Loughborough University

Health and Safety Department

Controlling Noise at Work Policy

Document Control

Document Details	
Reference	
Version Number	7
Effective From	November 2019
Approval Date	
Review Date	March 2022
Author	Hugh Weaver

Document Revision History			
Date	Revisions Made	Revisions made by	Approved by
Oct 2006	Original draft	Hugh Weaver	
June 2012	Amend to bring in line with up dated law and Uni structure	Hugh Weaver	
Jan 2013	Scheduled revision	Hugh Weaver	
Feb 2014	Links to new HSE webpages & Doc Mngt table inserted	Hugh Weaver	
Dec 2016	Scheduled revision	Hugh Weaver	
Nov 2019	Scheduled revision	Hugh Weaver	
Mar 2022	Scheduled revision	Marion Keogh	

Contents

1. Policy

Prolonged exposure to noise at work can cause hearing loss, which is often permanent. Hearing loss caused by work is preventable, but once someone's hearing has gone, it will not come back.

Loughborough University will put in place measures to protect employees from the risks of noise induced hearing loss, which can be caused by exposure to excessive noise. These measures will include:-

a) Assessing the risks from noise exposure

b) Taking measures to reduce noise exposure where a risk assessment shows that this is necessary

c) Ensuring the level of noise generated is taken into account when a new piece of work equipment is purchased or hired

d) Providing hearing protection where necessary if risks cannot be adequately reduced by other means.

e) Providing training and information for employees on the risks from noise and the measures in place to reduce these

f) Providing health surveillance where the risk assessment shows that this is appropriate.

This will enable the University to satisfy its obligations under the Control of Noise at Work Regulations 2005 ("the Noise Regs") and the Management of Health and Safety at Work Regulations 1999.

This policy does not cover the environmental aspects of noise and noise pollution; or the adverse effects on wellbeing which can arise from 'nuisance' noise which is below the levels likely to cause deaf

1.1 Scope

This policy applies where occupational exposure to noise at work is equal to or exceeds the statutory action levels or exposure limits. Although there is no legal obligation to provide the same duty of care for students, the University will, wherever possible, treat student's health in the same way as that of employees.

2. Responsibilities

a) Deans, Heads of Departments and Professional Services

- Nominate a person or persons within the School or Departments to support the implementation of the requirements of the Noise Regs and ensure they have the necessary skills and competence.
- Support the nominated person(s) in implementing measures to comply with the Noise Regs.
- Ensure all managers and employees within the School / Department / Professional Service, discharge their responsibilities in accordance with this policy.

b) Managers and Supervisors

- Understand the scope and content of the Noise Regs where this is relevant to work in their area.
- Ensure noise factors are taken into account when hiring or purchasing new work equipment.
- Ensure that necessary noise risk assessments have been undertaken for any equipment used by those in their charge.
- Implement and enforce noise control measures, in conjunction with the nominated person or School / Departmental Safety Officer.
- Ensure employees are suitably trained in all aspects of operating equipment, including noise control

c) School / Departmental Safety Officers

- Understand the scope and content of the Noise Regs.
- Identify whether formal noise risk assessment is required within the School / Department / Professional Service.
- Ensure noise factors are taken into consideration when hiring or purchasing new work equipment
- Work with the University Health and Safety Service (UH&SS) and Occupational Health Department in order to ensure that noise surveys, risk assessments are suitable and sufficient, and that health surveillance is provided to those who require it.

d) Employees

- use all equipment and noise control measures in accordance with instruction,
- wear hearing protection (PPE) where required,
- maintain hearing protection and any other noise control equipment,
- report any defects or difficulties with hearing protection and any other noise control equipment,
- co-operate with any programme of health surveillance which is identified as necessary following risk assessment.

e) University Health and Safety Service

When requested by the Safety Officer or line manager:-

- carry out sound level measurement where appropriate,
- advise on noise control measures,
- advise whether health surveillance is appropriate,
- providing training for nominated persons (Safety Officer or equivalent), to ensure they are competent to carry out the activities outlined in **(see section f)**
- audit compliance with this policy and the underpinning regulations.

f) Occupational Health

- Provide health surveillance on request.
- Give feedback and guidance on risk to individuals following health surveillance.
- Feedback group results from health surveillance to the appropriate manager.
- Advise the appropriate manager if there are restrictions on an individual's ability to work in a noisy area due to health risks.

3. Procedures and guidance

3.1 Exposure Action Values and Exposure Limit Values

- Lower Exposure Action Value - 80dB(A) (personal exposure averaged over a day)

- 135 dB(C) Peak Sound pressure
- Upper Exposure Action Value - 85dB(A) (personal exposure averaged over a day)

- 137 dB(C) Peak Sound pressure

Wherever exposure exceeds these levels, certain actions are required. Where exposure is very varied, average exposure may be calculated over a week rather than a day.

- Exposure Limit Value – 87dB(A) (exposure averaged over a day or a week)

- 140 dB(C) Peak Sound Pressure

This is the maximum sound exposure permitted for any individual and takes hearing protection into account, e.g. it is the actual sound exposure of the individual, "at the ears", following any attenuation from hearing protection.

3.2 Risk assessment

A noise risk assessment is required wherever it is likely that exposure will occur at or above the Lower Exposure Action Value.

As a guide to this, the following may be considered:-

- If noise is intrusive but normal conversation is possible, likely noise level is approx. **80dB**
- If you have to shout to talk to someone 2m away, likely noise level is approx. **85 dB**
- If you have to shout to talk to someone 1m away, likely noise level is **90dB**

The decibel scale used to measure noise is logarithmic. An increase in 3 dB equates to a doubling of sound. The increase from 80 to 85 dB is almost a four- fold increase in sound level.

A tractor, a power mower and a hand drill are each likely to generate at least 90dB (A). A chain saw may be well over 100dB (A).

Personal noise exposure is a function of noise level and length of exposure. An individual working in an area where the noise level was 80dB would have a personal exposure of 80dB if they worked there for 8 hours per day. Working in an area where the noise level

was 85 dB for 2 hours per day would also give a personal exposure of 80 dB.

Where noise exposure is accompanied by exposure to vibration or to some chemicals such as solvents, the risk of adverse effects may be higher at a given noise level.

A formal, documented risk assessment should be carried out if any individual works in an area exceeding 80 dB on a regular basis (e.g. 4 hours or more, most days or if noise levels exceed 85dB, even if exposure is infrequent or irregular.

If risk assessment is deemed not to be necessary this should be recorded, for example as part of a department or section's general risk assessment.
Risk assessment requires:-

- assessment of the level and type of noise; this may come from manufacturer's data for individual pieces of equipment, or from sound level measurement, especially where multiple pieces of equipment operate in an area simultaneously. Additional noise e.g. from background music should also be included;
- identification of who might be affected;
- the likely exposure time of those individuals, taking into account working patterns, noise exposure during breaks etc;
- assessment of indirect risk e.g. the risk of individuals not hearing warning alarms due to the noise level;
- consideration of additional risk factors such as the presence of vibration or solvents.

The risk assessment should include an action plan which documents the measures already in place to reduce the risk from noise exposure and any further measures planned.

The noise risk assessment can be a stand-alone document or can be incorporated into the overall risk assessment document for a department or process where this is more appropriate. A form for the purpose can be seen at; http://www.lboro.ac.uk/admin/hse/forms/forms.html, and at **Appendix 1**. It has been developed to record all necessary information to ensure the assessment is adequate.

The HSE's exposure calculators and ready-reckoners

To assist you with your risk assessment, the HSE's noise exposure calculators can help you work out your daily noise exposure, weekly noise exposures, and estimate the performance of hearing protection.

The noise exposure ready-reckoners allow you to estimate daily or weekly noise exposure. To use the daily exposure ready-reckoner you will need to know the levels of noise and durations of exposure which make up a person's working day. For weekly noise exposure, appropriate where somebody's noise exposure varies markedly from day to day, you will need to know the daily noise exposure for each day in the working week. These ready-reckoners can be printed for completion by hand. (See Section 4 for the link to the HSE's Noise webpages and the HSE's Noise calculator and ready reckoner).

The risk assessment should be reviewed if there is any change in noise exposure, changes in personnel, machinery or the law or simply if people think the existing assessment is no longer valid, and at intervals of no longer than 2 years.

The risk assessment for noise, and any associated measurement should be carried out in conjunction with the H&SS to ensure that the assessor has the necessary skills and experience.

3.3 Reducing noise exposure

Measures should be put in place to reduce risks from noise exposure to as low a level as reasonably practicable, even if noise levels are below the Lower Exposure Action Value. Consideration should be given as to whether further reductions are practical.

Wherever noise levels may exceed the Lower Exposure Action Level (e.g. personal exposure exceeding 80 dB), assistance should be sought from the UH&SS to assist with risk assessment and noise reduction.

Formal measures to reduce noise exposure must be introduced if the Upper Exposure Action Value is exceeded, e.g. personal exposure is above 85dB. Provision of hearing protection is not an adequate solution in these circumstances. PPE is the last resort or should be used in conjunction with other measures such as engineering controls.

Personal noise exposure **MUST NOT** exceed the Exposure Limit Value of 87dB. (This measurement takes into account the effect of hearing protection (e.g. PPE)).

Measures to reduce noise exposure may include:-

- Replacing tools and equipment with alternatives which create lower levels of noise.
- Ensuring all equipment is properly maintained.
- Reducing exposure by reducing time exposed to noise.
- Shielding or enclosure (of either a piece of equipment or the operator).

Detailed guidance on ways of reducing noise exposure can be found in; “Controlling Noise at work: the Control of Noise at Work Regulations 2005. Guidance on Regulations”.

3.4 Hearing Protection

Hearing protection can be used as an additional measure once noise has been reduced as far as is reasonably practicable by other means; or as an interim measure pending noise reduction. It must not be used as the sole method of protection if personal noise exposures exceed the upper action value (85dB)

Hearing protection should be made available on request if noise exceeds the lower action value (80dB)

Any area where noise levels exceed 85 dB (or peak sound level of 137dBC) must be designated as ‘Hearing Protection Zones’ and marked with appropriate signage.
Within these areas, wearing of hearing protection will be compulsory, even though exposure may only be for short periods of time.

Hearing protection provided must be suitable for the levels and type of noise individuals are exposed to. Guidance on choosing suitable hearing protection can be found in “Controlling Noise at work: the Control of Noise at Work Regulations 2005. Guidance on Regulations”.

Hearing protection should be stored properly, kept well maintained and regularly inspected by a competent person. Pre-use checks must be carried out by the user. Any defects reported and defective equipment replaced before starting or resuming work.

3.5 Health Surveillance

Health surveillance (audiometry) must be carried out for employees who are regularly exposed to noise above the upper exposure action value (85 dB)

Health surveillance will also be offered to those exposed above the Lower Exposure Action Value if they are at increased risk e.g. if they report a known sensitivity to noise damage or a family history of early deafness.

Where health surveillance is required it will usually be carried out annually for the first two years then at 3 yearly intervals. Wherever possible, audiometry for new employees (or those newly exposed to noise within the University) should be carried out prior to any noise exposure, ostensibly to give baseline data.

Health surveillance will be carried out by Occupational Health. All individual records will be held in confidence. Where appropriate, a summary of results for groups of employees will be reported back to a relevant manager to indicate the effectiveness of noise management systems.

3.6 Training and information

All employees who are exposed to noise above the Lower Exposure Action Value should be given training to include:-

- The adverse effects of noise
- The results of risk assessments
- The measures required to reduce harmful noise exposure
- The need for hearing protection
- The correct use etc of hearing protection
- The need for health surveillance
- The responsibilities on employees

Training is arranged through the UH&SS. Alternatively the provision of information may be achieved by distributing leaflets or pocket cards.

Measures must be in place to ensure that new employees receive appropriate training prior to exposure to noise.

4. References and further reading

Controlling Noise at Work: The Control of Noise at Work Regulations 2005: Guidance on Regulations; L108 HSE Books ISBN 7176 6164 4

Noise at Work: Advice for employers; INDG 362 (rev1) HSE Books
Noise: Don't lose your hearing; INDG 363: the HSE's free pocket cards

HSE Noise calculator(s); http://www.hse.gov.uk/noise/calculator.htm

HSE Noise at Work website; http://www.hse.gov.uk/noise/index.htm

Appendix 1: Noise Monitoring and Risk Assessment Form

Part A of this document provides a record of the survey parameters

Part B of this document provides a record of noise measurements obtained for individual items of equipment or at specific locations. It is also essential to document the time individuals are exposed to particular noise levels, as risk assessment is based on overall noise exposure. A calculation of daily personal exposure to noise (Lep,d) is required; a calculator tool to help with this is available at www.hse.gov.uk/noise/calculator.htm.

Part C identifies control measures which are required to minimize the risk of noise related ill-health. This section of the form must be completed locally by the person in charge of the workspace, with assistance from the noise surveyor and/or H&SS if required.

Part D of this document provides a record of the action plan to implement the necessary controls identified as part of the risk assessment. These controls must be brought to the attention of anyone who is exposed to the noise from the equipment surveyed.

Further information on risk assessment and on compliance with The Control of Noise at Work Regulations 2005 can be found in the HSE document; L108: “Controlling Noise at Work: The Control of Noise at Work Regulations 2005. Guidance on Regulations”

The noise risk assessment must be brought to the attention of those who need to see it and the risk assessment should be reviewed when there has been a change in the level of noise (e.g. due to equipment changing or requiring maintenance), the usage of new equipment which has been introduced, where exposure time has increased etc.

Part A - Survey parameters

Location:	**Risk Assessment reference:**
Date and time of survey	
Survey carried out by	
Other persons present	
Reason for survey	
Equipment used	
Test run time	
Date of calibration	

All measurements are taken at the location where an operator would typically stand and at a suitable head height.

Part B – Noise Survey and Exposure

	Noise survey data				Exposure		
Ref No	**Location/Item of Equipment**	**Noise level (LA_{eq})***	**L_{CPeak}***	**LC_{eq}*** **(plus noise type if applicable)** ***(Continuous, transient, impulsive)***	**Exposure time**	**Exposure Points** **See HSE calculator** www.hse.gov.uk/noise/calculator.htm	**Equivalent $L_{ep,d}$ for this location /item of equipment**
1							
2							
3							
4							
5							
6							
Cumulative $L_{ep,d}$ for exposure to multiple noise sources							

Name of person(s) exposed to harmful noise_____

Their School/Dept?_____

Job title?_____

___

Hours worked?_____

_

Are any of these individuals known to have pre-existing susceptibility to noise?_____

NOTES; *LA_{eq} and LC_{peak} measurements are required to help decide on the level of risk and what control measures are required.

*LC_{eq} is not required when determining risk. However, if hearing protection is one of the control measures recommended following risk assessment, LC_{eq} will be needed to determine whether the chosen protection is suitable, using the formula **L'A = LCeq – SNR + 4**

(L'A is the actual level of sound at the ear when hearing protection is in use and needs to be between 70dB and 80dB; SNR is Single Number Rating, this is provided by the manufacturer)

*Noise type (High, Medium or Low frequency) is only required for noise with a peak pressure (LC_{peak}) greater than 135dB(C); again, this is needed to assess whether hearing protection is suitable.

Part C Control Measures

	Control measures	Yes	No
1	Is hearing protection mandatory – e.g. hearing protection zones must be marked?		
2	Is hearing protection recommended?		
3	Can the noise source be eliminated?		
4	Is additional maintenance required to reduce noise levels e.g. by lubrication, tightening, cleaning etc of equipment? (Reassess noise level after maintenance work is complete)		
5	Can the equipment be modified to reduce noise at source, e.g. damping, silencers, baffles etc fitted?		
6	Can inherently quieter components be selected e.g. slotted circular saw blades on woodworking equipment or quieter fans? (Reassess after replacement)		
7	Can the equipment be Isolated i.e. removed to another location away from people at work?		
8	Can the equipment be enclosed?		
9	Is a noise refuge area needed?		
10	Can absorptive material be used to deaden noise in the workspace?		
11	Do staff need training or information on the noise risks?		
12	Is health surveillance required? (for all with Lep,d in excess of 85 dB)		

Explanatory Notes

Lower Exposure Action Value – 80dB (A) (personal exposure averaged over a day) or 135 dB(C) Peak sound pressure.

Upper Exposure Action Value – 85dB (A) (personal exposure averaged over a day) or 137 dB(C) Peak Sound pressure).

Hearing Protection zone - Any area where noise levels exceed the Upper Exposure Action Value must be designated as ‘Hearing Protection Zones’ and marked with appropriate signage. Within these areas, wearing of hearing protection will be compulsory, even though exposure may only be for short periods of time.

Hearing protection Hearing protection can be used as an additional measure once noise has been reduced as far as is reasonably practicable by other means; or as an interim measure pending noise reduction. It must not be used as the sole method of protection if personal noise exposures exceed the upper action value (85dB).

Hearing protection provided must be suitable for the levels and type of noise individuals are exposed to. Hearing protection should be made available on request if noise exceeds the lower action value (80dB)

Health Surveillance is required for those who are exposed at an Lep,d of 85dBA or above. It should also be provided for those exposed at an Lep,d of 80dBA who are known to be vulnerable to noise related hearing loss.

Part D Action Plan

Action required	Who by	Due date	Action completed

Risk assessor:

Name		**Signature**	
Job title & School / Dept?		**Date**	
		Review date	

Note; Exposure calculators and ready-reckoners

The noise exposure calculators can help you work out your daily noise exposure, weekly noise exposures, and estimate the performance of hearing protection.
The HSE web pages have links to enable you to calculate daily, weekly exposure and hearing protection calculators. www.hse.gov.uk/noise/calculator.htm

The noise exposure ready-reckoners, found via the same web pages, also allow you to estimate daily or weekly noise exposure. To use the daily exposure ready-reckoner you will need to know the levels of noise and durations of exposure which make up a person's working day. For weekly noise exposure, appropriate where somebody's noise exposure varies markedly from day to day, you will need to know the daily noise exposure for each day in the working week. These ready-reckoners can be printed for completion by hand.