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## **NOISE**

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This Procedure covers the **Noise at Work Regulations (1989)** and assessment of Noise Hazard. Much of this procedure is highly technical and for specialists.

### **INTRODUCTION**

Noise in the workplace is unwanted sound caused by plant, machinery and work processes. It may also arise from external noise, for example passing road traffic, trains or aircraft.

It is known that people subjected to prolonged exposure to noise above certain specified levels are likely to suffer irreversible hearing damage and hearing loss as a direct consequence of the noise exposure. It is also known that exposure to sudden, very loud noise can cause instantaneous damage to hearing.

Damage to hearing may take two forms:

- **Noise Induced Hearing Loss** is a reduction in the ability of the person to hear, and typically is most pronounced at the frequencies of sound which are used in human speech
- **Tinnitus** is the presence of 'sounds' heard by the sufferer that are not caused by external noise.

Risk of damage can be minimised by reducing the level of sound to which the ears are exposed and/or by restricting the duration of the exposure to the noise.

NERC will seek to reduce the risk of noise damage to the hearing of staff to the lowest level **reasonably practicable**, and, where necessary, to protect staff and others from unnecessary distraction and disturbance caused by noise.

All staff are required to comply with these procedures by co-operating actively with the objectives of any noise control programmes in their workplace.

Any workplace and/or location which is identified as likely to expose people to high levels of noise will be subject to a formal assessment by a technically competent person, to identify all those persons who are exposed to noise as defined under the **Noise at Work Regulations 1989**. As a general rule of thumb if you cant hear someone clearly talking from 2 metres away, you need to complete a Risk Assessment.

**All accidents, incidents and near misses must be recorded to the local accident reporting system.**

Any indications of possible symptoms, including diseases, should be recorded.

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**NOTE:** Notwithstanding the sound levels recorded during any survey, the employer is required by the Noise at Work Regulations (1989) to reduce any sound level as far as is reasonably practicable

*Coincidental with the production of this document a new EU Directive on Noise is to be enacted in UK. Although details have yet to be confirmed, the most significant changes to affect NERC will be the reduction in 1<sup>st</sup>, 2<sup>nd</sup> and Peak action levels to 80dB(A), 85dB(A) and 112dB(A)/140 Pa respectively. Although the Regulations will not be introduced until 2005 the new sound levels should be considered in any noise surveys carried out before that time.*

## DEFINITIONS:

**Action level:** A level of noise above which action must be taken.

**dB(A):** Noise is measured on a logarithmic scale, so that an increase of 3dB corresponds to a doubling of the noise level. Normal conversation is at about 50dB, whilst traffic noise is at 80dB. When noise is measured at work the scale is adjusted to take account of the frequencies that most affect the human ear. The scale used is called the 'A weighted decibel scale' or dB(A).

**LEP,d:** The total amount of noise exposure integrated over the whole working day is called the daily personal noise exposure and is usually shortened to LEP,d.

**Acknowledgements:** Gary Mansfield

## General

### Scope of Necessary Action

The guidance in this section represents a general risk assessment and set of guidelines for a typical workplace environment. If there is anything unusual about the environment or the activities undertaken within it that is likely to present a special hazard, such as the continuous operation of machinery in a department, or the use of telephone earpieces to receive calls in an office etc, a site/activity-specific risk assessment should be undertaken and these guidelines adapted accordingly.

### Control of Noise Policy

The purpose of this procedure is to establish the way in which the organisation deals with the control of noise exposure at work and the protection of staff from risk of noise-induced hearing damage, or other risk associated with the noise to which they are exposed.

- All persons are required to comply with this procedure by co-operating actively with the objectives of the noise control programme.
- **Managers SHALL review and inspect workplaces and work processes to determine whether any persons are likely to be exposed to high levels of noise** and, if this appears to be the case, to commission a formal noise assessment to determine Daily Personal Noise Exposure Levels for those persons.
- **Managers SHALL identify** any workplace and/or location which is likely to expose people to high levels of noise and commission a formal assessment by a **technically competent person**, to identify all those persons who are exposed to noise at or above the First Action Level, or the Peak Action Level, as defined in **the Noise at Work Regulations (1989)**.
- Any person identified as being subject to a Daily Personal Noise Exposure Level at the First Action Level of 85 dB(A), LEP,d, or above, but below 90 dB(A), shall be advised of the level of noise to which they are exposed, the availability of hearing protection, and will receive appropriate training and instruction about the risk posed by exposure to high noise, and the measures they can take to protect themselves.
- The organisation will, **so far as practicable**, take noise control action to reduce the noise exposure of any person identified as being subject to a Daily Personal Noise Exposure Level at the Second Action Level of 90 dB(A), LEP,d, or above, or to the Peak Action Level, 140 dB or above, to below those levels. Staff so identified will be advised of the noise level to which they are exposed. If noise reduction measures cannot be effected immediately, **the employees exposed shall be provided with, and required to wear, hearing protection**. Appropriate training and instruction about hearing and protection will be provided to these persons.
- All areas, in which persons are likely to be subject to Daily Personal Noise Exposure Levels at or in excess of the Second Action Level, or at or in excess of the Peak Action Level, will be **designated, as 'Mandatory Ear Protection Areas' and warning signs will be placed within and at entrances to these areas**. Persons working in or entering the areas so designated must wear hearing protection.
- All new equipment purchased will be assessed for acceptable noise emission (either by pre-delivery test or from information provided by the supplier) and quieter

machinery will be selected preferentially.

- Management will promptly investigate all complaints about external noise emissions that are received from neighbours or advised by the local authority and, if appropriate, commission further investigation to be carried out by a competent person.

### **Further Action**

This procedure incorporates the Action Levels specified in the **Noise at Work Regulations 1989** as the basis of the policy. The Action levels are set relative to the reduction of hearing damage risk, but not their elimination. That is, at the Second Action Level of 90 dB(A) some staff exposed for a working lifetime will develop Noise Induced Hearing Loss. In many workplaces it will be appropriate to consider providing improved working conditions for staff by adopting lower criteria than those required under the **Noise at Work Regulations 1989**. In the general workplace environment, noise levels are usually much lower than in factories, and there is significantly less risk of noise-induced hearing damage. Alternative factors such as speech communication, speech intelligibility, satisfactory use of telephones, and localised requirements for privacy are likely to be of more relevance to determining 'acceptable' noise levels in workplaces. If problems of this type are found in the workplace, a detailed investigation by a competent person should be considered. Levels for 'acceptability' in individual workplace situations will be determined by local circumstances such as the workplace layout and dimensions, the number of staff and their distance apart.

Separate procedures apply to staff on board sea going vessels under "*The Code of Practice for Noise Levels in Ships*" HMSO.

**All accidents, incidents and near misses must be entered to the local Accident reporting system.**

### **Director: responsible for:**

- supporting positive action by all management levels.
- campaigns to encourage managers to act on priority areas.
- delegating responsibility to sites/divisions.
- auditing.
- annual reports on safety performance to NERC.

### **Head of Site / Head of Administration: responsible for:**

- assessing equipment and users on site.
- delegating specific responsibilities to line managers.
- deciding the level of line management responsibility for record holding.
- monitoring the effectiveness of the system.
- cooperation with auditing.
- annual reports to Director on Health & Safety performance.
- monitoring reports of symptoms and taking action to deal with them.

### **Division/ Section/ Group/ Unit heads: responsible for:**

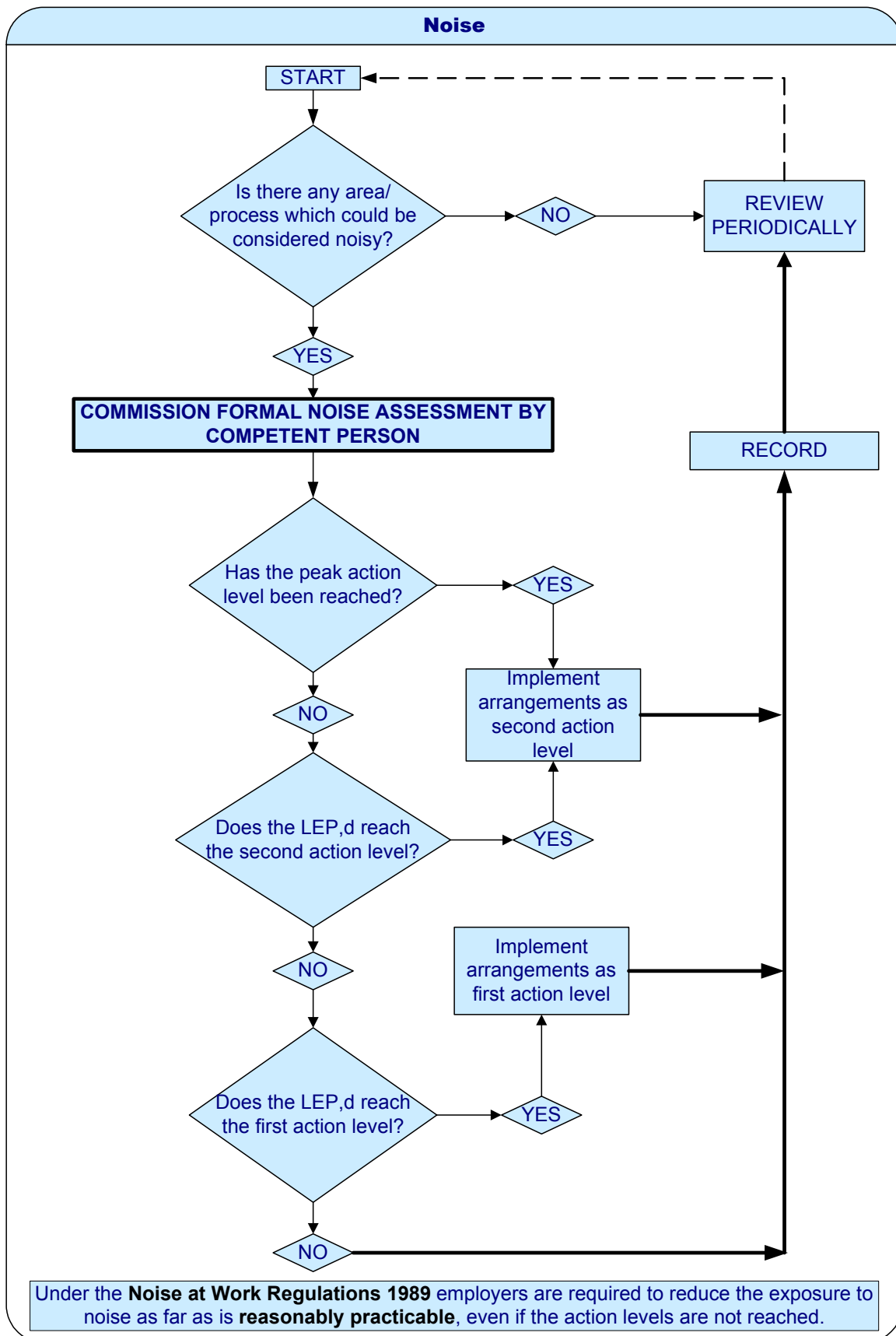
- arranging assessments of their areas of responsibility.
- ensuring that relevant staff are monitored.
- instituting Safe Systems of Work (where appropriate) and their authorisation.
- record keeping and monitoring the effectiveness of safety systems.
- inspecting their area of management responsibility.
- enforcing safety instructions and encouraging a positive safety culture.
- annual reports to Site Director.
- **NB. All levels of line management are involved in Health & Safety management.**

### **Competent persons: responsible for:**

- carrying out workplace noise assessments as requested.
- advising line management of their findings with recommendations as appropriate.

### **Staff: responsible for:**

- following management instructions.
- minimising risk to themselves and others.
- cooperating in the production of risk assessments.
- reporting symptoms to the local Accident reporting system.



**Management:**

**The “Piper-Alpha syndrome”:** The system is perfect in theory but everyone is operating it simply to conform with the law. There is no safety culture because there is no ownership or commitment to the safety systems. **Remedy** – continuing management commitment, leadership by example, involvement of staff in the assessment and operation of safety systems.

**Mixed messages:** they come from management at all levels. Managers are often unaware of the conflict. If staff are told: “Safety is paramount”, “Deadlines have to be met” **and** “Costs must be kept down”, which do they respond to in practice? If the senior manager is saying “Safety first” but the immediate supervisor is saying “We haven’t time to do that”, who will staff listen to? “Safety must not be allowed to get in the way of science” expressed at any management level, and not countered, can undo months of effort to instill a safety culture. **Remedy** – making managers aware of their inconsistencies, rapid and clear countering of negative messages, leadership by example.

**Passing the buck:** “Safety is the job of the Safety Adviser – nothing to do with me.” The message to staff is that safety is of peripheral interest and to be delegated if at all possible. **Remedy** – remind managers that they carry both legal responsibility and liability. By ducking responsibility they increase liability - for both the individual manager and the organisation. Compensation payments come out of the science budget of the Research Centre. HSE will prosecute the most senior manager against whom they can prove negligence.

**Pressure from supervisors:** Most likely to affect more junior staff and, particularly, students and casual workers. **Remedy** – senior management support for susceptible staff. Make it clear to supervisors that such pressure is unacceptable. A culture of acting on information given by “whistle-blowers”.

**MAKE SURE THE MESSAGE IS CONVINCING, CONSISTENT AND ENFORCED****Staff:**

**Over-commitment to the job:** Common in self-motivated scientists. **Remedy** – The message is “short-term savings in time can lead to long-term adverse consequences for the individual and the organisation”.

**Leisure activities:** Many leisure activities can cause hearing problems and staff should be aware that there is interaction between work and leisure activities.

### **Management:**

The management of workplace noise requires:

- Clear lines of responsibility
- The setting of priorities and goals
- Documentation of the management system
- Commitment to provide facilities and equipment required for safety
- Provision of accredited training where a need is identified
- Records of the assessments and agreed dates of revision
- Follow-up of actions taken as a result of reported symptoms
- Agreed monitoring and auditing systems
- Provision for staff feedback

### **Monitoring:**

The monitoring of workplace noise requires:

- Documentary evidence that tasks have been identified and assessed for risk
- Written records of the process of assessment
- Documentation of management follow-up after introduction of such systems
- The recording of incidents, injuries, illness and fatigue associated with noise
- Documentation of actions taken as a result of follow-up and accident reporting
- Assessment of safety attitudes amongst staff
- Documentation of training undertaken
- Maintenance of equipment
- Measurement of hearing

### **Auditing:**

The auditing of the workplace noise policy requires:

- Checking that the above documentation is in place
- Certifying that training is adequate and accredited
- Assessing management and staff attitudes by interview

### **Legislation to protect the Workforce**

The **Health & Safety at Work Act 1974** requires employers to provide a safe place of work and places a general duty on employers to protect the health of staff (which by implication includes hearing).

The **Management of Health & Safety at Work Regulations 1999** require employers to assess the risks to those in their employ (which again by implication includes hearing).

The **Noise at Work Regulations 1989** place a duty requiring employers to make formal noise assessments where staff are likely to be exposed to noise at or above specified Action Levels of noise, to record the findings, to control the exposure to noise by reducing the noise level and/or providing ear protection, where necessary, together with instructions on how to use and maintain the ear protection.

The **Health & Safety (Safety Signs and Signals) Regulations 1996** specify the format to be used for signs demarcating a high noise area (Ear Protection Zone) where the use of ear protection is mandatory.

### **Legislation to Impose Duties on Manufacturers and Designers of Machinery**

Section 6 of the **Health & Safety at Work etc Act 1974**, as amended by **Regulation 12 of the Noise at Work Regulations**, imposes duties on designers, manufacturers, importers and suppliers of plant and machinery for use at work to provide noise information and to control noise emissions from machinery.

The **Supply of Machinery (Safety) Regulations 1992**, as amended by **The Supply of Machinery (Safety) (Amendment) Regulations 1994**, require manufacturers, importers and suppliers of machinery to design and construct their machinery to reduce risks from noise emission to the lowest level technically possible. They shall also supply pertinent noise level information, as detailed in the Regulations, to the purchasers of the machinery, advise of any residual risk from noise emission, and if necessary, provide safety signs on the machinery.

### What managers should do

Management should identify areas where there is a perceived high noise level and associated hearing damage risk as in the list below. A competent person should then carry out a formal noise assessment if the exposures at or above the Action Levels under **Noise at Work Regulations 1989** are suspected, but there is some preliminary investigation that can be carried out by the manager or supervisor of staff exposed to high levels of noise.

Review the work activities of staff on an area-by-area basis to identify those operations that seem likely to result in significant noise exposure, for example:

- Operation of noisy machinery – on and off sites (Drilling rigs etc)
- Driving fork lift trucks and other vehicles
- Loading/Unloading vehicles etc
- Contractors workings
- Workshops
- Laboratories
- Plant rooms, where staff may work only occasionally
- Marine operations

### Formal noise exposure assessment and action schedule

If the noise risk assessment check procedure has indicated areas where staff may be exposed to high and potentially hazardous levels of noise, then a competent person using an integrating sound level meter or other instrumentation should carry out a more rigorous assessment.

**A competent person is someone who is experienced in the measurement of workplace noise and the determination of staff noise exposures:**

- **A qualified Occupational Hygienist**
- **A NERC/Survey/Laboratory Safety Adviser who has completed a Noise & Vibration course**
- **Someone who is in possession of the Institute of Acoustics Certificate of Competence in Workplace Noise Assessment**

### Action Levels:

**The Noise at Work Regulations 1989** specify three 'Action Levels' for occupational noise exposure that are set so as to reduce the risk of causing hearing damage to individuals. When an action level is attained or exceeded, the employer is required to take specific actions to protect the hearing of persons exposed to the noise, by reducing the level of noise to which they are exposed, or by the provision of ear protection. As with other regulations, such as the **Control of Substances Hazardous to Health Regulations 1999 (COSHH)** the use of personal protection is placed low down in a preferred hierarchy, which begins with prevention of exposure and

engineering controls.

- First Action Level: daily personal noise exposure (LEP,d ) of 85 dB(A)
- Second Action Level: daily personal noise exposure (LEP,d) of 90 dB(A)
- Peak Action Level: a peak sound pressure of 140 dB

The Daily Exposure of a person is the key parameter when considering noise exposure in relation to hearing damage risk. The Daily Personal Noise Exposure term, LEP,d , is the total personal exposure to noise at work (normalised to an eight hour day) taking account of the average levels of noise in working areas and the time spent in those areas, but taking no account of the effect of any hearing protection worn by the individual whose exposure is being assessed.

It is important to note that a 3 dB(A) step represents the doubling (or halving) of noise energy and resultant 'dosage'.

### **Peak Action Level**

The Regulations also impose a Peak Action Level of 140 dB for the peak sound pressure caused by loud impulsive noise sources. Even an act as simple as dropping an empty timber pallet onto a concrete floor can produce a peak level approaching this criterion level.

In the workplace environment, there may be some noise sources capable of causing damage to people's hearing. These are likely to include such items as:

- mechanical handling systems in warehouses such as conveyors and pallet stacking systems
- manual handling operations in warehouses
- vehicles and trucks during warehouse loading/unloading operations
- plant, machines and hand tools used during maintenance and other building works
- powered equipment used by cleaners within the premises, and in some situations, garden machinery used external to the premises
- certain types of machinery such as printing/duplicating/collating/cutting/drilling equipment used in high volume situations

It is also necessary to give special consideration to the noise exposure of telephone switchboard operators and persons employed in offices, particularly when the workers use insert earpiece devices to receive calls and messages.

### **Other Risks**

Noise in the workplace can also present other hazards and difficulties. It can interfere with or prevent communication between workers, and is often an annoyance to workers, causing tiredness and inefficiency. It can also mask warning signals and sounds and make them less audible and therefore less effective. These other difficulties and problems may occur at noise levels that are very much lower than the 'hearing conservation' criterion levels stated in the **Noise at Work Regulations 1989**.

### **Who is at Risk?**

In addition to the persons employed in the workplace, account should be taken of the noise to which cleaning staff are exposed, particularly from any machinery, which they operate, and

maintenance personnel from the noise of maintenance activities carried out within the workplace and within service plant machinery rooms. If office or warehouse management is responsible for control of vehicle operations, such as delivery vans, goods lorries and fork lift trucks; noise exposure of the vehicle drivers may have to be considered, relative to both driving the vehicles and to noise exposure at the premises the drivers visit.

**What to do about any Noise Problem?** [Also see the note on page 2 re new Directive.](#)

### **Reduce the Noise at Source**

Where staff are found to be exposed to levels of noise that may represent a hazard to hearing, the preferred course of action to reduce their noise exposure is to reduce the level of noise at source. This may necessitate only very simple action, such as fitting a silencer to an air exhaust, or obtaining a proprietary acoustic hood for some types of office machinery such as line printers.

If the problem is more difficult to resolve, then it may be necessary to seek advice from a competent person or from a noise control manufacturing company as to practical methods of noise reduction. When noise control action has been completed, it will be necessary to reassess the situation, to confirm that the workers' noise exposures have been reduced to acceptable levels below the Second Action Level of 90 dB(A), LEP,d, and preferably to below the First Action Level of 85 dB(A), LEP,d.

### **Reduction of Exposure Duration**

In some situations, it may be possible to reduce the noise exposure of individual staff by 'rotation' of their duties, so that the daily duration of exposure of an individual staff member to the highest noise operations is kept to an acceptable level, preferably below the First Action Level of 85 dB(A), LEP,d. If such an approach is adopted, then it is necessary to ensure both that the staff do not incur significant noise exposure during other duties that they carry out and that they adhere closely to the 'rotation' schedule defined.

### **Ear Protection**

It may not be possible to implement immediate noise control action, and in some situations it may be totally impracticable to take 'engineering' noise control action to reduce the level of noise at source. In these situations, it is necessary for employers to supply ear protection to the workers to ensure that the sound reaching the ear is reduced to acceptable levels. At daily exposure levels between 85 dB(A) and 89 dB(A), LEP,d, the employer is required to supply ear protection when the employee requests the provision of such protection. At daily exposure levels of 90 dB(A) LEP,d and above, the employer is obliged to define 'Ear Protection Zones' that define and clearly mark the extent of the area where such exposures are likely, and to supply ear protection to the employees in that area. The employees are also obliged to use the protection within the defined area. The signs used should comply with **The Health & Safety (Safety Signs and Signals) Regulations 1996**. All persons receiving ear protection should also receive adequate training in its use, care and maintenance, and the employer should put in place procedures to regulate the issue and maintenance of the ear protection equipment.

Ear protection equipment is readily available in two main types, ear plugs and ear muffs. Ear plugs, such as glass down, compressible foam inserts and moulded rubber plugs, require placement into the ear canal by clean hands. Ear muffs are placed around the head covering the outer ear, and may be more suitable for use in conditions where hand soiling is anticipated. Subject to the suitability of the types of hearing protection in the particular working environment, and the adequacy of the protection afforded, workers should be given a choice within each of the main types of ear protection, and allowed to select the type with which they feel most comfortable. It should be noted that in most office areas noise exposure levels are unlikely to exceed **The Noise at Work Regulations 1989** criterion levels, and where they do, such as in plant rooms, the levels are likely to be such that most types of hearing protection if correctly worn may be expected to reduce workers' noise exposure to acceptable levels.

### **What to do if the Assessment shows that Noise is a Problem**

The procedure set out below is a guide for the competent person with responsibility for Health &

Safety either to establish a new noise control system or, where a system is already in place, to evaluate the need for amendment and development of that system. The following guidelines are intended as the starting point for an organisation that has not yet addressed this issue. If the management of noise and noise exposure within the organisation is already established, it may also be used as a basis for further development of an existing system.

### **Procedure for Establishing a Noise Control System**

- Establish all the work processes and areas, such as plant rooms, and all the noisy activities such as those using printing machinery and power tools, which may result in significant noise exposure to workers, at levels approaching or attaining the Action Levels defined in the **Noise at Work Regulations 1989**.
- Carry out a subjective review of each activity/work area to establish whether it is possible that noise levels may exceed the organisation's standard for action, which in offices may be set at a level significantly lower than the **Noise at Work Regulations 1989** Action levels.
- For each activity and work area that appears likely to exceed the **Noise at Work Regulations 1989** Action Levels, commission a noise assessment to be carried out by a Competent Person.
- For each noise exposure that is shown to exceed the **Noise at Work Regulations 1989** Action Levels, communicate the findings to the staff exposed.
- Investigate the possibility of reducing noise emissions, and take action where possible.
- The best way to reduce noise in the workplace and protect the health and hearing of employees is to choose quieter machinery from the start. Specifying and purchasing policies are required which include noise evaluation as a criterion when selecting machinery (see Reducing Noise at Source).
- For noisy work areas where exposure is confirmed at or above 90 dB(A), LEP,d, such as plant rooms, attach appropriate warning signs at all entrances to and within the areas requiring the use of hearing protection by persons in the area.
- Make available and/or compulsory (at the relevant exposure level) hearing protection suitable for the purpose.
- Request that Departmental managers regularly review noise exposure and noise levels within their own work areas, and for these areas (if any) repeat from bullet point 3 in this section, as necessary.
- Keep records of initial selection of areas for investigation, noise assessments, staff communications and details of all ear protection equipment issued to specified staff.

### **Record keeping, monitoring and reviewing**

#### **Legal Requirement**

The record keeping required for compliance and proof of compliance with legal requirements and achievement of best practice may be considered in four areas:

- records of what action has been taken, and when the action was taken;
- records of all noise audits, formal surveys, exposure assessments and any follow-up surveys and assessments;
- records indicating all communications to staff members and to those individuals identified

as exposed to noise at levels above the Action Levels, particularly regarding the provision of / attendance at training and education courses, and the issue of personal ear protection equipment;

- where audiometry (the evaluation of employees' hearing by individual testing) is selected to form part of the management system for noise, records generated in this manner will be taken as a type of health surveillance as defined in the MHSWR 1999.

It is a legal requirement under **Noise at Work Regulations 1989** to keep adequate records of employees' daily noise exposure assessments until these are superseded by a more recent assessment. Notwithstanding the basic requirement of the Regulations in relation to document retention, it is strongly recommended that employers should maintain archive records of all noise assessments and noise surveys of their premises. Longer-term retention of such information will be of value when assessing the overall results of a noise control programme that may take many years to implement fully. The records will also be of value in the event of any employee alleging noise damage to his/her hearing. Availability of the results of earlier noise surveys and assessments, as well as documentation relating to the provision of hearing protection and training for the individual, may provide adequate defence to such a claim.

### **Assessment of Ear Protectors**

It is essential that all ear protectors considered for use are types that are suitable for the task and bear the CE label. This indicates that the protectors comply with various safety requirements and that they have been tested to determine the level of protection against noise to be expected when they are correctly worn.

### **Monitoring**

The responsibilities listed above should be carried out by managers in the organisation or by the nominated employee(s) listed in the relevant section of the local Health & Safety Policy statement.

### **Regular noise control checks**

- Carry out, at intervals of no greater than two years, subjective inspection of all work operations and plant areas to determine whether or not there are significant noise emitting sources and processes, and whether or not the noise level appears to have changed since the previous inspection. For continuity, the inspections should, wherever possible, always be carried out by the same person and be reported in similar format;
- list the noisy work areas/activities and check the list against the previous checklist of noise sources to identify any which are new, or changed in level, and may require re-assessment;
- carry out and/or commission the additional or repeat noise exposure assessments which may be required following the two-year check;
- review the information provided to staff exposed to significant noise, and the availability to them of ear protection;
- make arrangements for regular workplace inspections to ensure that persons required to use ear protection are actually using protection, and have been provided with appropriate information, instruction and training;
- carry out subjective review of external noise emissions, and commission further detailed survey/expert assistance if needed;
- in the light of the above and the findings derived from the checks, review the scope and extent of the policy at regular intervals.

**Staff Information**

All staff should be informed about the measures taken to control noise in the workplace and individual employees informed of their personal noise exposure.

**Health & Safety Executive publications**

Introducing the Noise at Work Regulations: a brief guide to the requirements controlling noise at work. 1989 IND(G)75(L)(rev). Also available IND(G)75(W) in Welsh.

Reducing Noise at Work: Guidance on the Noise at Work Regulations 1989. 1998 publication L108. ISBN 0 7176 1511 1

Noise at work: A guide for employees. 1995. IND(G)99(L) (Rev 1)

Ear protection - employers' duties explained. 1999. IND(G)298(L)

Sound solutions: Techniques to reduce noise at work. 1995. HSG138. ISBN 0 7176 0791 7

Hearing protection : An interactive learning programme. ISBN 0 7176 1210 4

Keep the noise down: Advice for purchasers of workplace machinery. IND(G)263 1997 ISBN 0 7176 1480 8

Wear ear protection properly-protect your hearing or lose it. 1999. MISC 185, ISBN 0 7176 2484 6

Good health is good business Phase 4 Employers guide. 1999. MISC 196

Protect your hearing! 1999. IND(G) 299(L) ISBN 0 7176 0940 5

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## APPENDIX IV: RISK ASSESSMENT

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The operational procedure and general guidance in this document used in conjunction with NERC Health & Safety [Procedure Number 12 Risk assessment and risk management](#) provides the guidelines for the assessment and management of risk from noise in the workplace.

## **Training and Instruction**

Suitable training and instruction shall be provided for all staff whose noise exposures are assessed as likely to be at or above any of the Action Levels specified in the **Noise at Work Regulations 1989**. The provision of such training will provide staff with a better understanding of the issues involved. Employers should also consider how other staff using the workplace, for example contractors and temporary staff, may be provided with adequate information about the noise hazards that are present, and the measures that they need to take to protect themselves against noise during the time they are on site. It is also important that supervisory staff receive the same training as other staff members, even though the noise exposures of the supervisory staff may, because of their work pattern, be lower than those of the main workforce.

## **Training Content**

### **Provision of Information, Instruction and Training**

Employers are required to provide information, instruction and training to staff that are likely to be exposed to noise at or above any of the Action Levels defined in the **Noise at Work Regulations 1989**. The workers should be informed of:

- their assessed likely daily noise exposure levels;
- the risk to their hearing posed by exposure to high noise;
- what to do to minimise the risk to hearing including the correct use of noise control equipment;
- the types of suitable ear protector that are available, and the procedures for its issue, the areas where it should be worn and how they are marked out;
- how to wear ear protection, ensuring a good fit (ear muffs) and effective placement in the ear canal (plugs, foam inserts, etc.);
- the maintenance of the ear protection equipment;
- the action they should take when the ear protection becomes damaged or defective, to ensure that the protection is promptly replaced or repaired; and
- the importance of prompt reporting to management of any defect with noise control equipment and/or materials.

The briefing as a whole should ensure that staff are advised of the duties imposed by the **Noise at Work Regulations 1989**, including the duty of staff to make appropriate use of noise exposure reduction techniques such as hearing defenders.

### **Advice about recognising hearing loss**

The instruction should include information about the most typical symptoms of noise-induced hearing loss (difficulty of discerning speech in high ambient noise situations, difficulty using the phone, complaints about the TV being too loud, failing to hear the door or telephone bell). Permanent ringing in the ears (tinnitus) is another possible consequence of exposure to noise. Staff should be advised that if they experience such symptoms, it is in their own interest to seek medical advice, and advise their employer of the problem.

### **How often is it necessary to provide training?**

There is need for on-going training of all staff that are likely to be subject to daily noise exposure in excess of the Action Levels specified in the **Noise at Work Regulations 1989**. Following initial comprehensive training, during personnel induction procedures for new staff or after adverse daily noise exposure assessments for existing personnel, the employer should provide regular 'refresher' training courses to ensure that staff are reminded of their obligations under the Regulations. The refresher courses may be shortened versions of the initial training programme, or may be restricted to specific topics.

### **Safety signs**

Ear Protection areas should be marked by the use of appropriate signage. In addition it may be necessary to use signs indicating prohibitions on entry. Where ear protection/high noise exposure areas are designated and such signs are employed, appropriate arrangements are required for supervision and monitoring.

**Making rules is necessary, but so is their enforcement.**

**Professional Bodies and Associations**

Institute of Acoustics  
77A St. Peter's Street  
St Albans  
Hertfordshire  
AL1 3BN

Tel: 01727 848195  
Fax: 01727 850533

British Institute of Occupational Hygienists  
Suite 2,  
Georgian House  
Great Northern Road  
Derby  
DE1 1LT

Tel: 01332 298087  
Fax: 01332 298099

Association of Noise Consultants  
6 Trap Road  
Guilden Morden (near Royston)  
Hertfordshire  
SG8 0GE

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**British Standards**

There are various British Standards for noise measurement and ear protection equipment, including:

BS 4142: 1997 Method for rating industrial noise affecting mixed residential and industrial areas

BS EN 60651:1994 Sound Measurement Equipment

BS EN 60804:1994 Sound Measurement Equipment

BS EN 61252:1997 Sound Measurement Equipment