

NOISE

August/September 2011 Issue 55

BULLETIN

PLANNING

Pressure on planning revamp

Pressure is growing on the Government to review plans to create a presumption in favour of development.

Groups such as CPRE and the National Trust are incensed by the presumption – Government suggests the opposition is a left wing smear campaign.

The presumption is the centrepiece of the Government's 52 page draft national planning policy framework which will replace thousands of pages of detailed guidance (subject to a further consultation).

Government claims the framework retains protection for green belt and special scientific sites – while introducing a presumption in favour of sustainable development.

This states that proposals should be approved promptly unless they would compromise the key sustainable development principles set out in the draft framework. It adds that development should aim to "prevent both new and existing development from contributing

to or being put at unacceptable risk from, or being adversely affected by unacceptable levels of land, air, water or noise pollution or land instability".

"Local policies and decisions should ensure that new development is appropriate for its location, having regard to the effects of pollution on health, the natural environment or general amenity, taking account of the potential sensitivity of the area or development to adverse effects from pollution.

The draft states: "Planning policies and decisions should:

- Avoid noise from giving rise to significant adverse impacts on health and quality of life as a result of new development;
- Mitigate and reduce to a minimum other adverse impacts on health and quality of life arising from noise from new development, including through the use of conditions, while recognising that many developments will create some noise; and
- Identify and protect areas of tranquillity which have remained relatively undisturbed

by noise and are prized for their recreational and amenity value for this reason.

Epuk was not impressed: "The new framework gives little weight to legitimate concerns around the environmental and health impacts of new development and effectively disempowers communities who want to oppose it. The strong emphasis in the framework in favour of loosely defined 'sustainable development' means that development would go ahead unless 'adverse impacts of doing so would significantly and demonstrably outweigh the benefits'."

It added: "We do not believe that the emphasis of this draft strikes sufficient balance between providing a framework for development, providing healthy sustainable communities and protecting our natural heritage for future generations."

● The *Draft National Planning Policy Framework* can be found at: www.communities.gov.uk/publications/planningandbuilding/draftframework.

PLANNING

Mayor reveals updated London plan

The Mayor has produced his London Plan which sets out planning policy for new developments and guides boroughs through their LDFs (Local Development Frameworks).

On planning decisions, development proposals should seek to reduce noise by:

- Minimising the existing and potential adverse impacts of noise on, from, within, or in the vicinity of, development

proposals;

- Separating new noise-sensitive development from major noise sources wherever practicable through the use of distance, screening, or internal layout in preference to sole reliance on sound insulation;
- Promoting new technologies and improved practices to reduce noise at source.

For preparation of LDFs, boroughs should:

- Reduce the adverse impact of

noise through the distribution of noise-making and noise-sensitive uses, and in highway management and transport policies;

- Protect quiet areas, to be formally identified under the END and consider protection of spaces of relative tranquillity or high soundscape quality, particularly through borough open space strategies.

● www.london.gov.uk/publication/londonplan

IN BRIEF

Turbine case held

The case of a homeowner seeking an injunction against a "noisy" wind farm has overrun and been adjourned until November.

Jane Davis and her husband are suing the operators of the Deeping St Nicholas wind farm in Lincolnshire. She says the turbines are so noisy that she cannot live in her home and is seeking damages and an injunction.

The case was allocated 15 days in the High Court but quickly got bogged down before noise arguments could be heard. The defence spent extra days exploring whether or not the Davis's were unduly sensitive to noise, a defence against nuisance.

Noise arguments will now be held in November.

Danish go low

The Danish Environmental Protection Agency has said it will introduce a new indoor limit to reduce nuisance from low frequency noise of wind turbines.

The proposed new regulation is based on a 20dB limit indoors, the present limit value for noise from wind turbines is 44dB outdoors near residences in the open country and 39dB in residential areas.

The Danish EPA says that excessive low frequency noise is more due to the type of turbine than its size.

- www.mst.dk/english/focus_areas/faq_low_frequency_noise_from_wind_turbines.htm?wbc_purpose=b%23%23Top

Noise on white

Keen-eyed readers may notice we've changed our paper stock!

Until now we have printed on the best possible quality cream-coloured stock – the price of this has nearly doubled in recent years. So now we are on quality white – it is the same weight (100gsm) and we hope you'll also find it clearer to read

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IN BRIEF

Noise survey

The UK Noise Association is encouraging the public to fill in a noise survey.

- It can be found on <http://freeonlinesurveys.com/rendersurvey.asp?sid=o3tlmu vsev48j64927912>

Action week

Next year's Noise Action Week will take place during 21-25 May 2012.

Epuk has revamped the action week website which gives advice for reducing noise throughout the year as well as tips and ideas on organising activities and promotions for the event.

- www.noiseactionweek.org.uk

Night service

Herefordshire Council has run a summer trial of a night-time noise response service.

Two EHO's operated from 9pm on both Friday and Saturday nights financed by savings already made elsewhere within the service.

The council said: "For the first time ever, Herefordshire Council will not only be able to respond to pleas for help from the public when the night-time noise is actually happening, but will then be able to send officers to the scene to witness the noise and take the necessary steps to resolve the situation."

Responsible borough

Tower Hamlets council and the police have taken on new powers to tackle alcohol related anti-social behaviour.

The council has become a Responsible Drinking Borough (RDB), a designation which gives Tower Hamlets and the police the powers to stop people and to demand, confiscate, and dispose of any alcohol within the boundaries of Tower Hamlets or risk a £500 fine.

There were previously three Drinking Control Zones in Whitechapel, Bethnal Green and Shoreditch. These had been successful but led to troublemakers being displaced and continuing their bad behaviour in other parts of the borough.

WIND POWER

Back to court for Elvington

Elvington racetrack is once again appealing against a noise abatement notice.

The case has been in and out of the courts since noise problems first emerged as a result of Formula One race testing at the track near York.

York first served an abatement notice, Elvington appealed once, a second time, and succeeded at a third hearing in the High Court on a technicality (the notice referred to steps that should be taken without specifying those steps).

All the while noisy testing continued, with noise monitoring confirming a

nuisance, the council issued another abatement notice (this time without mentioning 'steps'), this was appealed, but this time it stuck.

A further appeal then ensued – with the racetrack saying the abatement notice *should* specify what sounds caused the nuisance, among other grounds. This appeal failed with the council winning costs of £23,000 (*Noise Bulletin December 2010 p2*).

The latest appeal, in the High Court, was on two grounds – a technicality which was quickly dismissed, and key issues to do with the noise abatement notice.

The previous judgement was picked over forensically by Elvington but each point was dismissed by the latest appeal judge.

The overall appeal was duly dismissed, with the appeal judge commending the previous court "for producing a clear, succinct analysis which made it easy for him to draw his conclusions".

- The judgement of Elvington Park Ltd & Anor, R (on the application of) v The Crown Court At York [2011] EWHC 2213 (Admin) can be viewed at www.bailii.org/ew/cases/EWHC/Admin/2011/2213.html

REGULATION

Red tape purge turns to enforcement

The Government's war against red tape and unnecessary regulation has turned its focus onto regulatory enforcement.

The initiative is aimed at reducing bureaucracy with the public suggesting laws which can be abolished. Previously the challenge has focused on

environmental regulation where the public almost unanimously appeared to support the case for more regulation, not less (*Noise Bulletin May p3*).

The site says: "Reducing the number of rules and regulations in our national life is absolutely central to the coalition's vision

for Britain, removing barriers to economic growth and increasing individual freedoms."

Regulatory enforcement will be featured until 16 September 2011.

- www.redtapechallenge.cabinetoffice.gov.uk/themehome/enforcement

CONSULTANTS

Consultants' join exodus to Xodus

A number of ex-Bureau Veritas consultants have joined the growing 19-strong acoustics team at Xodus Aurora.

Simon Ient is acoustics team manager and will be based at the Southampton office and has been joined by former colleagues Simon Stephenson, and John Hill in Southampton and Bob Beaman at their Head office in Aberdeen.

More recently Bernard Postlethwaite has also joined Xodus, he worked most recently as technical director at Bureau Veritas. He has extensive experience of noise management in the port industry. Postlethwaite said: "I see this as an exciting opportunity to help develop the acoustics capability at this dynamic, and fast growing company"

Ient told *Noise Bulletin*: "These are exciting times and is



Leaving BV to join Xodus: Main picture L-R: John Hill, Simon Stephenson, Simon Ient, Bob Beaman. Inset: Bernard Postlethwaite



part of the Company's drive to strengthen its support for renewable energy technologies as well as maintaining focus on core business streams such as oil and gas."

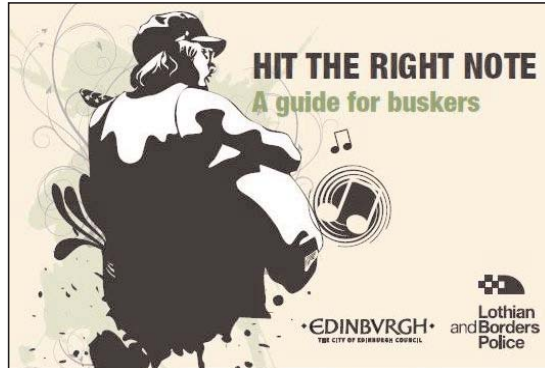
STREET NOISE

Edinburgh's guide to busking

Buskers in the Edinburgh are being encouraged to be more considerate in a new crack-down on noise and anti-social behaviour.

The *Hit the Right Note* campaign gives advice to buskers on noise nuisance and the law.

Local residents and workers are often disturbed by noise nuisance coming from buskers, especially late at night. Now, the City of Edinburgh Council is working with Lothian and Borders Police are handing out credit-card sized guidance cards to performers so crowds can still be entertained without causing nuisance.



- The new guidelines include:
- Busk only between 9am and 9pm and play at a considerate volume;
 - Do not perform near doorways or cash points and do move onto another pitch at least 50 metres away, after one hour;
 - Entertainers should also stop

busking if requested to do so by anyone who is inconvenienced or disturbed;

● Amplifiers, which can often be very loud, are also not permitted unless permission is given by the Fringe Festival or council.

The council said: "Edinburgh is a vibrant and colourful city all year round and street entertainers add

great character to our streets.

However, noise from buskers can cause distress, particularly in highly populated residential areas of the city centre.

● <http://collateral.vuelio.co.uk/RemoteStorage/Edinburgh/Releases/2064/BuskingCard-FINAL-FINAL1.pdf>

VEHICLES

TRL considers risks from quiet cars

DfT commissioned TRL to look at the safety issues of quiet vehicles such as electric or hybrid cars. There are concerns that at slow speeds, these vehicles could lead to more pedestrian accidents, especially among those with poor eyesight.

TRL found little evidence to date that quiet vehicles caused accidents, not least because there were so few quiet vehicles on the road at the moment. But with ever quietening petrol cars and growing numbers of electric vehicles, the problem could get worse, leading to pressure to

add artificial noise to improve safety.

TRL comments: "Careful consideration will be required if 'added sound' is to be used to improve the audibility of quiet vehicles. This will need to take into account the environments under which the vehicle is being used, the low speeds and the differing levels of background noise that might have to be overcome to prevent masking the audibility of the vehicle. This therefore makes moves to impose minimum noise limits on vehicles problematic."

Improving public awareness of all quiet vehicles in order to encourage behavioural change (in both pedestrians and drivers) is perceived as a key first step in reducing risk.

If there is to be more research to find out whether quiet vehicles cause accidents, noise experts will need to define a quiet vehicle, TRL adds.

● *PPR525 Assessing whether quiet electric and hybrid vehicles pose a safety risk to the vision impaired* is available from TRL, <http://emeastore.ihs.com>

ANNOYANCE

Noise annoyance surveyed by Dutch team

Groningen University researchers in the Netherlands have launched a survey into the nature of noise annoyance.

Groningen has partnered up with the Noise Abatement Society in a bid to find out "what it means to be annoyed by sound".

"It has become increasingly clear that the current dBA-based regulation cannot guarantee well-being. For example the sound of a mosquito does not exceed any noise-standard, but it is often very disturbing.

"Governments only have tools that consider loudness. But they have no tools to measure the experience of sounds. As a result, people that are highly annoyed by sounds at an 'acceptable' loudness level feel (justifiably) misunderstood. Unfortunately, public agencies are (legally) limited in the solutions they can offer. Moreover, it frequently happens that investments in an (expensive) solution, which reduce the noise-level, do not reduce annoyance significantly.

This again shows a loose relation between noise-level and experienced annoyance."

They continued: "In this research we are neither interested in decibels nor in regulations. In contrast we focus on how particular sound sources can have a major impact on the daily life of residents. Once we discover what really causes sound annoyance, we are in a good position to propose better ways to reduce, or better, prevent annoyance problems."

● www.soundannoyance.com

IN BRIEF

Bedsit decision

A bedsit can be used as a commercial kitchen preparing Indian food, an appeal inspector has ruled.

Windsor and Maidenhead council had refused planning permission for change of use so the occupant of a ground floor bedsit could prepare Indian food for delivery.

The initial refusal was on the grounds of noise and odours for residents alongside and above the bedsit, which was in the form of a ground floor rear extension.

Consultant Accon UK carried out the original technical studies and suggested conditions. These stipulated operating hours and acoustic insulation to ventilation equipment.

● Appeal Ref: APP/T0355/A/11/2151847 2 Boyn Valley Road, Maidenhead, Berks.

Penalty rise

There has been a sharp rise in fixed penalty notices issued for noise, Parliament has been told.

2009, the latest year for which figures are available, saw 47% more fixed penalty notices issued by police authorities in England and Wales (see table below).

Figures show differences between police authorities with police forces such as Cleveland, Durham and Gloucestershire issuing less than ten a year, while Greater Manchester issued 243, Devon and Cornwall 233 and Staffordshire 224. London's Met force issued just 91 in 2009.

Year	Number
2000	920
2001	997
2002	931
2003	1,291
2004	1,610
2005	1,475
2006	1,472
2007	1,595
2008	1,606
2009	2,376

(2010 figures are due in April 2012)

IN BRIEF

Heathrow freedoms

Heathrow Airport may trial use of 'operational freedoms'.

Noise impacts will be monitored of departures from operating rules during exceptional traffic conditions, suggests a report.

● *South east airports task force report* can be viewed on www.dft.gov.uk/publications/south-east-airports-taskforce

BA concedes

BA appears to have accepted there will be no Heathrow third runway.

Chief executive Willie Walsh says he is now looking to expand at Madrid rather than relying on Heathrow expansion. Meanwhile Boris Johnson is increasing pressure to reconsider building a new airport in the Thames Estuary to increase capacity.

US wind farm views

The US Acoustic Ecology Institute has updated a report on wind farm noise.

It says: "Existing noise standards may not protect from unacceptable levels of negative community reaction to wind turbine noise. Extremely experienced acousticians have been to examine the question of why we are seeing unexpectedly high levels of complaints in some wind farm communities.

"Most wind advocates, including both industry players and regional renewable energy organisations, appear to be in a state of disbelief that the noise could possibly be a significant issue for nearby neighbours. They paint complaints about noise as being unworthy of serious consideration, either because turbines are not all that loud, or because they believe all noise complaints are bogus surrogates for a broader opposition to wind energy."

● http://acousticology.org/wind/winddocs/AEI_WindFarmNoise2011.pdf

NUISANCE

More anti social eviction powers

Social landlords may be given strengthened powers to evict 'neighbours from hell'.

It is proposed to allow previous convictions for serious anti-social behaviour to trigger eviction proceedings and short-cut "the often long and expensive process which often requires landlords to prove again the yobbish actions of their nightmare tenants".

Trigger offences are likely to include the breach of an injunction for anti-social behaviour – where the social landlord has obtained, or is party to, the injunction.

In support of the proposals, DCLG cited the case of two tenants of Poplar Housing and Regeneration Community Association who carried out an extensive campaign of anti-social behaviour targeting their neighbour's family for many

years. This included excessive noise, which was witnessed by relevant officers and the police.

"As a result of the seriousness of the anti-social behaviour and the impact on the neighbour's young family, a Premises Closure Order was granted on their property in September 2009 – one of the first where drugs were not an issue. The order was later extended but the tenant appealed against the order. The appeal was finally dismissed by the Court of Appeal in October 2010.

"In the meantime, the landlord had filed for possession order in the court on 27 October 2009. A directions hearing was held in January 2010 and a trial date was set for 19 November 2010. Pending the determination of the appeal against the closure order and the

outcome of the possession case, the landlord took out an injunction excluding the tenants from the property in March 2010.

"A possession order was granted on 7 April 2011, 18 months after the process began. Despite the evidence being proven to a criminal standard through to the High Court for the closure order, the landlord had to prove the case all over again for the possession order, putting the witnesses through another trial. Now the tenants have appealed against the possession granted. The total cost of the whole process so far to the landlord has been in excess of £38,000."

● *A new mandatory power of possession for anti-social behaviour*, www.communities.gov.uk/publications/housing/anti-socialbehaviourconsult

QUIET AREAS

Watts sets out tranquillity formula

Former TRL quiet area guru Greg Watts, now at Bradford University, has proposed a tranquillity formula which could increase the benefits of visiting urban and country parks.

He has proposed a toolkit for measuring tranquillity that could enable neglected or overlooked urban parks to flourish and become a haven for stressed city workers.

"We know that tranquil environments are important for wellbeing," says Watts. "When people are surrounded by images of nature and hear natural sounds rather than mechanical noises they find it easier to recover from stress. Our research assessed what particular factors would improve tranquillity in green open spaces, and what factors would degrade it, so that an overall tranquillity rating can be calculated."

Watts has devised a series of methods to assess noise levels and the visual scene to give each amenity an accurate and consistent 'tranquillity rating'. Factors that were taken into

consideration included the amount of man-made noise, for example traffic or aircraft noise, natural features such as water, trees and plants, and man-made features such as historical or traditional buildings.

The method was put to the test in three parks in Bradford. Using photographs, Defra noise maps and spot readings of noise levels, researchers were able to rate each amenity, and also make a series of recommendations for improvements.

"Investing in urban parks can have a big impact on the health and stress levels of the people who use them. Research we have carried out previously shows that even leaving litter in a park can significantly reduce the tranquillity of the environment. Ensuring that these urban green spaces are maintained to the right standard is an important investment for the long-term well-being of citizens."

Watts' research demonstrates that even in densely populated areas planners can calculate best

value approaches to improving urban amenities that will achieve acceptable levels of tranquillity.

"If the park has a low tranquillity rating, there are a number of options to consider and the formula we have developed would enable planners to select the best value approach in each case. For example, we could calculate what effect reducing traffic noise would have on a park's tranquillity rating. We would then be able to predict which improvement measures would be most effective in terms of cost and impact. A range of measures could be considered, including erecting screens or barriers to redirecting traffic or even resurfacing roads with a low noise surface.

"On the other hand it might prove more cost-effective to improve the visual scene by the introduction of more shrubs and trees and by the screening of surrounding buildings if of little historical value or installing an appropriate water feature," added Watts.

ICBEN comes to London

Issues related to the Noise Policy Statement for England and new forthcoming guidance were on the agenda in July at the issue-packed ICBEN conference, reports Lisa Russell (and more from the conference in our next issue!)

Publication of the new Noise Policy Statement for England has opened the way for stamping out bad practices and achieving greater consistency and objectivity in assessing noise impact, while aiming for lower noise levels, delegates at the recent ICBEN conference heard.

The Environment Agency is developing new noise guidance that is designed to help achieve the aims of the Noise Policy Statement for England (NPSE) as well as eradicating current bad practices in assessment. The Environment Agency's Tony Clayton presented a paper, co-authored with David Waddington of the University of Salford, which looked at some implications of the NPSE and the related documents that will soon sit alongside it. The paper was presented at the annual International Congress on Noise as a Public Health Problem, which was held this year in London in July and organised by the IoA on behalf of the International Commission on Biological Effects of Noise (ICBEN).

The NPSE was published by Defra in March 2010 and the publication coincided with the formal adoption and publication of the Noise Action Plans. However, the potential implications of the NPSE go much wider, said Clayton. "With the Noise Policy Statement for England we're trying to provide a more consistent and objective way of assessing noise impact."

In the UK, there is often a fairly haphazard use of various British, European and international standards, he felt, which leads to confusion and significant inconsistencies. There is repeated misapplication of the various standards, both through ignorance and deliberate acts to achieve the particular requirements of a client or to demonstrate a point of view. "For example, parts of guidance may be used by selectively highlighting features favourable to clients and ignoring footnotes and qualifying information," says the paper. The Environment Agency is producing guidance that seeks to ensure consistent application of the various standards to ensure that objective noise measurements and impact assessments are carried out.

At its most fundamental level the policy is clear and simple, said Defra's head of the noise and nuisance technical and evidence team Stephen Turner. The policy does not quote guideline, target or limit values (*Noise Bulletin*, Apr 2010, p1). However it does provide three clear policy aims to be considered in terms of noise management.

● Is there, or is there likely to be, a significant adverse impact on health or

quality of life (well-being)? If yes can this be avoided in the context of Government policy on sustainable development?;

● Is there, or is there likely to be, an adverse impact on health or quality of life (well-being)? If yes, to what extent can this be mitigated or minimised in the context of Government policy on sustainable development?;

● Is there an opportunity for improving health and quality of life through noise management in this situation in the context of Government Policy on sustainable development? If yes, take it.

The NPSE applies directly only to England. However, its principles are consistent with the fundamental principles of Best Available Techniques (BAT), which applies across all European Union member states. In this way, the principles of the NPSE are applicable to Scotland, Wales and Northern Ireland.

The NPSE has created a need to review existing guidance and methods of noise assessment, said Clayton. This is particularly case with respect to the third aim of contributing where possible to the improvement of health and quality of life. The Environment Agency is currently rewriting its noise guidance. It is proposed that assessed noise impacts would fall into three basic categories: broadly acceptable, unacceptable, and a category in the middle. In the latter case, a rigorous demonstration would be required that the techniques employed for noise prevention and mitigation are appropriate.

The Environment Agency England & Wales, SEPA in Scotland and NIEA in Northern Ireland currently have a project to rewrite the 'horizontal guidance', H3, for noise in a format that will be consistent with the aims of the NPSE. "We're making it as flexible as we can to cope with different regulatory regimes," said Clayton.

The fresh approach brings some less obvious and possibly surprising implications of the policy for industry as regulated under an Environmental Permit administered by the Environment Agency. Older methods of assessing noise impact have tended to allow creeping increases in background levels, said Clayton. Noise has tended to be considered almost in isolation from any benefits of the project to society as a whole. Traditional approaches relied on seeing what the background is now and establishing how much that would be increasing to see if that would be acceptable, he said. That is probably consistent with the first aim of the NPSE,

and possibly the second. "But I would say it is very unlikely to be consistent with the third aim, which is where possible contribute to the improvement of health and quality of life," said Clayton. It is essential that the new guidance and associated documents satisfy this aim, he said.

Satisfying the third aim could mean an industrial installation demonstrating that an expansion project had actively considered methods and designs that reduced the noise effects of the existing installation. This might include using a new building as a noise barrier to a sensitive receptor.

It is intended that the document be as future-proof as possible. To this end the revised guidance will be primarily a top level document that will outline general issues concerning noise, policy and legislation. Backing that up will be the 'N' series of documents giving technical details – N standing for noise! Specific topics covered include obtaining valid representative background ambient noise levels; competence of persons carrying out noise monitoring; noise assessments and noise management plans; assessment of tonality; and low frequency noise assessments. "The N-series will be kept up to date as technology and methods change," he said.

The Environment Agency has consistently received reports from operators and consultants of significant errors and bad practice s in the use of British, European and International standards. To tackle this, Method Implementation Documents (MIDs) are being created. The technique is already well-established for chemical pollutants. "Not all standards will require an MID but where there is one we will expect you to use it," he said. The MIDs are intended to clarify common misinterpretations and eradicate incidences of bad practice. "We're going to start with one of the most commonly used, misused and abused British Standards," Clayton said – BS 4142: 1997.

It is currently extremely rare for a reduction in noise to be even considered as an initial design target. The new H3 will set an initial objective for the design target at identified receptors to be 10dB below existing background. "If you start with that aim in the first place and get acousticians involved, then quite often you can do it at the same cost," said Clayton. Developments that meet this are likely to be classed as broadly acceptable.

Turner spoke of the importance of clear

● continued overleaf

ICBEN conference (continued from previous page)

policy objectives when managing noise. He presented a paper written with Bureau Veritas technical director Colin Grimwood.

A clear policy vision and supporting aims enable effective noise management decisions to be taken, said Turner. The acoustician needs to think about each situation encountered because there is not a simple formula that can be applied to determine the appropriate outcome. Clear policy objectives, properly applied, should lead to a society where good health and good quality of life has been promoted – and hopefully ultimately achieved – through the effective management of noise, he said.

“The actual noise level itself is only a surrogate for what we are trying to quantify in noise policy,” he said. It is possible to achieve a measurable reduction in noise level that cannot be perceived. “So is that an acceptable reduction in terms of meeting a policy of ‘noise reduction’? Probably not.”

That means that to meet a policy requirement of noise reduction, the reduction achieved has to be perceptible, which begs the question as to what is an acceptable reduction. For the most part, measures of noise aim to describe the effects of that noise, he said. This suggests that any noise policy should concentrate on the effects rather than simply the level of noise or noise exposure.

As well as backing from SEPA and NIEA, the Environment Agency aims to seek endorsement from professional bodies such as the IoA – Clayton doesn’t want it to be seen as something dictated centrally.

The Environment Agency is looking to publish an all-new noise web page. “I’m hoping that it will become the first port of call for environmental noise,” he said.

In reality, using the planning system to keep noise to a minimum means ‘minimum possible’, resulting in some form of compromise and the concept of best practicable means also exists. “But how should decisions be made about striking the balance?” asked Turner. “At what point do the costs and burdens to business render noise mitigation not possible, or does the benefit to society of the noise-making activity become so great that noise impact is an undesirable but an acceptable price to pay for that benefit? Alternatively, are there any circumstances where the noise impact is so great that regardless of the benefit of the noise making activity the development should not proceed?”

In England, a balance has been included for the Noise Action Plans established by implementation of the END. The NPSE says “The Government intends that the END Action Plans will assist the management of environmental noise in the

context of Government policy on sustainable development. Within this policy context, this Noise Action Plan aims to promote good health and good quality of life.” Here, context is set out, with its implied balance, said Turner. It also focuses on the effects of noise rather than stating that a particular noise level or noise exposure has to be achieved.

The NPSE applies to all forms of noise including environmental noise, neighbour noise and neighbourhood noise. It sets out the long term vision of Government noise policy: “Promote good health and a good quality of life through the effective management of noise within the context of Government policy on sustainable development.”

The vision is the ideal but the aims reflect the reality of today’s society, he said. Some noise-making activities are essential for society to function; and some adverse impacts may still be unavoidable, including significant ones. But good management can facilitate improvements to health and quality of life.

The evidence base that underpins noise appraisal has developed rapidly but a number of notable gaps and uncertainties remain before it can be fully reflected in policy decisions, according to a paper on integrating noise into government appraisal and cost benefit. Defra’s Adam Geleff presented the paper co-authored with colleague Roald Dickens.

Aspects that Defra is seeking to cost include the effects of noise on productivity and on places where people go to seek quiet. It is also looking to increase knowledge about the impact noise has on hypertension.

There are a lot of competing priorities for government resources, said Geleff, and economics are used to help prioritise and ensure efficiency. “Essentially what we are trying to do is use economics to try and find

a balance between the costs and benefits of noise-creating activities. The optimum level of noise won’t necessarily be no noise, but it will be a level where the balance is made between the costs and the benefits.”

Defra commissioned several research projects in September 2010 to fill some of the gaps, particularly in order to quantify impacts so that they can be compared with others and incorporated into appraisal guidance. The next stage is for the IGCB (N) cross-government group of analysts to produce response paper, which will determine what can be taken from the recent research projects and integrated into existing appraisal tools.

Key research priorities that have been identified include further exploration of the relationship between noise and systolic blood pressure, so that the effect of noise on those with pre-existing hypertension can be estimated. Defra is also keen to carry out more primary research to determine consumers’ willingness to pay for access to quiet areas, and how this changes in response to increased noise levels.

One of the research projects looked at productivity through a literature review of four key pathways, with noise leading ultimately to accidents or inefficiency, absence from work, lower lifetime earnings and reduced output. The report found that it would be possible to produce an appraisal tool linking sleep deprivation to a loss in productivity. There is also a potential for loss in productivity from noise-induced health effects. For example, someone affected by noise-induced hypertension may be less productive and have absences from work. Present valuations look at the cost to the individual of noise in terms of quality of life, but not the cost of the lost output, pointed out Geleff.

● Papers from the IoA-organised ICBEN conference can be obtained via www.icben.org

Transport noise

Noise-sensitive people who live near a motorway are more likely to have reduced concentration, lack of energy, poor body image, and negative emotionality, said David Welsh of the University of Auckland. This was not the case for noise-sensitive people living far from motorways, he said.

He presented work that looked at noise and the health-related quality of life for people living near a motorway in New Zealand. Questionnaires were analysed to explore the relationship between traffic noise annoyance and health-related quality of life (HRQOL) as assessed by a World Health Organization measure.

The work found that there was no difference in noise sensitivity between those living near and far from a motorway. “People who are living near a motorway are just as noise sensitive as people in relatively quiet areas.”

There was more annoyance about traffic fumes and noise in those living near a motorway than in the control group. The results also showed a lower quality of life for those living near the motorway. Small but significant differences were seen in four measures – physical, psychological, social and environmental.

Industrial noise debated

At the ICBEN conference in London, Aecom technical director Dani Fiumicelli discussed residential development near industrial noise emitters, presenting a paper written with David Waddington of the University of Salford.

“The key concerns regarding noise-sensitive development near industrial land users are that the occupiers of the new residential development may be subjected to unacceptable noise, but also the existing industrial noise operation may become subject to complaints and legal action.”

Introduction of the new NPSE means looking at the management of impacts of noise on health and well-being.

Having a large population and not much land means that there is pressure to develop land near to existing industrial noise emitters. “We haven’t the luxury of being able to say yes, we can sterilise great swathes of land around our industry,” he said. There are also sustainability issues if people have to live far from their places of work.

One of the issues addressed by the NPSE is the situation where noise is between the Lowest Observed Adverse Effect Level (LOAEL) and a Significant Observed Adverse Effect Level (SOAEL).

The NPSE requires that all reasonable steps be taken to mitigate and minimise adverse effects on health and quality of life while also taking into account the guiding principles of sustainable development. This, said the paper, is consistent with consideration of Best Available Techniques (BAT) or appropriate measures under the EU’s Industrial Emissions Directive (IED) and the UK’s Environmental Permitting Regulations (EPR).

Fiumicelli said that BAT is likely to be similar, in practice, to the requirements of the long established statutory nuisance legislation, which requires the use of best practicable means to prevent or minimise noise nuisance.

Any time noise levels could be above LOAEL values, operators of regulated industries will need to demonstrate what noise mitigation has been considered and has or will be adopted. They will also have to provide a cost-benefit demonstration as to why other measures are not being implemented and an explanation why emissions may be above acceptable levels on nearby land designated for potential noise-sensitive development.

Where noise-related conditions have not been specifically written into a permit, the operator is still obliged to use BAT to implement and maintain appropriate preventative measures against noise related annoyance. Fiumicelli stressed that developers won’t be expected to provide the absolute state-of-the-art, solutions. What is expected is something that has been tested and is available. The cost of applying a particular technique will need to be balanced against the increased benefit to the environment.

“Where an environment is particularly noise sensitive, the balance of costs and benefits will probably tip towards the need for additional cost and the operator may have to go beyond the standard that would constitute BAT in a less sensitive environment. The best approach for consideration of the impact is probably to look at the likelihood of annoyance during the day or sleep disturbance at night, although other methods could be used to judge the impact, he suggested.

Conventionally, BS 4142 – *Method of rating industrial noise in mixed residential and industrial locations* – is used. But it is inappropriate for the assessment of existing industrial noise on proposed new noise-sensitive developments, he said. A drawback is that it does not take account of any mitigation, such as changing the orientation and building layout or positioning car parking as a distance buffer. “None of that will alter the BS4142 assessment of that site.” The situation could



Industrial noise: debate on metrics and standards

arise that the noise is in theory not audible but the BS4142 rating would still say that complaints are likely.

This isn’t particularly helpful, he said, and so work has been carried out to look at techniques in the rest of the world, including the rating level in ISO 1996-2 (1987), which is a measure of the noise exposure corrected for factors known to increase annoyance. It applies penalty corrections for impulsive, tone, information content and time of day and for situations such as low-frequency noise.

Fiumicelli said that it was considered appropriate to rely on absolute noise level targets appropriately adjusted for acoustic features as recommended in ISO 1996/BS 7445. Appropriate design standards for industrial noise can be based on WHO Community Noise guideline levels suitably adapted for acoustic character as per ISO 1996/BS 7445. Consideration of annoyance relating to tonal noise with impulsive elements leads to a potential mitigation external design target of 45dB_{LAeq,t}.

For sleep disturbance, the WHO night noise guidelines for Europe are regarded as too restrictive and impracticable. “They present an admirably aspirational stringent standard but they aren’t particularly applicable in the UK,” said Fiumicelli. Currently, neither the UK government nor the devolved administrations have incorporated the WHO Night Noise Guidelines into policy or indicated that they are likely to do so. There are problems in relation to the NPSE and its pragmatic approach of seeking to avoid significant impacts and it is clear that it is clear that noise policy in England does not promote or otherwise sanction the ultimate WHO night noise target of 40dB_{LAnight, outside} as an overall policy objective.

“So we need to take a step back to the WHO guidelines for community noise,” he suggested.

The World Health Community Noise Guidelines recommend a night-time noise level of 30dB_{LAeq,8hr} inside bedrooms for a reasonably steady source. On a sleep disturbance basis, the WHO guidelines state that indoor sound pressure levels should not exceed approximately 45dB_{Lmax} more than 10-15 times per night.

Fiumicelli suggests a straightforward risk assessment that can enable the relative risk to the industrial noise source and the occupiers of any new nearby noise sensitive development to be evaluated. Appropriate measures can then be enforced on either the noise emitter or on the new noise sensitive scheme; or both.

If the use of BAT by an operator means the noise levels from an EPR/IED installation does not exceed 45dB_{LAeq,t} or 60dB_{Lmax} under free-field conditions; noise would not be a material consideration for the noise sensitive development of the affected land. For higher levels, noise would be a material consideration for the noise sensitive development of the affected land; and any scheme would need to incorporate measures to reduce predicted internal noise levels in bedrooms to below 30dB_{LAeq,t} or 45dB_{Lmax} as appropriate, he suggested.

Guidelines for quiet deliveries

The Noise Abatement Society has been involved with quiet deliveries over the past few years which has led to joint guidelines, finds Lis Stedman

This summer, the Noise Abatement Society launched the findings of the DfT-commissioned Quiet Deliveries Demonstration Scheme, which itself was launched with much fanfare last March (*Noise Bulletin March 2010*).

The six chosen sites were a Sainsbury's store in Bournemouth; Marks & Spencer in Chichester; Morrisons in Stone, Asda in Bloxwich; a Superdrug in Westminster and a Tesco in Reading, though the latter two did not make it to full pilot stage for various interesting reasons.

A working group was set up comprising the relevant local authority representatives, the retail store manager, retail supply chain representatives and a 'facilitator' from TTR, with the support of the NAS as site assessors.

The working groups agreed the measures to be put in place at each site to cut potential noise disturbance, minimising delivery curfews. The trials were monitored to assess a number of factors – the benefits for road transport operations, the benefits for retail operations, the noise level and impacts on residents and the environmental benefits.

When we last covered the topic, the retail stores had not yet been chosen and the format of the trials was still somewhat fuzzy – largely because each plan, it is clear from the project report, had to be carefully tailored to meet the individual circumstances of each site.

From the report it is also clear that choosing the sites and setting up the projects was not without its hiccups and complications – for a site to be chosen it had to be subject to a local agreement, and in many cases it was found that supermarkets interested in taking part actually had restrictions as part of their planning consent, or that in reality what the shops wanted was extended trading hours, not revised delivery profiles.

There were other snags: ideally, CCTV could have been used to match activities with peaks in noise levels, but in fact only the Bournemouth Sainsbury's had this facility.

Intensive data collection revealed both benefits and issues: retailers had to provide operational data on overall reductions in mileage, reduced fuel consumption, faster average journey times, store turnaround times and cost savings. Data on resident complaints was collected, and data from individual vehicle operations was collated and assessed to evaluate the overall noise levels from any best practice driver behaviour.

Noise measurements were an integral part of the project, obviously: TRL was tasked

with this work, and the number of individual sound monitors on each site was left to their discretion based on each site's characteristics – the projects were not run simultaneously so the equipment could be moved from site to site as one trial finished and the next began.

There were three distinct types of noise monitoring – first, noise measurements were taken at a fixed distance from individual vehicles during loading and unloading, with both maximum and short duration LA_{eq} measurements taken to identify instantaneous disturbance such as roll cage impact and typical average noise levels.

Second, maximum and average noise level measurements were taken at a single position within the trial site perimeter at a height of 4m to represent the average first floor bedroom. Lastly, and most significantly, noise measurements were taken in the local vicinity, near the closest residential accommodation. Again, the microphones were set up 4m above ground level and maximum and average noise levels were recorded. A series of pre-trial noise measurements were also taken at each site using the new agreed delivery times to provide robust data for comparison.

Complaint handling was painstaking – it was agreed that the project manager and relevant group members should be informed as soon as practicable about any complaint, and complaints would be logged in as much specific detail as possible. Complaints were investigated to determine whether they were valid and identify the specific source of the disturbance, and complainants were re-contacted to explain the actions taken to resolve the problem and provided with further contact details should the problem persist.

AEA also calculated emissions of CO₂, NO_x and PM₁₀ using speed-related emission factors specific to the type of vehicle being used, taking into account the proportion of the trip spent queuing or idling. There was the odd (occasionally major) hiccup – the level and quality of data provided by retailers is described as 'generally poor', despite the fact that it was a key aspect of the business case for out-of-hours delivery and specified on the scheme application form.

For the Sainsbury's site at Bournemouth, both the local authority and retailer were keen to be in the scheme. The site was part of a shopping complex, sharing a yard with other retailers adjacent to residential properties, and had been the subject of a number of complaints. These would likely have resulted – if the scheme did not work – in the store's overnight deliveries being

halted, with all the disruption that implies.

Because the key parties were so willing to help this was a preferred site, seen as a quick start to the trials. This was an interesting variation on the original premise, as it was an unrestricted site facing a curfew if remedial measures were not taken, rather than a site with a curfew that could be relaxed for the trial. As Sainsbury's had taken part in a previous trial, it was also familiar with the process.

One key element was a 'driver charter' that explained the trial and its importance, and provided a set of required actions to keep noise levels down such as turning reversing alarms and fridges off and not sounding the horn. Suppliers such as the milk and bread delivery companies also bought into this. The trial was a success, with no complaints received. In addition, the procedures have remained in place, meaning the store both makes fuel savings and continues to be viable.

This trial provided some important lessons moving forward to the others including the need to involve direct deliverers and the use of partnership working, and the need to have people involved who can actually make changes to operating procedures and ensure they continue to work. Residents' noise logs were also seen as important in terms of feedback.

One of Bournemouth BC's working group representatives, Dean Shepherd, notes that things have been quiet (literally) since the end of the trial. "We set up an agreement with Sainsbury's that if we get a complaint we will pass it over to them." He says that the site was one where some noise was inevitable, but that the council was happy Sainsburys was taking actions such as servicing its shutters, turning off reversing beepers and muffling cages that proved it was willing to take best practicable means "which goes a long way".

He adds: "We are satisfied with the outcome – we have not stopped late night deliveries, that was never our intention, just to reduce the noise impact." He notes that Sainsburys and its outside contractors "were all on board to minimise noise if possible, and it seems to have worked. We have not had any further complaints, and that was the end result we were looking for".

The next trial site was the M&S store in Chichester, which is again close to residential flats. The trial progressed on a similar basis to the first and was again considered a success, with no complaints and a closer working relationship established between the store and the council.

The third trial, at Morrisons in Stone,

Staffordshire, which was the subject of a local agreement that meant deliveries could only take place between 7am and 11pm. Morrisons was hoping to take earlier deliveries between 5.30am and 6.30am to resolve a number of issues.

As in the previous trials, the 'driver charter' was seen as critical. In this case there were three complaints, all from the flats opposite the delivery yard. However, none of the complainants completed noise logs, with one writing to say the noise appeared to have reduced so there was no need.

Despite the complaints the trial was considered a success, again bringing the council (Stafford BC) and the supermarket closer and introducing best practice measures. Morrisons was allowed to keep its earlier delivery hours subject to ongoing review and monitoring by the council.

The fourth trial was at Asda in Bloxwich, north of Walsall, which had a similar voluntary agreement to restrict deliveries to between 7am and 11pm. This trial suffered the odd setback (noise monitoring equipment on the street was stolen) and the store manager forgot to send out a notice to residents and a copy of the noise log to their representative. Store management also didn't circulate weekly progress reports as required and a request for vehicle logs to be kept was not fulfilled.

There was one complaint, that lorries were parking in side streets so their noise was not picked up by the monitoring equipment, and the distracted store manager underlined how critical that role is – he also moved on around the time the trial finished and did not provide a post trial report. Nevertheless, Asda managed to retain its earlier delivery slots. Unfortunately the lack of cooperation meant there was no viable operational data from the trial.

Walsall MBC working group representative David Elrington notes that there was a certain amount of frustration about the level of cooperation but adds: "We were happy to take part. If they came to use again with it we would be happy to take part in something similar." He stresses that the project was a significant commitment both from the trader and the authority, but adds that "it has got the potential for improving the way things are run."

Elrington adds that the trial tightened up what was a fairly loose, informal agreement and observes that should the retailer fail to continue to use best practice and create problems, the council always has the power to default to noise abatement measures. He says the trial "formalised expectations. It was a bigger commitment from the business to make sure it was following its own processes properly. It might not have been the model scenario but in general terms we

don't appear to have had any problems and it appears to have worked".

The fifth trial was to be at Superdrug's Oxford Street store in London, which had a negotiated curfew from the City of London following resident complaints about noise. Unfortunately this trial was cancelled shortly before it was due to start because of scheduling problems – the store felt the proposed delivery at 10pm would have "caused major disruption to the store's operation".

Nevertheless some important lessons were learned, including the need to consult other retailers nearby to identify their delivery times, and to engage with other members of the business such as area managers as well as the transport departments and individual store managers. City of Westminster representative on the working group, Ken Agnew, stresses that the council was keen. "It is a fantastic concept and very well worthwhile pursuing but it needs considerable investment by all the people involved. The people in Westminster weren't so it fell a bit flat."

Nevertheless, with the Olympics coming up next year and the likelihood of many retailers wanting unusual delivery patterns, the council will continue to promote and encourage best practice and this type of scheme. "It is not on the everyday agenda but it will be more so as time passes by," Agnew notes.

The last proposed trial was at a Tesco store in Reading, where the store was seeking to vary a planning permission restriction on delivery hours to between 7am and 11pm. This seems to have foundered on an avalanche of requirements, delays and caveats from the planning committee, which appear to reflect the sensitivity of the site and the undoubtedly far greater burden of red tape needed to get such a scheme through for a store whose hours are subject to planning restrictions rather than a simple agreement.

The conclusions are generally positive – complaints can be effectively managed, the potential impact of widespread uptake of best practice in 'out of hours' deliveries could be very significant and help deliver on local authority environmental targets, particularly those driven by air quality improvement targets.

A willing local authority/retailer combination was key to success, and a strong relationship between the store manager and the relevant local authority officer was critical. The idea of the trials had to be 'sold' well at a local level "as individual officers may have struggled to see the macro-benefit of involvement", and there was a perceived paramount need to take account of residents' views when planning trials.

Compromise was also seen as necessary

– what worked at one site might not necessarily work at another. Buy-in on the part of store staff (both local and area management) was also seen as vital to success. A set of case studies and field guides have been developed that, it is hoped, will lead to a breakdown of the barriers that have prevented wider uptake of out-of-hours deliveries.

Those involved in the trial schemes seem commendably upbeat about the results. Among the launch attendees, LB Newham's Mark Partridge notes that "it was interesting to see the results, but it is not our priority at the moment". With Stratford City (and the attendant noise challenges) about to launch, and supermarket noise issues mainly resolved through planning conditions – not to mention local government funding cuts – Newham is unlikely to need to go down this route.

He adds: "We attach a great deal of importance to conditions – for example, restricting the size of delivery vehicles." Without the resources for an extensive review, the council focuses on nipping problems in the bud by putting as much as possible into the planning application.

Another attendee, Epsom and Ewell BC's Elizabeth Plowman, says the council has a number of stores in the town centre in close proximity to residential dwellings where such an approach could be tried. "It's something that if it was run out across the UK we would be quite interested in participating," she says.

Epsom doesn't place planning restrictions on retail outlets, unlike Newham, preferring to deal with any issues through the nuisance route so the QDDS approach would be a good fit.

Alick Natton of Vale of the White Horse notes that it was "interesting how much appeared to be site specific, apart from a small core such as the driver conduct code. I think much will be down to local circumstances on the ground – it didn't show a template that could be applied to every case, but if you look carefully at the problems they can be solved."

He notes that the broad principles of the approach could be applied "as a problem becomes apparent. A situation we had a couple of years ago very much fit with what they were showing at the launch. It is not terribly new but all good and useful – it's nothing revolutionary."

Clearly, uptake is going to depend very much on circumstances, as Newham's case demonstrates. Where councils have opted for planning restrictions, as the trials proved, moving to a QDDS could be a complex and lengthy procedure. But the trials have also shown that where lesser obstacles exist, such schemes can work very well given substantial consultation, engagement and goodwill.

SOUND BITES

There's none so blind as those who will not see is a phrase that seems to fit the wind industry and its supporters, in particular DECC.

Government is under huge pressure to increase renewables, for very good reasons, and it has thrown its weight behind wind turbines. But in its haste to install turbines, it appears to think that hurdles should be smashed rather than overcome.

It has steadfastly refused to accept that there could be anything wrong with Etsu noise assessment guidance. It won't countenance any criticism, and lets studies that dance around the subject but don't tackle the underlying issues, ensuring continued arguments both in the planning system and the courts. The possibility that a trusted and defensible assessment system might help the cause, rather than hinder it, appears to have escaped the Government.

In its latest 'road map' for renewables, it talks about wind power, noting that it needs to "give communities a greater say and stake in development and improve guidance on issues of public concern such as noise impact to ensure high quality planning decisions".

Hmmm. We suspect that giving

communities a greater say may well make it harder to bulldoze through wind turbines. And as for improving guidance – we thought the whole point of planning reforms was to reduce guidance which is simply seen as 'red tape'.

The consequences for failing to sort out the wind turbine mess could not be highlighted more poignantly than in the case of Jane Davis. She is suing her local wind farm in Deeping St Nicholas, Lincs, for nuisance and an injunction.

Her long running saga has been endlessly reported as it has gathered momentum. What makes her case notable is that she has moved out of her house to escape the noise, claiming she can't sleep.

The case is proving divisive. To some in the wind industry, Davis a troublemaker, they would point to her turning up at inquiries elsewhere espousing wind farm noise problems. Such appearances may well have proved useful training for her treatment in the current High Court case where she is being pummeled by QCs in a bid to show that she is over-sensitive to noise.

Many of the 15 days allocated to the case were consumed with the defence

picking over detail to prove this point (by way of example, asking her detailed questions about entries in her bank statements from five years ago).

Unsurprisingly, the case overran, noise experts have been bumped to November, seemingly being treated as an afterthought.

This is messy. If the defence manage to see off this challenge by avoiding the key issue (noise), then we can confidently predict the issue – perhaps with different claimants but almost certainly with the same legal teams and experts – will be back in court.

What is needed is some bold action, a working group that includes trusted (by the protesters) organisations such as CPRE and Environmental Protection UK who can agree a noise standard, and crucially, what happens if a wind farm causes problems.

Instead, what we will probably get is a series of ad hoc, invite-only expert groups holding discussions behind closed doors.

DECC, not wishing to associate itself with anything that might constrain wind power, will sit on the fence. The expert's findings will dribble out, fail to convince anyone, same old, same old....

NOISE EVENTS 2011

4th – 7th September

INTERNOISE 2011

to be held in Osaka, Japan. www.internoise2011.com

14th-15th September

ACOUSTICS 2011: A NEW DECADE – A NEW REALITY

IoA meeting to be held in Glasgow, contact Linda Canty 01727 848195

12th October

THEORY AND PRACTICE OF NOISE MEASUREMENT

to be held in Royston, Website www.bksv.co.uk/Courses/Training%20Courses.aspx

2nd November

ANC CONFERENCE 2011

To be held at Austin Court, Birmingham website www.association-of-noise-consultants.co.uk

2012

26th January

WIND TURBINE NOISE

Institute of Acoustics meeting to be held in Cardiff Linda Canty 01727 848195

23rd – 27th April

ACOUSTICS 2012

Joint Institute of Acoustics and the Société Française d'Acoustique meeting to be held in Nantes. Linda Canty 01727 848195

25th April

INTERNATIONAL NOISE AWARENESS DAY

Website www.chcheating.org/noise-center-home/international-noise-awareness-day

10th – 13th June

EURONOISE 2012

Ninth European Conference on Noise Control to be held in Prague, Website <http://www.eurnoise2012.cz/>

19th-22nd August

INTERNOISE 2012

the 41st International Congress and Exposition on Noise Control Engineering to be held in New York. Website <http://internoise2012.com>

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