

• *Noise at Work*

Last updated in February 2005

THE PROBLEM WITH NOISE

Exposure to loud noise can result in permanent hearing damage including a loss of hearing ability and/or tinnitus (a permanent sensation of noises or ringing in the ears). Damage can be caused either by a single loud noise or long-term exposure.

Noise at work is a serious threat, with noise-induced hearing loss the most common and irreversible occupational disease. However, figures show that the threat of noise at work is also often underestimated. On the Health and Safety Executive's (HSE's) website for noise (<http://www.hse.gov.uk/noise/>) reference is made to recent research which estimates that 170,000 people in the UK suffer deafness, tinnitus, or other ear conditions as a result of noise at work. However, this is only one estimate, and others are much higher.

Noise at work can cost you much more than your hearing. A loss of hearing can stop you working to your full potential, destroy your social life, and isolate you from the rest of the community.

Noise can also cause or contribute towards other work-related stress, causing a loss of concentration, fatigue, and tension, and increasing the risks of ill-health associated with stress. It can increase the risk of accidents; may combine with exposure to hazardous substances at work, vibration, or drugs to cause ill-health; and may harm the unborn child (low birth weight and the baby's hearing for example).

It's not only workers in heavy industry that are at risk. Those working in the service sector, call centres, open plan offices, and in education are thought to have suffered impaired hearing from their work.

Factors that contribute to hearing damage include: the level of noise (intensity - measured in decibel units dB(A)); how long people are exposed to the noise (duration - both short and long-term); and whether the noise is stable, fluctuating, or intermittent (impulsive noises are particularly harmful).

THE LAW ON NOISE

Employers have a legal duty to protect the hearing of their employees and any other person at work who may be affected, just as they have to protect employees and others from other work-related health and safety hazards. Damage to hearing from exposure to loud noise at work is preventable and the risks can be controlled by the good management of health and safety.

Control of Noise at Work Regulations 2005

At the time of writing, the current specific law on noise is the *Noise at Work Regulations 1989* but these will be replaced by the new *Control of Noise at Work Regulations 2005*, which are expected to generally come into force in April 2006. A two year transitional period for the music and entertainment sector means however, that the *1989 Regulations* will continue to apply to this sector until April 2008. Workplaces covered by the transitional period include those where either live or recorded music is played, such as in a bar, or where recorded music is played alongside a live music, dramatic, or dance performance.

The main differences between the *1989* and the *2005* laws are:

- a reduction in the exposure action levels (see below) by 5 decibels which is equivalent to a 75% reduction;
- an emphasis that substitution and control come before protective equipment (see *Hierarchy of Control* below),
- the introduction of an exposure limit (see below), and
- the specific requirement for health surveillance (previously only covered by the *Management of Health and Safety at Work Regulations (MHSWR) 1999*).

Those familiar with the *1989 Regulations* may find of use a table which briefly explains the main differences. This is on the HSE's website at: <http://www.hse.gov.uk/noise/compare.htm>

The HSE also promises supporting guidance on the *2005 Regulations*, including simple practical measures that employers can take to reduce exposure to noise at work. It should be noted that at the time of writing all current guidance from the HSE appears to refer to the *1989 Regulations*. This UNISON information sheet will be updated as necessary following the revised HSE guidance.

Since there is a very limited time before the new regulations come into force, it makes sense for employers and safety reps working to reduce exposure to workplace noise, to start to consider the new regulations and wherever possible meet the requirements that they set. The *2005 Regulations* can be found on the website of the Office of Public Sector Information at: <http://www.opsi.gov.uk/si/si2005/20051643.htm> The rest of this information sheet will focus on the requirements of the *2005 Regulations*, and briefly mention other regulations which also apply to noise hazards at work.

Safety Rep Action:

- Get your employer to start considering their obligations under the *2005 Regulations* – April 2006 is the date by when they are legally enforceable and their requirement must therefore be met. This is not the date from which employers should begin considering them!

Exposure Action Values and Exposure Limit Values

Employers must reduce the risk from exposure and take specific actions where the noise exposure is likely to be at or above particular levels called 'exposure action values'.

Two action values (the lower at 80db(A) and the higher at 85 db(A)) cover the daily personal exposure – these are equivalent to the noise levels on a busy street (see the box opposite). A third peak action level covers high level short duration (impulsive) noise.

There is also an exposure limit value set at 87db(A). Employees must not be exposed to noise above this limit. If this occurs, the exposure must be reduced immediately, the reason for the breach identified, and steps taken to prevent it happening again.

These limits are measured on a daily basis unless daily exposure varies substantially, when a weekly exposure level may be calculated.

Noise Risk Assessing

Where an employers work may expose any employee to noise at or above the lower exposure action value (see below), there are three key steps which the employer must take to prevent (where possible) and otherwise control the risks:

- 1) conduct a suitable and sufficient risk assessment,
- 2) take steps to prevent or control the risks, and
- 3) regularly monitor and review the effectiveness of the measures in place.

Risk assessing noise levels can be done by observing specific working practices, referring to relevant information (for example probable noise levels from equipment used), and if necessary actual measurement of the noise levels. However, any measurements must be taken in typical conditions, with all noisy processes in operation and with as few people present as possible as the human body is a great noise absorber. The risk assessment must consider:

- the level, type, and duration of noise exposure;
- the effects on employees particularly:
 - new or expectant mothers,
 - young workers,
 - where there is a specific health risk,
 - any combined health and safety effects between noise and exposure to hazardous substances or vibration, and
 - indirect effects from not being able to hear warning signals or other sounds which might otherwise reduce risks;

A Rough Guide	
Activity	Noise level - in decibel units (dB(A))
Normal conversation	50-60
Loud radio	65 - 75
Class of primary school children	74
Busy street	78 - 85
Heavy lorry 7m away	95 -100
Chain saw	115 -120
Jet taking off 25m away	140
Basically, as a general guide, if people have to shout or have difficulty being heard clearly by someone about 2m away, then you may have a noise problem at work.	

- information from manufacturers of the equipment and availability of alternative and quieter equipment;
- exposure to workplace noise beyond normal working hours or any exposure when using rest facilities,
- information from health surveillance; and
- the availability of personal protective equipment (PPE).

The risk assessment must determine whether either of the two action values or the limit value (see above) may be reached or breached.

As with all risk assessments:

- it must be reviewed regularly, and also whenever it is suspected as no-longer being valid (for example, if a worker has been injured by or due to noise at work) or when there has been a significant change in the work that it covers;
- employees or their representatives must be consulted; and
- the significant findings and measures taken (the elimination or control of exposure, hearing protection, information, instruction, and training) must be recorded.

Safety Rep Action:

- Have a look at the risk assessments conducted by your employer – remember your legal rights to information and to be consulted.
- Has all the relevant information been considered within the risk assessments?
- Were you or other safety reps and the workers consulted at the time?
- Are the risk assessments still valid or do they need to be reviewed?

Hierarchy of Control

As with all workplace hazards, steps taken to prevent harm must first seek to avoid the hazard, and where this is not possible, then seek to control (minimise or reduce) exposure so far as possible, with first preference going to controlling the noise at source.

1. Where possible eliminate the source of the noise - introduce a 'no or low noise' purchasing policy, replace noisy equipment and processes with quieter ones, and consider how and where equipment is installed.
2. Control exposure to noise at source - isolate the source by relocating or enclosing it; 'dampen' the equipment's noise or vibration by using mats, springs, or silencers; and carry out regular preventive maintenance.
3. Collective control measures - work rooms with sound absorption; working methods and patterns to reduce both the number of workers exposed, and the length of their exposure.

If an employee is likely to be exposed to noise at or above the upper exposure action value (85db(A)), then the employer must reduce the exposure to as lower level as possible using organisational and technical measures (and not by using personal hearing protection (PHP)).

Safety Rep Action:

- Check that the employer has first done everything possible to eliminate the hazard – ask about alternatives and check with the workers whether they know of any solutions.
- Next check that the employer has attempted to control exposure to the noise at source – and again speak to the workers to see if they have any suggestions.

Hearing Protection, including Personal Hearing Protection (PHP)

If employees are likely to be exposed to noise at or above the lower exposure value (80dbA), personal protective equipment must be made available to those who request it. However, since it is for their benefit, employees should be encouraged to use the PHP so long as other risks are properly considered. For example, will they hear warning signals or other noises which might otherwise put them at risk from another hazard?

If an employer is unable to reduce noise exposure to below the upper limit, PHP must be provided to employees, and the area concerned must be designated a Hearing Protection Zone and clearly demarcated and identified by appropriate signs indicating that ear protection must be worn, with access restricted where possible and not allowed without wearing appropriate PHP.

Before an employer chooses PHP, they must:

- consult the employees or their representatives,
- first eliminate or reduce the risk to hearing by other means so far as is possible, and
- remember that appropriate PHP must be able to protect the wearer from the hazardous noise whilst still allowing them to communicate with colleagues and hear other noises, such as warning signals.

Safety Rep Action:

- remember that as with all PPE, PHP (ear plugs, ear muffs, and semi-inserts/‘canal caps’) should only be used as a last resort after all other efforts have been exhausted;
- check that any PHP is compatible with and no less effective if worn with other PPE;
- consider whether PHP will prevent employees hearing any warning signals or alarms, or prevent necessary/communication with colleagues which may discourage it’s use;
- ensure that employees are trained and informed why and how to properly use PHP;
- ensure that employees are *encouraged* (subject to the appropriate risk assessments) to use PHP at the lower action values and *instructed* to use it at the upper action values;
- ensure that PHP is regularly checked for damage and replaced as necessary; and
- ensure that just as with all PPE, PHP is provided at no cost to employees.

Maintenance and Use of Equipment

Anything provided by the employer to comply with their duties under the *2005 Regulations* must be maintained in good, working, and efficient order. With the exception of PHP provided for exposure at or above the lower action value, employers must ensure that anything they provide to or for the benefit of an employee is fully and properly used.

Safety Rep Action:

- Ensure that the employer regularly checks and repairs or replaces any measures for preventing or controlling exposure which have become defective.
- Ensure that the employer is clear that they are responsible not just for providing equipment including PHP but that they must under the law also ensure it is fully and properly used. This legal requirement does not cover PHP at or above the lower action level, but you or your branch may agree with the employer that (subject to the appropriate risk assessment/s) it becomes a workplace condition that PHP must be used at this level as well.

Health Surveillance

Where a risk assessment indicates that there is a risk to the employees health, employers must provide suitable health surveillance including hearing tests, at no cost to the employees, and record the results.

If an employee is found to have hearing damage, they must be examined by a doctor, and if that doctor or a specialist to whom they refer the employee, consider exposure to noise as the likely cause, then the employer must:

- ensure that a suitably qualified person inform the employee;
- review the risk assessment;
- whilst considering any advice given by the doctor, occupational health professional (OHP), or health and safety inspector - review the measures taken: to prevention or control exposure, on PHP and hearing protection, and maintenance and use of equipment;
- taking into account any advice given by the doctor or OHP - consider giving the employee alternative work which does not risk further exposure; and
- continue the health surveillance and ensure that the health of similarly exposed employees is reviewed.

Safety Rep Action:

- ensure that the employer provides health surveillance as appropriate;
- have a look at the health surveillance records (in a form which does not identify individuals unless they consent);
- ensure that workers get paid time-off to attend during normal working hours; and
- ensure that once identified:
 - workers who have suffered hearing damage are advised that they may want to see their safety rep for further advice,
 - that alternative work is offered, and is suitable and appropriate,
 - that risk assessments and measures to prevent and control exposure are reviewed, and
 - that the health of similarly exposed workers is reviewed.

Information, Instruction, and Training

Where employees are exposed to noise likely to be at or above the lower action value, the employer must provide them and their safety reps with suitable and sufficient information, instruction, and training, including:

- the type of risks;
- the prevention and control measures taken;
- the exposure limit and upper and lower action values;
- the risk assessments significant findings including any measurements taken and what they mean;
- the availability, provision, and correct use of PHP;
- why and how to detect and report signs of hearing damage;
- entitlement to and the purpose of health surveillance plus the collective results from such (in a form which does not identify individuals); and
- safe working practices to minimise exposure.

All this must be updated when there are significant changes in the type of work or working methods.

Safety Rep Action:

- check that appropriate information on all the issues listed above is given to you as a safety rep and to the workers concerned.
- Ensure that such information is updated when necessary.

Exempt Workers

Where because of the nature of the work, full and proper use of PHP would be likely to cause greater risks to health and safety, the HSE may allow a specific employee or group of employees not to be covered by the exposure limit value, nor the need to provide PHP where exposure is likely to be at or above the exposure action values. However, this exemption, indicated by a written certificate, will only be given:

- after the HSE has consulted the employers, and employees, or their reps, and other persons as appropriate;
- if the resulting risks of not wearing PHP are reduced as far as possible; and
- if the employees concerned are subject to increased health surveillance.

The HSE may also exempt employees or groups of employees from the protection offered by the exposure limit values, the provision of PHP at or above the lower action values, and the requirements for a Hearing Protection Zone where these conflict with activities carried out by the emergency services. Any such exemption may specify conditions which apply, may be time limited, and may be terminated by a written certificate at any time. Before giving such an exemption, the HSE must be satisfied that the employees health and safety is ensured as far as possible under these regulations.

Safety Rep Action:

- ensure that you are consulted on any proposed exemption;
- ensure that the exemption is absolutely necessary (rather than an easier way of dealing with something);
- ensure that all other steps are taken to reduce risks as far as possible;
- ensure that such workers are given increased health surveillance; and
- ensure that the need for the exemption is regularly reviewed.

Summary of Legal Requirements (*2005 Regulations* only)

Action required under the <i>2005 Regulations</i>	Where exposure to noise will:		
	likely be at or above the lower exposure action value (80db(A))	likely be at or above the higher exposure action value (85db(A))	breach the exposure limit value (87db(A))
Noise Risk Assessment	✓	✓	✓
Reduce the risk of exposure by elimination or control	✓	✓	✓
Reduce exposure to lowest possible level without using PHP		✓	✓
PHP	Make it available	Employees must wear + Hearing Protection Zone	
Anything employer provides to fulfil their “ <i>2005 Regulations</i> ” duties	To be maintained in good, working, and efficient order		
Employers to ensure anything provided for employees benefit fully and properly used	✓ (except for PHP)	✓	✓
Suitable Health Surveillance	Where the risk assessment shows that there is a risk to health		
Information, Instruction, and Training	✓	✓	✓
Possible Exemptions (HSE may grant):	1) where full and proper use of PHP would likely cause a greater risk (and all consulted, risks of not using PHP reduced as far as possible, and increased health surveillance provided):-		
	Need not provide PHP		Application exempted
	2) where emergency service activities conflict with the requirement, and workers H&S ensured as far as possible:-		
	Need not provide PHP		Application exempted
		Need not provide Hearing Protection Zone.	
		Application exempted	

Note the above table does not include reference to the peak action level which covers high level short duration (impulsive) noise.

Other Regulations Applying to Noise

In addition to the specific regulations, some of the general regulations on health and safety also apply to noise.

Regulation	Application
<i>The Management of Health and Safety at Work Regulations (MHSWR) 1999 *</i>	The requirement to risk assess, the specific requirements on new and expectant mothers, the restriction on employing young persons where there is a risk to health from noise, and the requirement to provide health surveillance.
<i>Regulation 5 of The Personal Protective Equipment Regulations (PPE) 1992 *</i>	Requires that where an employee has to wear or use different PPE simultaneously, they must be compatible and continue to be effective.
<i>The Provision and Use of Work Equipment Regulations (PUWER) 1998 *</i>	Require work equipment that is provided to be suitable, and in selecting the equipment employers must consider: the working conditions and risks to the health and safety of employees and others where the equipment will be used, plus any additional risks that may be posed by that work equipment. There are also requirements regarding the maintenance and inspection of machinery.
<i>The Supply of Machinery (Safety) Regulations 1992</i>	Apply to noise at work, since they require manufacturers, importers, and suppliers to ensure that the machinery they supply meet the appropriate standards, including reducing noise emissions to the lowest level possible.

* For more information on these, see UNISON's guide, *The Health and Safety 'Six Pack'*.

FURTHER INFORMATION

The HSE's noise at work website at: <http://www.hse.gov.uk/noise/index.htm>

The website of the European Agency for Safety and Health at: <http://ew2005.osha.eu.int>

The TUC's website at: http://www.tuc.org.uk/h_and_s/index.cfm?mins=339

The London Hazard Centres website at:

<http://www.lhc.org.uk/members/pubs/factsht/79fact.htm>

The website of the Royal National Institute for the Deaf at: <http://www.rnid.org.uk>