

CITY AND COUNTY OF CARDIFF

CODE OF GUIDANCE

NOISE AT WORK

Purpose

The aim of this Code of Guidance is to explain the Control of Noise at Work Regulations 2005, and to make all employees aware of the potential ill health effects of noise exposure.

The Code of Guidance contains the following sections:

- 1.0 Introduction
- 2.0 Legal requirements
- 3.0 How is noise measured?
- 4.0 Controlling the risks from noise?
- 5.0 Assessment of risks
- 6.0 Practical ways of reducing noise.
- 7.0 Health surveillance
- 8.0 Information, instruction and training
- 9.0 Summary of manager's responsibilities
- 10.0 Employee responsibilities
- 11.0 A low noise purchasing policy
- 12.0 Flow chart – Process for managing noise risks
- 13.0 Further Information

1.0 Introduction

1.1 Hearing damage caused by exposure to excessive noise at work is permanent and incurable. It is estimated that over 2 million people are exposed to noise levels at work that may be harmful. Hearing loss is usually very gradual due to prolonged exposure over time. It may only be when damaged caused by noise over the years combines with normal hearing loss due to ageing that people realise how deaf they have become. Hearing damage can also be caused immediately by sudden, extremely loud noises. Exposure to noise can also cause tinnitus, which is a sensation of noises in the ears such as ringing, buzzing or whistling.

2.0 Legal requirements

2.1 The Control of Noise at Work Regulations 2005 requires employers to prevent or reduce risks to health and safety from exposure to noise at work. Employers have duties under the Regulations to:

- Assess the risks to employees from noise at work;

- Take action to reduce the noise exposure that produce those risks;
- Provide employees with hearing protection if it is not possible to reduce the noise exposure enough by using other methods;
- Make sure the legal limits on noise exposure are not exceeded;
- Provide employees with information, instruction, and training;
- Carry out health surveillance where there is a risk to health

3.0 How is noise measured?

3.1 Noise is measured in decibels (dB) and given an 'A' or 'C' weighting.

Sound level meters replicate the human response of the ear by using an electronic filter which is called the "A" filter. A sound level measured with this filter switched on is denoted as dB(A). Practically all noise is measured using the A filter. The sound pressure level in dB(A) gives a close indication of the subjective loudness of the noise and is used to measure average noise levels.

A 'C' weighting' or 'dB(C)' is used to measure peak, impact or explosive noises. The C-weighting network represents the actual sound pressure level that is received by the sound level meter.

3.2 Exposure Limit Values and Action Values are defined in the Control of Noise at Work Regulations 2005

Exposure Action Values (EAV) are the levels of exposure to noise at which the employer is required to take certain actions.

The Lower Exposure Action Values (LEAV) are:

Daily or weekly personal noise exposure of **80dB(A)** or a peak sound pressure of **135dB(C)**

The Upper Exposure Action Values (UEAV) are:

Daily or weekly personal noise exposure of **85dB(A)** or a peak pressure of **137dB(C)**

Exposure Limit Value (ELV) are the levels of noise above which an employee may not be exposed.

The Exposure Limit Value (ELV) are:

Daily or weekly personal noise exposure of **87dB(A)** and a peak sound pressure of **140dB(C)**

The Regulations allow for weekly exposures to be calculated and applied rather than over a single day in circumstances where noise exposures vary markedly from day to day (e.g. where people use noisy equipment on only one or two days of the week).

Note: In applying the exposure limit values, account is taken of the protection afforded to the employee by any personal hearing protection provided.

4.0 Controlling the risks from noise

- 4.1 The purpose of the Control of Noise at Work Regulations 2005 is to make sure that people do not suffer damage to their hearing, so controlling noise risks and noise exposure should be where efforts are concentrated.
- 4.2 Wherever there is risk from noise at work there is a requirement for introduction of alternative processes, equipment and/or other working methods which would make the work quieter or mean that people are exposed for shorter times.
- 4.3 Where there are things that can be done to reduce risks from noise that are reasonably practicable, they should be done.
- 4.4 Where the risk assessment shows that employees are likely to be exposed at or above the upper exposure action values, a planned programme of noise control must be put into place.
- 4.5 When purchasing or hiring noise-generating equipment, information on the noise such equipment generates must be provided or requested and considered as part of any risk assessment relating to working with, or the operation of such equipment.

5.0 Assessment of risks

- 5.1 Risk assessments must be carried out for employees who are liable to be exposed to noise levels at or above the lower EAV. The assessments must also identify the measures which need to be taken to meet the requirements of the regulations. A person's daily noise exposure will depend on both level of the noise and the length of exposure.
 - (a) An employee who is exposed to noise at or above the lower EAV is to be provided with personal hearing protectors upon request.
 - (b) Where employees are exposed to noise levels at or above the upper EAV

and the employer is unable by other means to reduce the levels of noise to below the upper EAV personal hearing protectors must be provided for the employee and the employee must be instructed and trained in its use.

- (c) Hearing Protection Zones are to be established where employees are likely to be exposed to noise at or above the upper EAV. Hearing Protection Zone notices should display by the appropriate health and safety sign, and contain text, to indicate that it is a Hearing Protection Zone and the need for employees to wear personal ear protectors whilst in such a zone; and no one must enter any such zone unless they are wearing personal ear protectors. Employees may be subject to disciplinary procedure for failing to comply with this instruction.
- (d) Records of noise assessments must be kept and regularly reviewed.

5.2 To get a rough estimate of whether a risk assessment is required use the simple tests in the table below

Test	Probable noise level	A risk assessment will be needed if the noise is like this for more than: (Daily noise exposure)
The noise is intrusive but normal conversation is possible	80 dB	6 hours
You have to shout to talk to someone 2 m away	85 dB	2 hours
You have to shout to talk to someone 1 m away	90 dB	45 minutes

Examples of the Noise Levels Produced by Various Daily Activities



6.0 Practical ways of reducing noise.

6.1 There are many ways of reducing noise and noise exposure. First think about how to remove the noise altogether. If that is not possible, take action to control the noise at source, consider redesigning the workplace and reorganising working patterns. The following options of reducing exposure to noise should be considered before the use of personal hearing protection.

6.2 Use a different, quieter process or quieter equipment e.g.

- Can the work be carried out some other quieter way?
- Can whatever is causing the noise be replaced with something less noisy?

6.3 Introduce engineering controls

- avoid metal on metal impacts
- vibrating machine panels can be a source of noise - and material to reduce vibration (damping)
- Fit silencers to air exhausts and blowing nozzles.

6.4 Modify the paths by which the noise travels through the air to the people exposed, e.g;

- Erect acoustic enclosures (these have to be specially made of sound

- insulating material and correctly installed) around the machines to reduce the amount of noise emitted into the workplace or environment.
- use barriers and screens to block the direct path of sound
 - Position noise sources further away from workers.

- 6.5 Design and lay out the workplace for low noise emissions e.g.
- keep noisy machinery and processes away from quieter areas
 - Design the workflow to keep noisy machinery out of areas where people spend most of their time.
 - Limit the time spent in noisy areas - every halving of the time spent in a noisy area will reduce noise exposure by 3db.

Proper and regular maintenance of machinery and equipment is essential and it will deteriorate with age and can become noisier.

Remember - Provision of hearing protection for employees is not a substitute for noise reduction and should only be provided as a last resort

7.0 Health surveillance

7.1 Health surveillance must be provided for:

- all employees who are exposed at or above the upper exposure action level
- all vulnerable or susceptible employees who are exposed at or above the lower exposure action level

7.2 Employees who will be exposed to noise above the lower action level must be audiometrically tested pre employment, or if not, as early as possible in their employment. This first test forms the baseline for future comparisons and identifies vulnerable or susceptible employees. It indicates pre-existing hearing loss and identifies employees where extra precautions maybe needed to prevent further hearing loss, e.g. provision of specially molded ear protection, more frequent hearing tests or extra education on the risks of noise. Any employees identified after they have commenced work to be exposed to noise above the lower action level should also be audiometrically tested.

N.B In respect of prospective employees the Pre-employment Health Declaration (4.HR.144) must also be completed

7.3 Prospective employees and existing employees should be referred by their line manager via People and Organisational Development (Human Resources) to the Occupational Health Service. They will be asked to complete a hearing questionnaire (CIS document 4.HR.280) which will be

retained in the employee's confidential medical records in the Occupational Health Service.

- 7.4 The results of the audiometric testing will be explained to the employee by the Occupational Health Adviser carrying out the test. Where appropriate, the employee will be informed of:
- the significance of any hearing loss
 - what will happen next including the need for a report to be prepared for the relevant line manager
 - the importance of complying properly with noise control and hearing protection measures
 - Whether further medical advice is needed e.g. referral to GP or for specialist assessment.
- 7.5 Under normal circumstances, employees exposed to noise above the upper action will be re tested every year for the first two years and at three yearly intervals thereafter if there is no cause for concern. Each individual case will be assessed by the Occupational Health Service to determine frequency of testing.

8.0 Information, instruction and training

- 8.1 Where employees are likely to be exposed to noise at or above the lower EAV the employer must provide those employees and their representatives with suitable and sufficient information, instruction and training, which would include:
- the nature of risks and the control measures to be used
 - the EAVs and ELVs exposure levels
 - the significant findings of the risk assessment
 - the availability and provision of personal hearing protectors and their correct use
 - why and how to detect and report signs of hearing damage
 - health surveillance arrangements and entitlements
 - safe working practices
 - collective results of any health surveillance

9.0 Summary of manager's responsibilities

- 9.1 Where appropriate, arrange for assessment of noise exposure to be carried by a competent person.
- 9.2 All records of assessments need to be kept. This also applies if a new one made.
- 9.3 Reduce exposure to noise as far as reasonably practicable other than personal hearing protection (consider examples given)

- 9.4 Ensure so far as reasonably practicable that hearing protectors are;
- provided to employees as appropriate
 - provided to all those persons who may be exposed
 - maintained and repaired
 - used by all exposed (supervision)
 - staff are trained in the correct use and fitting of equipment and that where other PPE is used it does not conflict with proper fitting.
- 9.5 Ensure as far as reasonably practicable that all who go into a marked hearing protection zone use hearing protectors.
- 9.6 Ensure so far as reasonably practicable that all equipment provided under the Regulations is fully and properly used.
- 9.7 Ensure all equipment is maintained.
- 9.8 Provide adequate information, instruction and training about risks to hearing, what employees should do to minimise risks, how they can obtain hearing protectors if they are exposed to between 85 and 90 db(A)
- 9.9 Mark ear protection zones with notices.
- 9.10 Arrange for health surveillance to be carried out where appropriate.
- 9.11 Regularly review the noise assessment - the law requires it to be reviewed whenever there is a change to the process or new equipment which may alter the noise level.
- 9.12 When purchasing or hiring noise generating equipment, information on noise such equipment generates must be provided or requested and considered as part of any risk assessment relating to working with, or the operation of such equipment.

10.0 Employee's responsibilities

- Use hearing protectors where provided.
- Use any other protective equipment.
- Report any defects discovered to employer.
- To co operate with arrangements for health surveillance

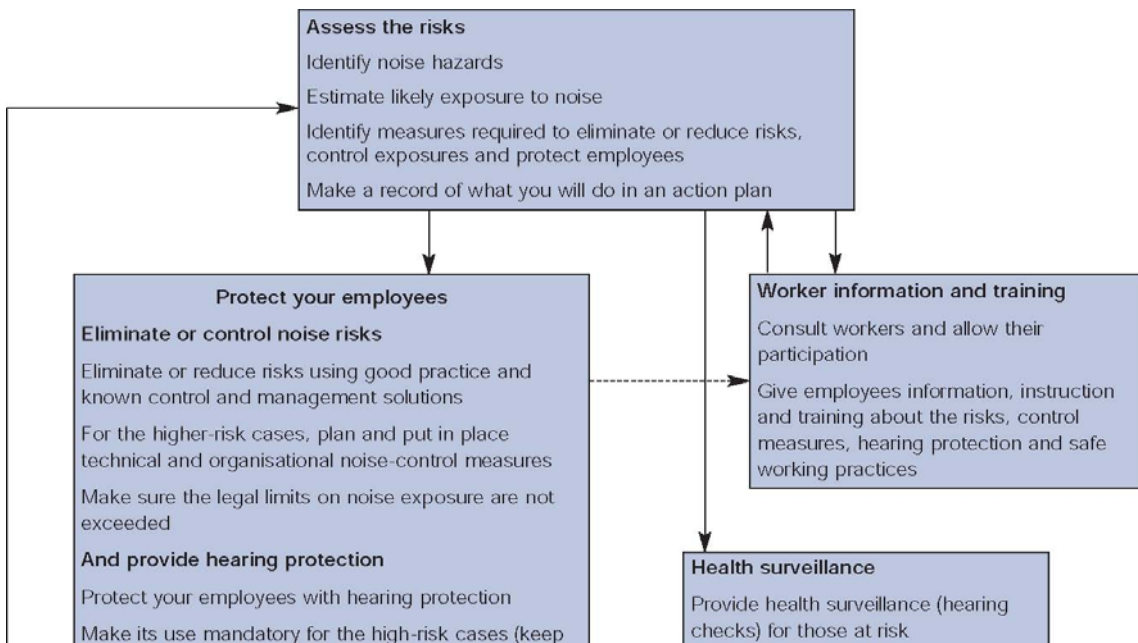
11.0 A low noise purchasing policy

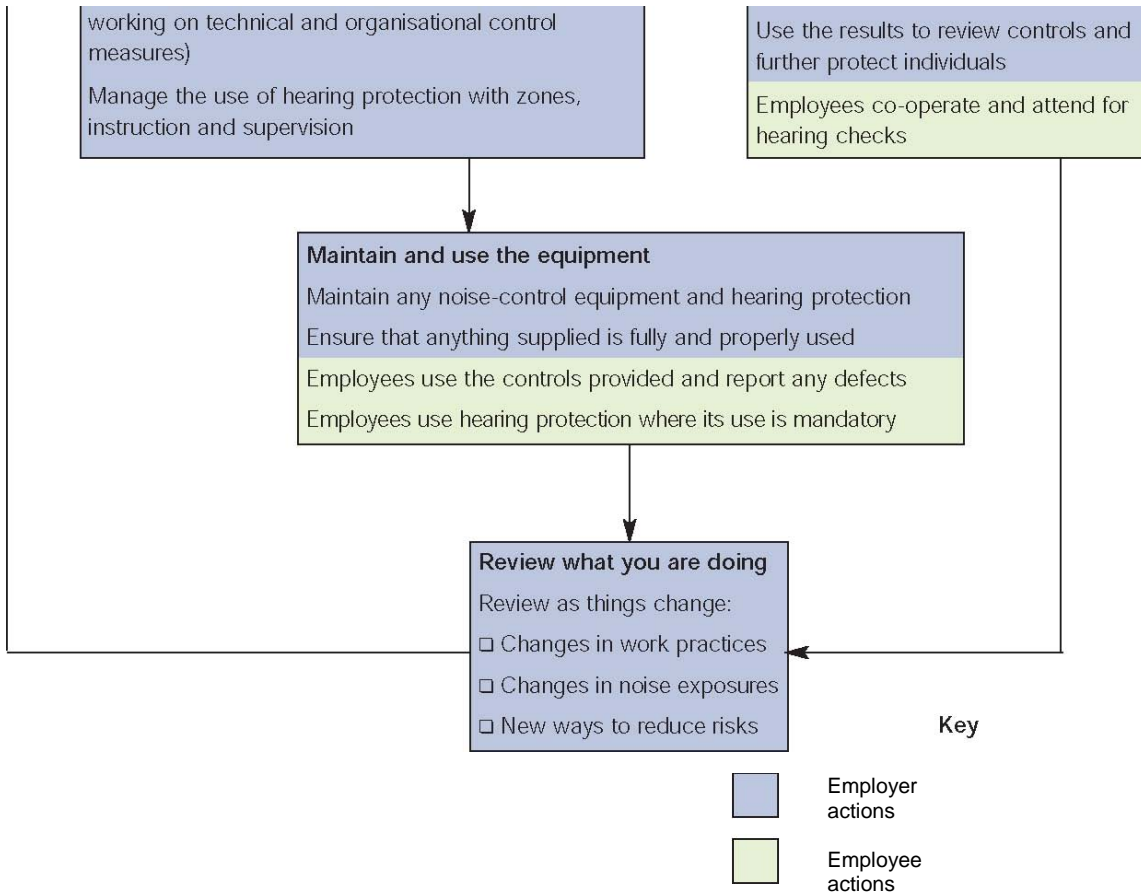
11.1 Introducing a positive purchasing and hire policy can be the most cost effective long term measure taken to reduce noise at work. Choosing a quieter equipment and machinery, whether bought initially or hired from the start can save the cost of introducing noise reduction measures once it is installed or already in use.

Consider the following

- 11.2 How new or replacement machinery could reduce the noise levels in the workplace.
- 11.3 Ensure a realistic noise output level for all new machinery and check that tenderers and suppliers are aware of their legal duties.
- 11.4 Ask the suppliers about the likely noise levels under the particular conditions in which the machinery will be operated, as well as under the standard test conditions. If the same question is asked to all suppliers you can compare information.
- 11.5 Keep a record of your decision process; this will help show that you have met your legal duties to reduce workplace noise.
- 11.6 Ensure that the equipment is suitable for the task (a larger capacity machine may create more noise but be used for a much shorter period)
- 11.7 Once purchased, equipment must be operated and maintained as per the Manufacturer's handbook.

12.0 Flow chart – Process for managing noise risks





13.0 Further Information:

The Noise at Work Regulations 2005 Guidance on Regulations (ISBN 0-7176-6164 4)
Health & Safety (Safety Signs & Signals) Regulations 1996

In order to help employers assess their employees' exposures to noise the HSE have developed a 'Noise exposure ready-reckoner'. This system is designed as a simple means for working out the daily personal noise exposures of employees, based on the level of noise and the duration of exposure. It provides a means of calculating 'noise exposure points' for individual jobs that can be combined to give the 'total exposure points' for a day, and so finding out the daily exposure. The system is available within HSE's Guidance on the Regulations (L108) or on-line at <http://www.hse.gov.uk/noise/calculator.htm>

