

Award Winning Noise Control Technology Saves £1 million

Prestigious award for perhaps the most successful noise control project - ever...

We have recently celebrated a hugely successful project for leading steel maker Corus. The project has resulted in seven figure cost savings for Corus and has earned us the Rushlight Noise Abatement Award for the most significant development in noise control technology over the previous year.



A low frequency hum from three 4MW centrifugal fans on the Corus Scunthorpe site had caused noise problems over a wide area. The only conventional noise control option was to fit very large and very costly silencers that would also reduce efficiency.

The company approached us for a second opinion. We developed an innovative set of maintenance-free aerodynamic modifications for the fan casings, avoiding the need to modify the existing duct-work or the stacks with spectacular results. The tonal noise was reduced by 12dB with no effect on fan efficiency.

The willingness of Corus to invest in new and innovative technology has reaped very substantial rewards. Compared with conventional silencers there have been savings of c£800,000 in capital costs and c £200,000 per annum on power and carbon running costs.

"INVC's modifications have brought about a huge reduction in fan noise, improving the environmental conditions across a wide area around the Plant. They've also saved us a large amount of money by negating the requirement for major capital expenditure, so it's been a remarkably successful project." - Grahame Wallace, Corus.



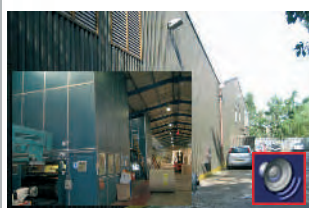
These results make this project a good candidate for perhaps the most successful, greenest and cost effective fan noise control project in history. As the technology is Best Available Technology (BAT) for many fan noise problems, you should check whether it is applicable to your problem before spending capital on silencers, enclosures and lagging plus the associated increased operating costs.

Contact us, check 6 or go to www.invc.co.uk/invc-news.php

Environmental Noise - Get a Second Opinion

- 80% cost savings on noise control
- Free occupational noise benefits (no PPE)

The highly tonal corrugator noise at Northern Packaging had caused complaints from local residents and was subject to an abatement notice. Quoted £150,000 for conventional environmental noise control (building modifications), the company



sought a second opinion via the local EHO. We developed source control engineering modifications for the plant inside the building that not only eliminated the external noise problem but also

the requirement for PPE inside - a double benefit and at a cost of only c£25,000,

The company was delighted as the project also satisfied their mandatory noise control requirements under the Control of Noise at Work Regulations at no additional cost.

This approach must be used for all environmental noise pollution problems in order to determine what constitutes BAT or Best Practicable Means. If you have an environmental noise problem, contact us for a second opinion - or save time and get our second opinion first... A 1 day practical workshop covering the process in detail is also available. **Contact us or:** www.invc.co.uk/services/environmental-noise.php

Free Noise Control Option Evaluation by Email

New remote control of noise - we're local everywhere!

There are simple, low cost solutions to many occupational and environmental noise problems. New technology coupled with the largest database of noise control solutions available allows us to diagnose and / or solve many noise control problems remotely via photos and video / recording samples sent by email.

Rapid Blower Noise Remote Control by Email

This installed blower failed to meet the customer noise specification:

Tuesday 3rd March: enquiry; data sheet emailed and returned with photos of installation and noise levels

Wednesday 4th March: we designed modifications and emailed drawings

Thursday 5th March: components made and fitted on site; photos emailed for us to confirm correct geometry

The problem was solved within 3 days of first contact; no travel to site and a cost of only £900.

Contact us, or check 8



Get the latest in best practice on our web site

- Noise assessment quality check list
www.invc.co.uk/services/noise-assessment.php
- Noise Control best practice guide
www.invc.co.uk/services/noise-control.php

Request pdf versions of our newsletters (with sound) inside or at www.invc.co.uk/subscribe-newsletter.php

... best practice in noise and vibration assessment and control ...

Never Measure Tool Vibration Again...

HAV-Base - new v5 - best practice made even simpler

- *Reduce typical HAV assessment costs by 50% - 80%*
- *"Instant" assessments + ongoing risk management tools*
- *Virtual assessment is best practice - spend your resources on risk reduction*

Much of the substantial time and money spent by industry on the time-consuming process of vibration measurement is an unnecessary drain on resources. The HSE guidance suggests that you should carry out virtual assessments wherever possible - investing the resources you save in risk control instead.

HAV-Base v5 - buy best practice

HAV-Base is the largest database of accurate field vibration data available. In addition to measurements for thousands of tools, it also includes a suite of management tools and automated reporting that can reduce a week of work in the field to a few minutes in the office. Version 5 adds simpler and quicker ways to carry out virtual assessments, yet more data plus you can now order it installed on a netbook or as a portable version that runs from an external USB drive to provide plug-and-play risk assessment.



Virtual Assessment by Email

Companies with lesser HAV issues can fill-in and return a template tool register. We can then cost a virtual assessment from the database. The quick, simple and low cost risk assessment option.

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Combined HAV and Noise Risk Management

Reduce costs by killing 2 birds with 1 stone

Effective assessment and risk management of both Hand-Arm Vibration and noise soaks-up scarce resources, particularly in industries such as construction where plant is mobile. Combining them into a single, streamlined process dramatically



reduces the costs and time involved - particularly where both HAV and noise data can be supplied directly from a database, minimising the need for measurement.

The latest HAV / NOISE-Base is an integrated database of accurate vibration and noise data from thousands of field measurements that provides a serious short-cut to best practice either via purchase or via virtual use by email.

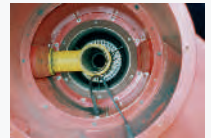
Couple this with a noise and HAV best practice benchmarking audit, and you have a recipe for developing the optimal cost effective company programme.

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Yoghurt - Based Burner Noise Control

In what is still the only known example of yoghurt-based noise control, the noise problem from this boiler burner was eliminated by fitting an adapted yoghurt pot inside the combustion head. Obviously we needed the right type of yoghurt pot and engineering skills honed by years of watching Blue Peter...



Technically, we are able to diagnose when the noise problem is caused by poor combustion head design. We can then design retro-fit modifications to improve the combustion process. This is an incredibly cost effective technique for solving many burner or combustion noise problems - particularly when contrasted with the eye-wateringly expensive conventional approach of turning the whole building into an acoustic enclosure.

Shard of Glass Demolition Site

Adjacent: London Bridge Station and Guy's Hospital

The Shard will be the tallest building in the UK. At the moment, however, it is a hole in the ground. The demolition site abuts London Bridge Station with Guy's Hospital just across the road. You could scarcely ask for a site that is potentially more sensitive to noise and vibration.



Keltbray, the demolition contractor, wanted to use the technically advanced explosive techniques developed by the Controlled Group to remove the pile cap in the basement of the office block on the site. Removing



this massive slab of concrete by conventional means would have extended the project by c 2 - 3 months - but noise and vibration were potential deal-breakers. We were

asked to provide the noise and vibration predictions and monitoring required to justify the decision both in terms of potential risks and to minimise the duration of the process and the environmental impact.

We also provided key multi-media presentations to all the parties involved (station, hospital, security etc) to present the predictions and provide the technical reassurance necessary to assuage any concerns about noise and vibration issues.

Contact us or check 10



Apparently, high levels of noise do not damage your hearing...

... as long as the "noise" is music. Thus spake Richard Littlejohn of the Daily Mail earlier this year - he's a journalist, for some value of "journalist". "Blessed is the man who, being ignorant, abstains from giving us worthy evidence of the fact" (with apologies to George Eliot). This journalistic licence is addictive, I feel better already....

Quoting RJ: "As the Mail made-up reported earlier this week, one honk on a cornet is alleged to be enough to cause permanent hearing loss. Standing next to a saxophone is as dangerous as firing a field cannon." "After just 19 minutes exposure to a school orchestra, you might as well start learning sign language and lip reading". "Better still, why not just ban music altogether? That's what the real Taliban did... That way, no one will come home from school with his ears bleeding". "...the trouble arises when elf'n'safety starts seeking out problems where they don't exist and meddling in areas which are nothing to do with them..". "HSE shock troops... more lethal than operating a pneumatic drill.. jumbo jet taking off.. earmuffs.. how are they supposed to teach when they can't hear what is being played?". Etc etc....



band plugs, not banned plugs...

Back in the real world where the noise regulations now apply, I have measured the sound from orchestras and other musicians (and taken pleasure in winding-up prima donnas by referring to the "noise" from their virtuoso performances). Fact: music teachers and musicians can be at substantial risk of hearing damage (which is just a tad important given their occupations...). Also fact: reducing the risk is largely a matter of attitude and education coupled with a few simple precautions. My sons' band members all wear ear plugs when rehearsing. I wear musicians' ear plugs at rock concerts (which often improves the quality of the sound as your ears are no longer overloaded). One of the examples we use on our entertainment noise competency courses is a Notting Hill Carnival float at over 140dB - well into instant hearing damage territory.

If you're to be true to your own "elf'n'safety" philosophy, it should be easy to persuade you to drive your own car at high speed with no seat-belt, disabled air-bag, no anti-lock brakes, at night, in the rain, with treadless tyres - and let's add a loop of the greatest hits of Barry Manilow playing at full volume. After an hour, you'd be begging for hearing protection.... If we added a spike to the centre of the steering wheel (auto-kebabing), you'd drive more carefully - because you know it is dangerous. So let's not spoil the fun, monsieur Richard (may I call you Dick?). Let's just help people in the music and entertainment industry, or those who have to work in places such as venue bars, avoid going deaf through simple (or, in this case, willful) ignorance of the real and present risks....

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Training News and Updates

New Noise Workshops Developed for the Environment Agencies

Best Available Technology (BAT) / BPM in Noise Control

This is an updated version of our workshop developed and run for both the Scottish and English Environment Agencies. Including an extensive set of multi-media case studies, it provides the definitive guide to determining exactly what constitutes BAT and BPM for environmental noise.

...the best lecturer I have ever had, with relevant case studies:
Jon Tofts: Environment Agency PPC officer

Fan Noise Control

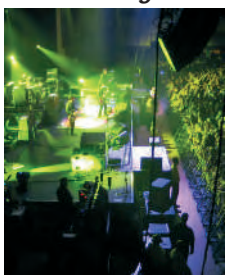
Fans are by far the most common environmental noise sources and the most common cause of complaints. This pragmatic workshop not only provides the definitive guide to what constitutes "best practice" in assessing and controlling fan noise (take-aways to steel works), but it also includes advice on effective measurement, analysis and specification of noise limits.



...able to listen to examples was very good. Lots of real life examples great presentations and slides. Simon Cole: SEPO

Entertainment and Music Industry Noise Courses

Go Clubbing at the New IOSH Competency Course - Workshops - Awareness



The new noise regulations that have applied to the music and entertainment industry since April 2008 require a seismic shift in attitude and practice across the industry. The competency course not only provides a pragmatic guide to best practice with extensive use of case studies - but it is also fun... The short workshops range from hearing risk awareness to management briefings.

...very interesting and enjoyable .. made the subject very accessible: D Smith: Events Supervisor

Motor Vibration Cancellation Bolt-on vibration absorbers prevent pump motor damage

Pump motor vibration in a newly commissioned pumping station had been so high that one of the motors had burnt-out at considerable cost. Various remedial options were entertained, but our solution of bolt-on dynamic vibration absorbers was considered to be the simplest and most reliable.



A pair of bespoke dampers were designed that could be made locally and simply bolted to the outside of the motor during normal operation. These reduced the 10.7Hz problem vibration from 8mm/s down to 3.5mm/s straight out of the box, with less than 2mm/s achievable with tuning.

This is a very elegant, low cost and effective solution to a range of low frequency vibration problems.

"The level of vibration had been reduced so much I had to check the pump was still running..." Alan England: United Utilities

Request a digital pdf version of this newsletter to keep abreast of the latest in best practice.

NOISE AND VIBRATION INFORMATION AND TECHNICAL SUPPORT: EMAIL AND THE WEB

The INVC provides extensive technical support and training across industry. Feel free to give us a call for advice, information or to discuss particular problems. If you'd like more free information on any of the following, check the required items, fill in your details and email, post or fax a photocopy of this section to the number below - or fill in the email request form on our web site.

Occupational Noise Management

1 DNA - Digital Noise Assessment

DNA is the quality benchmark that puts all your assessments on disk, making past data instantly accessible and ensuring that all future assessments meet the same standards (with a common layout) to reduce costs by 80% or more.

2 Noise Management Manual

A detailed and pragmatic guide to what constitutes best practice to meet the requirements of the new regulations - with particular reference to the revised expectations of the HSE.

3 Noise Control Audit

Provides you with a costed list of all the noise control options (with estimates of noise reductions in each case) for single machines or whole sites using the best of current technology. Used to update existing assessments, it also typically reduces noise control project costs by 50-80%.

4 Noise / HAV Action Programme Benchmark Audit

A complete and detailed review of noise (and / or HAV) management procedures and practices against current best practice benchmarks. Includes assessment updates, noise control, a detailed Action Plan and Optimum Management Strategy Briefings to minimise the costs involved in meeting the regulatory requirements.

Noise Control

5 More Sound Solutions

A large collection of low cost noise control "best practice" engineering solutions that do not involve enclosures. This is the ideal starting point for anyone with a noise problem - the solution may already be available "off-the-peg".

6 Award Winning Quiet Fan Technology (QFT) Updated

A unique technique that eliminates fan noise at source - modifications are fitted inside the fan casing giving a permanent 10 - 20dB reduction at a fraction of the cost and hassle of conventional silencers, enclosures etc - and with no effect on efficiency, hygiene or maintenance.

7 Self-Financing Noise Control

Engineering solutions to noise problems that can not only reduce capital costs by an order of magnitude, but which can also actually improve productivity and reduce costs. Illustrated with case studies.

8 Remote Control of Noise - local service everywhere! New

We may well have solved your noise control problem already... Simply send us photos, video / sound recording sample and noise levels by email, and we will provide you with a free initial evaluation of the options. Fast and low cost, it also avoids the potential for the costly mistakes associated with picking the wrong option.

Training

9 Noise and Hand-Arm Vibration Updated

The INVC is the IOSH approved training organisation for occupational and environmental noise and for Hand-Arm vibration. General and industry specific modules are available, covering all aspects of noise and vibration - tick box for a copy of our new and revised training literature.

" made noise measurement and calculations easy both theoretical and practical sessions were superb the best course I've ever been on "

Environmental Noise and Vibration

10 Construction / Demolition Noise + Vibration Services New

A complete range covering all aspects of environmental and occupational noise and vibration plus innovations based on unique engineering expertise that are re-defining best practice in the industry.

11 Best Practicable Means / Best Available Technology Audit

An engineering evaluation of the options that provides you with a definitive costed assessment of what constitutes BAT / BPM to control noise. Avoid costly mistakes by getting a second opinion first.

12 Psy-Jencer - Psychological Silencing

Where environmental noise control is impractical or very costly, the Psy-Jencer offers an elegant, low cost alternative. It masks the problem sound and convinces the ear that it is no longer there. Complete with case studies illustrating a wide range of innovative solutions.

Hand-Arm Vibration

13 HAV Audit and Virtual Assessment

Benchmark risk assessment and audit with Virtual Assessment techniques to minimise the problems associated with field HAV measurement. Usually reduces costs by c70-80% and time by up to 95%!

14 HAV Manual: free summary version by email

A full multi-media CD version is also available.

Comprehensive practical manual covering best practice in HAV management under the new regulations. Previous versions have been standard issue in many companies to audit existing procedures, as a convenient template for HAV policy and as a searchable company-wide resource.

15 HAV-Base - NOISE-Base V5 Updated

New v5 HAV database contains accurate field data for thousands of tools and facilities for graphical summaries and statistics to make risk management simple (buying, hiring, using). NOISE-Base provides similar facilities for noise, combining noise and HAV data in a single risk management register. These constitute best practice as the most cost effective way to assess and manage HAV and noise risks.

16 HAV-Test Tool Maintenance

Provides simple, quick and automated tool vibration testing in the workshop that dramatically cuts maintenance costs. Detecting tool faults also ensures minimum HAV levels for operators.

17 Product Noise and Vibration Control Updated

We have a track record for the rapid development of practical, innovative engineering noise and vibration control measures on anything from vacuum cleaners to power presses, integral design or as retro-fit to existing machines.

Product Testing / Analysis Software

18 ProTest Product Testing System

Flexible hardware and software for the automated production line testing of product noise/vibration (includes sound power, fault detection and diagnosis).

19 Noise and Vibration Analysers Updated

The new **FrequencyMaster** is the state-of-the-art - a simple yet flexible and very low cost PC based noise and vibration analysis system for general use and as engineering tools for product development. We use it ourselves across environmental, safety and engineering applications.

20 Noise Complaint Monitoring System

Flexible noise monitoring with positive ID of complaint events.

Please Print Your Details - or indicate if there has been a change of address or personnel for our records.

Name: Tel:

Job Title: Fax:

Company:

Address:

..... email:

Other information:

Q2 2009



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