Control of Occupational Noise

Contents

1 Introduction

The purpose of this standard is to define the process with regard to addressing Safety, Health, and Environmental (SHE) related issues associated with the procurement of noise related materials, products and services within Unitas.

Unitas shall ensure adequate resources and support are provided throughout the organisation to enable suitable control of occupational noise. The emphasis is on Directors and senior managers to ensure that there are processes in place to exercise control and that relevant personnel, whether own employees or contractors, have received the appropriate training on noise risks to enable them to fulfil their role as defined within this Standard. They shall also ensure that this process is cascaded to employees and that it is complied with thereafter.

2 Scope

The scope of the SHEMS covers all persons, workplaces and operations in our business

Unitas SHEMS (SHEMS-STD-GR-003) provides guidance and signposting for the compliance, implementation, monitoring, audit and review of our systems, demonstrating continual improvement and achievement of business objectives.

Exceptions will be documented through a SHEMS Appendix B process (SHEMS-FOR-GR-999), authorised by Unitas Operations Director Responsible for coordinating SHE.

Occupational noise not only has the potential to cause hearing loss to our employee/contractors but also can cause Environmental Noise Disturbance to our neighbours, environment and habitats.

2.1 Definition

Noise - a loud, surprising, irritating, or unwanted sound; it is well established that exposure to certain levels of noise energy cause hearing damage.

Noise exposure - this happens when a person is present in a noisy environment. An activity generating a lot of noise energy is not a problem from an occupational health point of view if people are not present nearby.

Decibels - noise is measured in decibels, often denoted as dB(A); the A in the bracket means that the measurement is matched to the sensitivity of the human ear.

Equivalent Continuous Noise Level, Leq. - the characteristics of sound are that it is rarely at a continuous pitch or amplitude over time. The equivalent continuous noise level represents the steady state noise energy level which would produce the same total energy over a given time period, for a time-varying sound source. It is measured in decibels.

Sound Level Meter - an instrument for measuring sound levels of which there are many different types with different features and accuracy. Where measurements are being made to assess occupational noise levels, the sound level meter needs to be of the integrating type able to measure Leq levels and should meet at least Class 2 of BS EN ISO 61672-1:200318 (the current instrumentation standard for sound level meters) or at least Type 2 of BS EN 60804:200119.

Daily Noise dosage, LEPd - Noise dosage is important as most of the levels quoted in regulations relate to an equivalent dosage for a daily work period. This is usually an Leq expressed for an 8 hour working period.

Competent Person for measuring Noise levels - somebody that has the necessary experience and formal training to make an assessment of noise levels and, where necessary, to determine levels using a sound level meter; be capable of interpreting the results; calculating exposure information and be able to make a suitable record of the assessment. A qualification in workplace noise assessment from a recognised training provider such as the 'Institute of Acoustics' would certainly meet the test of competency.

Noise Risk Levels - these are referred to the Control of Noise at Work Regulations 2005

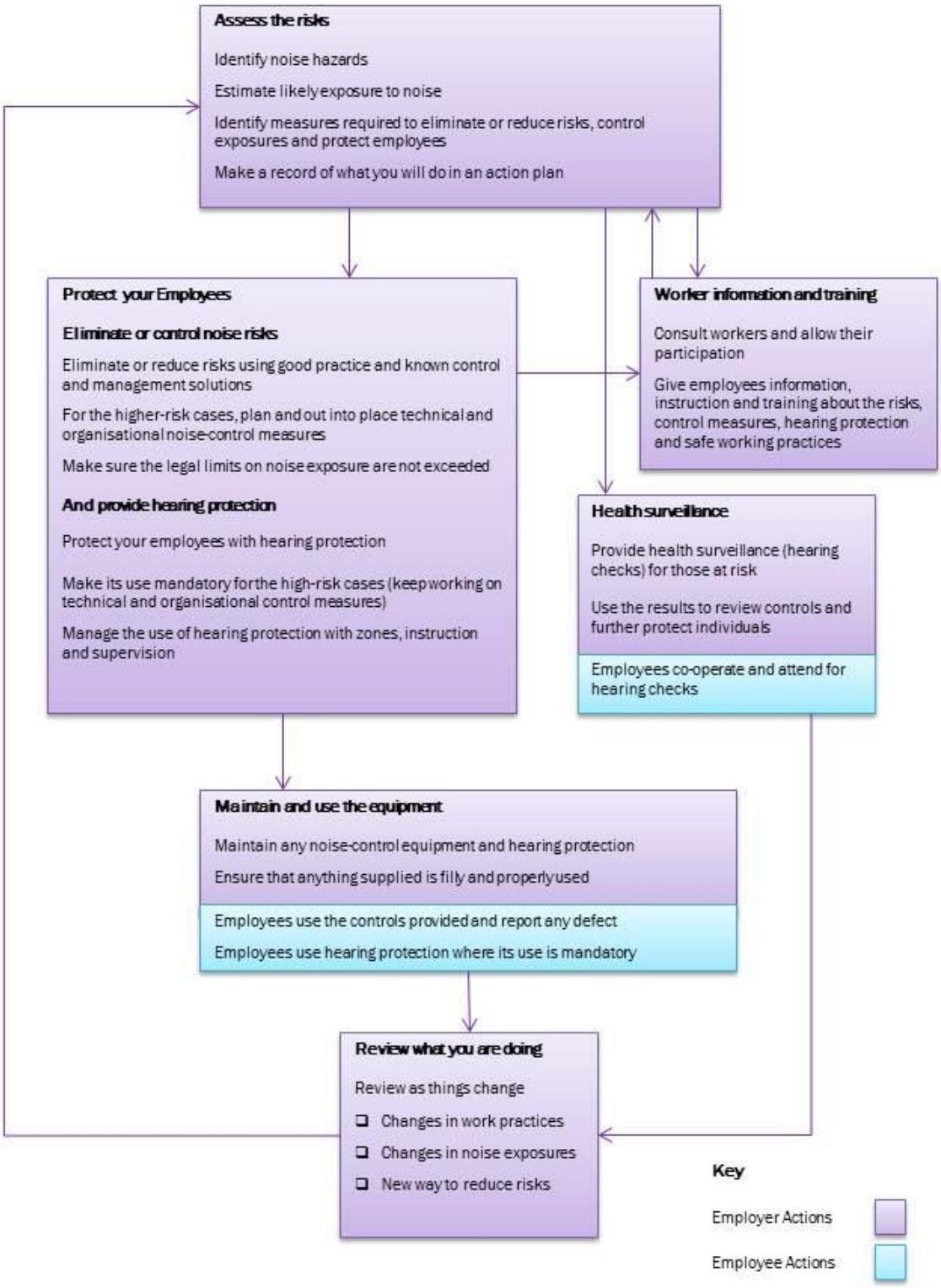
Daily/Weekly Noise dosage band defined in 2005 regulations	Comment
80 dB(A)	This is known as the **lower exposure action value** in the regulations
85 dB(A)	This is known as the **upper exposure action value** in the regulations
87 dB(A)	This is known as the **exposure limit value** in regulations

Lower exposure action value – Where the daily or weekly exposure of 80 dB(A) or a peak of 135 dB(C) is likely to be exceeded the employer must make hearing protection available, and provide employees with suitable and sufficient information, instruction and training.

Upper exposure action value – Where the daily or weekly exposure of 85 dB(A) or a Peak of 137 dB(C) is likely to be exceeded the employer will supply hearing protection.

Exposure Limit Value - The exposure limit values (87 dB(A) daily/weekly or 140 dB(C) peak) which must not be exceeded.

3 Process


Assess the risks
Identify noise hazards
Estimate likely exposure to noise
Identify measures required to eliminate or reduce risks, control exposures and protect employees
Make a record of what you will do in an action plan
Protect your Employees
Eliminate or control noise risks
Eliminate or reduce risks using good practice and known control and management solutions
For the higher-risk cases, plan and out into place technical and organisational noise-control measures
Make sure the legal limits on noise exposure are not exceeded
And provide hearing protection
Protect your employees with hearing protection
Make its use mandatory for the high-risk cases (keep working on technical and organisational control measures)
Manage the use of hearing protection with zones, instruction and supervision
Worker information and training
Consult workers and allow their participation
Give employees information, instruction and training about the risks, control measures, hearing protection and safe working practices
Health surveillance
Provide health surveillance (hearing checks) for those at risk
Use the results to review controls and further protect individuals
Employees co-operate and attend for hearing checks
Maintain and use the equipment
Maintain any noise-control equipment and hearing protection
Ensure that anything supplied is fily and properly used
Employees use the controls provided and report any defect
Employees use hearing protection where its use is mandatory
Review what you are doing
Review as things change
Changes in work practices
Changes in noise exposures
New way to reduce risks
Key
Employer Actions
Employee Actions

4. Unitas Requirements

4.1 Responsibilities

Project Designers and Contract/Project/Site Managers have responsibility to ensure that suitable consideration is given to the likely presence of harmful levels of noise in contract/project activities, and that suitable measures are adopted to prevent harmful exposures where necessary.

Given the control required on the sourcing of plant and equipment, there shall be collaboration when sourcing new equipment and/or products/services to ensure the most appropriate is selected. The Contract/Project/Site Manager shall ensure that Unitas purchase/rent/lease lower noise emitting plant where possible to do so and those aspects of this standard are implemented.

4.2 Procurement of low noise equipment

The primary responsibility on managers is to ensure that noise exposure levels for employees/contractor and neighbours are reduced to the lowest level which is deemed to be reasonably practicable. With this in mind it is vital that where processes are designed, and when plant is sourced which is likely to generate harmful levels of noise, that proper consideration is undertaken to address the issue.

Suppliers from whom we source equipment are required to provide details on noise levels likely to be generated in the anticipated use, and levels of operative exposure.

Equipment identified with the potential to generate operative exposures in excess of 83 dB(A) LEPd will result in a review of alternative designs. Issues are highlighted to the SHE Manager.

Where Unitas purchases new equipment which generates potentially harmful noise levels (such as proprietary hand operated tools and equipment where noise levels are detailed in manufacturer's data) a competent person will undertake an exposure assessment based on anticipated use.

Noise levels from new installations are measured by a competent person on delivery/commissioning, to confirm that the design criteria are being met.

4.3 Noise Assessment

Even where there is no perceived issue, Unitas shall demonstrate that a documented consideration of the risks from noise has been carried out.

For processes and activities where there is a perceived noise issue, a noise assessment is carried out by competent person. The assessment is documented and details the noise levels which are present in the process, the relevant work pattern, and assessment of exposure.

This approach is incorporated into the flow chart (see Section 3.0 Process) and represents the initial process of assessment to be followed to ascertain whether a more detailed noise assessment is required:

As a standard rule of thumb (Occupational Health Exposure Monitoring SHEMS-STD-GR-082). If you have to shout to be heard from 1 metre away exposure is likely to be above 85dB (the upper action value).

5 Reducing the Noise Impact

5.1 Control Measures

Priority is given to organisational and technical means to reduce noise exposure, however if these do not reduce levels satisfactorily then personal protection is used as a last resort. The hierarchy of control is shown in the list below, starting with highest priority.

- **Reduce**
  Reduction at Source; consideration must be given to engineering means to reduce the generation or transmission of noise. It may be possible to substitute a noisy machine with a quieter one, or otherwise add features to a machine to reduce noise emissions. Examples are given in the publication 'Controlling Noise at Work – guidance on regulations', published by HSE in 2005. Specialist advice may be required by a qualified noise engineer.

- **Inform**
  Operative positioning; space and distance are often the cheapest means to reduce noise exposure. By re-positioning an operative station away from a noisy source, there can be a significant benefit in terms of noise exposure.

- **Control**
  Job rotation; as noise exposure is highly time dependant, by rotating personnel undertaking work in noisy areas, the noise exposures can be reduced to an acceptable level.

- **PPE**
  Often necessarily taken as the first action where a noise problem is identified, and in some situations it is the only available option. Where hearing protection is to be a control measure, a documented assessment of the required protection factor is to be made, and a selection made accordingly. Information and instruction must also be shared with the employee as to how to maintain and use the PPE promises.

5.2 Actions to be taken at defined exposure Values

Over the 'Lower exposure action value' of 80 dB(A):

Affected employees are to be provided with information instruction and training, including:

- Risks to their hearing
- The findings of the risk assessment
- The legal exposure limits
- What they should do to minimise risk
- Detail how hearing protection can be obtained for employees who ask for them
- The need to report hearing loss

Some of this training can be achieved by listening to the HSE audio/visual demonstration of noise induced hearing loss.

Note – that any employee with existing hearing loss may be encouraged to wear hearing protection even at this lower risk level to prevent further hearing damage.

Over the 'Upper exposure action value' of 85 dB(A) the following measures shall be followed:

- Clearly mark out the areas where hearing protection is required – known as a hearing protection zone
- Provide suitable hearing protection to people exposed, who must in turn wear them
- Ensure that protection is used, maintained and repaired as necessary. Employees wearing these share this responsibility and should be informed
- Provide supervision to ensure that all who enter a hearing protection zone wear hearing protection

Where the 'Exposure limit value' of 87 dB(A) or 140 dB (peak) is reached in any Unitas workplace, immediate action must be taken to reduce this exposure through the use of hearing protectors, if not already in place. Such events must be reported to the SHE Manager.

5.3 Hearing Tests

Mandatory hearing tests are undertaken for employees working in environments where there is likely daily exposure over 85 dB(A).

Unitas request mandatory hearing tests on below frequency:

- On inception (first day)
- After first year of work
- After three years on employment
- After every three years

As part of the general occupational health programme, all employees are offered a periodic medical, which includes a hearing test.

The extent and type of the surveillance an employee will require is determined by their role profile, SHE risks identified during risk assessment or known to be connected with the workplace conditions and the results of any previous health assessment and/or health condition.

These checks will broadly cover the following:-

- Audiometry – Hearing test
- Dermatological – Skin examination
- HAVs – Hard Arm Vibration assessment
- Respiratory – Lung function test
- Musculoskeletal Check
- Blood pressure/Pulse
- Urinalysis

5.4 Use of PPE

PPE is the last resort for controlling a noise as defined in the Management of Health and Safety at Work Regulations. It is important that a PPE is maintained properly. There are also confounding factors for fit on ear-muff type protectors due to facial features/hair etc. For this reason it is important that adequate levels of supervision are given to ensure that hearing protectors selected are appropriate, worn correctly and maintained.

5.4.1 Hearing protection guidance

- Check seals for cleanliness, hardening, tearing and misshapenness.
- Check cup condition for cracks, holes, damage and unofficial modifications.
- Avoid over bending or twisting headband, which may degrade performance.
- Check tension of headband (compare with a new earmuff).
- Store in a clean environment.
- Follow manufacturer's instructions

Damaged cushion seals on ear muffs – get a new pair from your supervisor

Examples of poor fit of ear muffs:

- Long or bushy hair - tie it back
- Jewellery - remove it.
- Wearing over glasses, obtain more suitable

Expandable foam plugs

- Use once only then dispose of
- Ensure good hand cleanliness when fitting
- Follow manufacturers instructions
- Ensure the plug is correctly fitted