with congestion pushing so many residents onto two wheelers, and endemic use of horns and sirens, this is no place of tranquillity.

There was even little respite within the innumerable basilicas and other holy places – usually such hallowed places are a haven for a quiet break, with staff on hand to shush any noisy tourists. Not in Rome, between camera phones, camcorders, chattering tour guides and the tourists themselves, it seems nothing is sacred.

## NOISE EVENTS 2006

### October 10th NOISE UPDATE 2006

NSCA Noise update conference to be held at NEC Birmingham, contact Sally May NSCA, 01273 878770

### October 16-17th INSTITUTE OF ACOUSTICS AUTUMN CONFERENCE

organised by the Environmental Noise Group to be held in Oxford. Linda Canty, Institute of Acoustics, 01727 848195

### October 18th AMPLIFIED MUSIC FROM LICENSED PREMISES

IoA London Branch evening meeting, speaker Jim Griffiths, Vanguardia, website [www.ioa.org.uk/viewupcoming.asp](http://www.ioa.org.uk/viewupcoming.asp)

### October 24th IMAGINE AIRCRAFT NOISE WORKSHOP

to be held in Budapest website [www.imagine-project.org](http://www.imagine-project.org)

### October 25th IMAGINE FINAL CONFERENCE

to be held in Budapest website [www.imagine-project.org](http://www.imagine-project.org)

### November 1st BRUEL & KJAER NOISE TOUR

to be held in London, Bruel & Kjaer tel 01438 739 000

### November 2nd BRUEL & KJAER NOISE TOUR

to be held in Manchester, Bruel & Kjaer tel 01438 739 000

### December 3-6th INTERNOISE 2006

to be held in Honolulu, Hawaii, USA Contact: Institute of Noise Control Engineering, INCE/USA: [www.inceusa.org](http://www.inceusa.org)

### 2007:

### September 20-22th WIND TURBINE NOISE 2007

Second international Wind Turbine Noise conference organised by: INCE/Europe to be held in Lyon, France website: [www.windturbinenoise2007.org/](http://www.windturbinenoise2007.org/)

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