LEAFLET 6

CONTROL OF NOISE AT WORK

AMENDMENT RECORD

Amd No	Date	Text Affected	Authority and Date
1	10/6/2010	Para 7.4 amended to remove the requirement for initiating the ECS from the acquisition teams	SSDC/June 2010
2	14/6/2010	Section 3.2 - New information on purchase of PPE by defence acquisition teams added and Sections 6 (Records) and 7 (Exemptions) have swapped in order to improve leaflet flow.	SSDC/June 2010
3	30/11/2010	Annex D Paragragh 2 amendment of fourth line "Service Occupational Hygienists" now reads "Service Environmental Personnel/Occupational Hygienists	SSDC/ November 2010

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April 2010 - completely revised leaflet

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Leaflet 6

CONTROL OF NOISE AT WORK

CONTENTS

Foreword

This leaflet is published under the authority of the Defence Occupational Health and Safety Board (OHSB). This leaflet is for application across all areas of MOD and the Armed Forces and reflects recent changes in legislation and/or MOD practices.

1. SCOPE

1.1 This leaflet provides guidance for Commanding Officers (CO)/Heads of Establishment (HoE), Top Level Budget (TLB) holders, Line Managers (LM), both Service and civilian and all staff on the management of the risk from exposure to high levels of noise at work, to comply with the Control of Noise at Work Regulations (CNAWR) and the Merchant Shipping and Fishing Vessels (Control of Noise at Work) Regulations (MSFV(CNW)R.

1.2 This guidance also applies where there is a disapplication or an exemption granted to the regulations as MOD policy[1] states that in such cases standards and management arrangements, so far as is reasonably practicable shall be introduced that are at least as good as those required by the legislation.

[1] Secretary of State for Defence Policy Statement on Safety, Health, Environmental Protection and Sustainable Development

2. INTRODUCTION

2.1 The CNAWR apply in full throughout the MOD to all workplaces (including, ships, boats, vessels, aircraft and premises) with the exception of Royal Fleet Auxiliary (RFA) operated vessels, which are covered by the MSFV(CNW)R which has comparable requirements.

2.2 For the purpose of the regulations noise is defined as “any audible sound” whether it is wanted or not. Damage to hearing is caused by exposure to a short but extremely loud noise or prolonged exposure to continuous (e.g. an engine room) or impulse (e.g. gunfire) noises. The risk of damage to hearing is directly related to the volume of the noise and the time exposed to it.

2.3 A temporary reduction in hearing sensitivity can often be experienced after leaving a noisy environment; even though hearing normally recovers within a few hours, this temporary hearing loss should not be ignored. Repetitive exposure could produce a permanent hearing loss or could cause tinnitus[2] to develop.

2.4 Many staff are forced to take medical retirement each year as a result of Noise Induced Hearing Loss (NIHL) from exposure to excessive noise (see Annex A) in their workplace; this has a detrimental effect on the Department as well as the individual; skill shortages, recruitment costs, retraining as well as compensation payments. It is therefore essential that awareness is raised and the risk of hearing damage is managed to minimise its effect on staff and resources.

3. ROLES AND RESPONSIBILITIES

3.1 Top Level Budget (TLB) Holder

3.1.1 TLB Holders must ensure that sufficient resources are made available to: provide competent advice; conduct noise assessments; implement effective noise control strategies. Resources must also be made available for the access to and provision of sufficient information, instruction, and training, for Commanding Officers/Heads of Establishment, Line Managers, staff, visitors and contractors.

3.2 Procurement or Acquisition Teams and Local Purchase

3.2.1 The Supply of Machinery (Safety) Regulations requires manufacturers and suppliers of machinery to ensure that the design and construction of equipment eliminates or reduces noise emissions to a minimum (taking into account technical limitations), unless it is specially designed and constructed for military or police purposes. However, MOD policy states that where the

[2] A ringing, whistling, buzzing or humming in the ears

MOD has exemption to regulations it shall implement standards that are at least as good as those required by legislation..

3.2.2 New equipment/platforms shall be technically engineered to eliminate or reduce noise exposure to the user to a level that is as low as is reasonably practicable (ALARP) and minimise the risk of damage to hearing when operated; this may as a last resort include the use of Personal Protective Equipment (PPE). Where the need for PPE is identified for use with the equipment / platform, it is the defence acquisition team's responsibility to provide sufficient information to enable the selection of appropriate hearing protection to reduce the noise exposure to the end user.

3.2.3 When procuring hearing protection PPE including that which is incorporated as a part of other equipment (e.g. protective helmets with or without communication systems), acquisition teams shall ensure that any such equipment complies with the PPE at Work Regulations. If the equipment is purchased outside of the EU it must comply with UK/European legislation.

3.3 Commanding Officers (CO)/Head of Establishment (HoE)

3.3.1 The CO/HoE shall ensure that all areas where excessive noise exposures are likely to occur through work activity are identified and ensure that the locations are recorded on the site risk assessment/safety case[3]. The CO/HoE is responsible for ensuring that where excessive noise exposures are likely to occur that sufficient resources are available to carry out noise risk assessments and surveys, and those recommendations are actioned.

3.3.2 The CO/HoE must ensure that sufficient resources are available for properly designed and managed health surveillance programmes for new and existing staff that may be exposed to excessive noise in the workplace.

3.4 Line Manager (LM)

3.4.1 LMs, both Service and civilian are responsible for ensuring that their staff are not exposed to excessive noise in the workplace and shall reduce exposure through use of technical engineering solutions and management controls.

3.4.2 An initial assessment shall be carried out in order to identify any potential noise hazard; this is called a Noise Hazard Check (NHC) (Annex A). A NHC is a means of estimating whether a formal noise risk assessment is required (e.g. where you need to raise your voice at a distance of 2 metre to be heard properly). The LM shall ensure that a NHC is conducted by a person familiar with the work environment and processes.

3.4.3 If the NHC identifies a noise hazard, the LM shall arrange for a formal noise risk assessment to be carried out; this must be conducted by a

[3] Safety cases are produced for ships, boats, vehicles and aircraft and should identify the location of the noise hazards produced by the equipment.

competent person in conjunction with the LM, and staff; and control measures developed.

3.4.4 LMs should in the first instance contact their local health and safety advisor for advice on the availability of competent noise assessors to undertake a noise risk assessment. If the local health and safety advisor is unable to assist then LMs should contact their Service Occupational Hygienists or the TLB Chief Environmental Safety Officer (CESO) for advice.

3.4.5 Consultation shall be undertaken with trade union appointed safety representatives or other employee safety representatives and staff with the LM on the findings of the noise risk assessments and associated control measures. All control measures identified in the noise risk assessment are to be implemented (Annex C provides guidance on the hierarchy of controls), this may include establishing Hearing Protection Zones (HPZ) which shall be clearly marked with suitable signage (see JSP 375 Vol 2 Leaflet 44). Hearing protection if required should in the first instance be purchased from the Defence Clothing PPE Catalogue (JSP 437).

3.4.6 The noise risk assessments must be reviewed every two years or earlier by a competent person, if there are any significant changes to processes and/or equipment.

3.4.7 Through the provision of suitable information, instruction and training (advice can be provided by the competent noise assessor) the LM shall ensure that their staff and any visitors/contractors understand the noise hazard they may be exposed to, how it is caused and the possible effects, consequences and the required control measures. The training where appropriate should include:

- Staff duties under CNAWR/MSFV(CNW)R
- The likely noise exposure and the risk to hearing it creates;
- The control measures currently in place;
- Where and how people can obtain Personal Protective Equipment (PPE) (e.g. ear defenders/earplugs);
- The reporting requirements of defects in noise control equipment and PPE
- How PPE should be used, cleaned and stored;
- The need for health surveillance;
- Identification of hearing damage symptoms (e.g. difficulty in understanding speech in conversation, or a permanent ringing in the ears);
- Reporting of hearing problems;
- Awareness of the affect that the work activity may have on themselves and other people in the vicinity when using portable equipment and the and the controls required.

3.4.8 Equipment shall be regularly maintained to minimise the noise produced and/or maximise the effect of control measures. Any noise control equipment shall be regularly inspected, and any deficiencies promptly rectified and recorded. Random spot checks shall be conducted in the workplace to monitor working practises e.g. equipment being used properly, PPE, if required being worn.

3.4.9. In an environment where noise may interfere with communications LMs must consider alternative means of communicating instructions and or warnings to staff e.g. flashing light where a horn or siren may not be heard.

3.4.10. Where a noise risk assessment has identified that staff are at risk from exposure to noise, they shall be place on a suitable health surveillance programme, which may include hearing tests (JSP 375 Vol 2, Leaflet 2 – Health Surveillance and Monitoring). Health Surveillance must also be extended to cover those staff who already suffer from a hearing condition or are particularly sensitive to damage i.e. young persons. Advice on setting up a health surveillance programme can be obtained through the PPPA (for civilian personnel) and the local Services Medical Officer/Regional Occupational Health consultant (for Service personnel).

3.4.11 LMs need to be aware that occupational noise exposure (even if not considered excessive by the NHC) may be associated with other health problems in addition to noise induced hearing loss (e.g. acoustic shock – Section 5).

3.5 Directors of Music (DOM)/ Bandmasters (BM)

3.5.1 For DOM/BMs the management of the risk of damage to musicians' hearing from noise poses a dilemma especially as the noise produced is required for the performance. The majority of the noise musicians are exposed to is generated by their own and other band members' instruments and is, therefore, unavoidable. Musicians' hearing is susceptible to damage due to the close proximity of other musicians playing instruments and from the duration in performances/practise.

3.5.2 DOMs and BMs are to reduce musicians' exposure to noise as far as reasonably practicable. The most feasible measure is the reduction in the general volume at which music is performed. During technical rehearsals, loud dynamics may not be necessary and should be avoided. However, at all times Personal Protective Equipment (personally moulded in-ear protection) shall be worn by all band members whilst rehearsing or performing.

3.5.3 Risers (raised platforms) should be used to raise the second and subsequent ranks of players in concert band situations whenever it is practical for both rehearsal and performances. The use of risers will reduce the muffling effect of playing into the body of musicians sited in front and enable the player to reduce his/her volume and consequent noise exposure. To be effective, risers must be of sufficient height for the musician's instrument to be directed above the head of the musician positioned in front of them. Acoustic screens

should be considered and as appropriate positioned and used in accordance with the manufacturer's instructions.

3.5.4 Only those personnel involved in the music being rehearsed should be present in the rehearsal area to avoid unnecessary exposure to noise. The responsibility for advising non participants to vacate the area lies with the band leader or nominated representative.

3.5.5 DOMs/BMs should ensure that the musicians performing in a marching band are directed to produce the same controlled dynamic range. If excessive volume is required from a particular instrument for the benefit of marching troops, (e.g. the bass drum), they should be positioned outside the formation of the band, to reduce the muffling effect provided by the surrounding musicians on parade; where this is not possible effort should be made to generate space around them.

3.5.6 Musicians must be advised of the noise levels to which they are likely to be exposed at work whilst rehearsing and performing, and that they are likely to be more vulnerable to hearing damage from noisy leisure activities (use of portable media players etc) as this will add to their overall exposure.

3.6 Staff

3.6.1 Staff, both Service and civilian, shall follow any working arrangements that are put in place for their protection, use noise control devices (e.g. noise enclosures) in accordance with instruction and or training and attend appropriate training as required.

3.6.2 PPE hearing protection must be properly worn for which suitable information, instruction and training shall be undertaken. The PPE shall be used all the time whilst undertaking activities that expose staff to excessive noise and when in a Hearing Protection Zone (HPZ), removal of the hearing protection, even for a short time, could lead to damage to hearing.

3.6.3 Health surveillance programmes are there to provide a safeguard for staffs' hearing. Staff are required to participate in any health surveillance programmes to establish a baseline and monitor their workplace exposure to noise. This enables the MOD to ensure that the exposure is not damaging staffs' hearing and enables early action to be taken to prevent any deterioration.

3.6.4 If staff experience any ear or hearing problems they must inform their LM immediately and or appropriate occupational health personnel or their unit medical officer.

4. USE OF PERSONAL AUDIO SYSTEMS IN THE WORKPLACE

4.1 The use of personal audio systems (IPODs/MP3 Players and personal stereos) at work shall be discouraged. Where their use could give rise to safety

issues (e.g. which could result in mis-heard or missed instructions or provide a distraction which could result in injury to the user or another person), the activity/area risk assessment and local policy should prohibit their use.

4.2 Whilst off duty staff are advised to limit the use of personal audio systems whilst on MOD premises/ships/boats etc. to ensure that they can hear any announcements, alarms or other audible warnings. Where they are used on MOD Premises, the volume should be limited in consideration of others and to hear any announcements etc. Prolonged use of personal audio systems at high volume will add to the overall daily exposure which can potentially lead to hearing loss.

4.3 Drivers of military vehicles are prohibited for using such devices whilst driving, JSP 800 Vol 5, Chap 9 refers.

5. USE OF HEADSETS AND ACOUSTIC SHOCK

5.1 Exposure to short duration, high frequency, high intensity sounds through a telephone headset may be a hazard to habitual users performing tasks requiring high levels of concentration; this is sometimes known as “acoustic shock”. There is no clear single cause of these incidents, but one cause may be interference on the telephone line. Current telecommunications equipment has noise suppression to ensure that, even for habitual users, daily and peak noise levels are not exceeded.

5.2 It has not been established whether the reported symptoms are caused directly by exposure to these unexpected sounds or are associated with a range of reported physiological and psychological symptoms (stress-related) although staff may be shocked or startled by the sounds, exposure to them should not cause hearing damage as assessed by conventional methods (audiogram).

5.3 Measures to mitigate the effects of acoustic shock can include:

- Ensure work pace and demands are not onerous
- Job rotation;
- Frequent rest breaks;
- Stress management.

5.4 All incidents of acoustic shock must be recorded in accordance with accident/incident reporting procedures (JSP 375, Vol 2, Leaflet 14). If symptoms are reported staff should report to their local GP or SMO. In the event of severe or persistent conditions referral to occupational health should be considered.

6. EXEMPTIONS TO THE CNAWR/MSFV(CNW)R

6.1 Although there are exemptions to the CNAWR/ MSFV(CNW)R for the MOD. It is policy that where there is a disapplication to regulations, standards

shall be implemented that are at least as good as those required by legislation as far as is reasonably practicable.

6.2 An exemption from the CNAWR/MSFV(CNW)R will only be granted where the Secretary of State for Defence is satisfied that the activities detailed in the Exemption Case Submission (ECS) (see JSP 815, Chapter 2) are carried out in the interests of national security. Any exemption granted will be time limited, and be subject to conditions. Where the CNAWR/MSFV(CNW)R cannot be complied with and an exemption is granted, measures must be put in place to mitigate the exposure to a level that is as low as reasonable practicable and does not unduly put at risk the health and safety of staff concerned.

6.3 The ECS must demonstrate that in order to protect operational capability the MOD is reliant on the exemption being granted, and the conditions stipulated in the regulations have been satisfied. The ECS shall include the following information:

- The name and purpose of the particular equipment/system giving rise to the problem;
- An outline of the problem and its magnitude – i.e. without exemption how particular activities (e.g. training) will be adversely affected, numbers of people placed at potential risk, the impact on front line operational capability (e.g. military tasks that will become impossible to undertake, or otherwise severely hampered), etc;
- Actions undertaken and/or considered to comply with the regulations – where compliance is being ruled out on cost grounds provide cost data;
- An action plan for compliance in the short and medium to long term – i.e. mitigation options available, likely costs and timescales, etc;
- The time period for which an exemption is required and the rationale for it;
- The plan for health monitoring and assessment by the users;
- Where renewal of an existing exemption is being sought, details on the success or otherwise of the previous action plan, including the results of health monitoring;

6.4 The preparation of the ECS will require input from operating authorities, acquisition teams and medical personnel etc. as appropriate. The completed ECS should be passed for scrutiny to the relevant subject matter experts. After passing scrutiny, the ECS shall be passed to the relevant Functional Safety Board for endorsement. The ECS shall then be forwarded to Secretary of State for approval.

6.5 If the case is successful, a certificate will be issued allowing the activity to go ahead. If not successful, the activity shall be discontinued until such time as it can either comply with the regulations, or a renewed case for exemption is approved.

7. RECORDS

7.1 Each TLB/TFA must keep sufficient records to assure that they have complied with the regulations; noise risk assessments, health records, training records, and maintenance records etc shall be kept for a period of no less than 50 years to enable MOD to be able to produce the records as evidence to defend in the event of a claim being made for noise induced hearing loss in accordance with JSP 375 Vol 2 Leaflet 55.

7.2 Confirmed cases of work induced hearing loss shall be reported on to Incident Recording Information System (IRIS).

8. RELATED DOCUMENTS

JSP 375 Vol 2:

a. Leaflet 2 – Health Surveillance and Health monitoring.
b. Leaflet 8 – The Purchase and Safe Use of Work Equipment.
c. Leaflet 13 – Management of Personal Protective Equipment.
d. Leaflet 39 – Health and Safety Risk Assessment.
e. Leaflet 44 – Safety Signs.
f. Leaflet 55 – Retention of Records.

Other MOD Guidance

a. Surgeon General's Policy Letter - SGPL 12/06 Noise at Work. http://defenceintranetds.diiweb.r.mil.uk/sites/polestar/cs/DocumentLibrary/11/1395_sgpl122006.pdf
b. JSP 437 – Personal Protective Equipment Catalogue.
c. JSP 800 – Defence Movements and Travel Regulations.
d. JSP 815 – Defence Environment and Safety Management.

Legislation and Guidance

a. HSE Guidance L108 - Controlling noise at work: The Control of Noise at Work Regulations. http://www.hse.gov.uk/pubns/priced/l108.pdf
b. HSE INDG362 - Guidance for employers on the Control of Noise at Work Regulations . http://www.hse.gov.uk/pubns/indg362.pdf
c. HSE INDG363 - Protect your hearing or lose it! http://www.hse.gov.uk/pubns/indg363.pdf
d. HSE HSG 260 - Sound Advice http://www.hse.gov.uk/pubns/books/hsg260.htm
e Sound Advice - noise at work in music and entertainment http://www.soundadvice.info
f. HSE Noise Exposure Calculators and Ready-Reckoners http://www.hse.gov.uk/noise/calculator.htm
g. HSE Advice on Acoustic Shock http://www.hse.gov.uk/noise/acoustic.htm

h. Personal Protective Equipment Regulations
http://www.opsi.gov.uk/si/si2002/uksi_20021144_en.pdf

I Personal Protective Equipment at Work Regulations
http://www.hse.gov.uk/pubns/priced/l25.pdf

Noise Hazard Checklist

The Noise Hazard Check (NHC) is an initial assessment to ascertain the presence of a potential noise hazard, and whether a formal noise risk assessment is required. The NHC can be conducted by anyone familiar with the work environment and process.

Questions the LM needs to ask to ascertain the presence of a potential noise hazard.

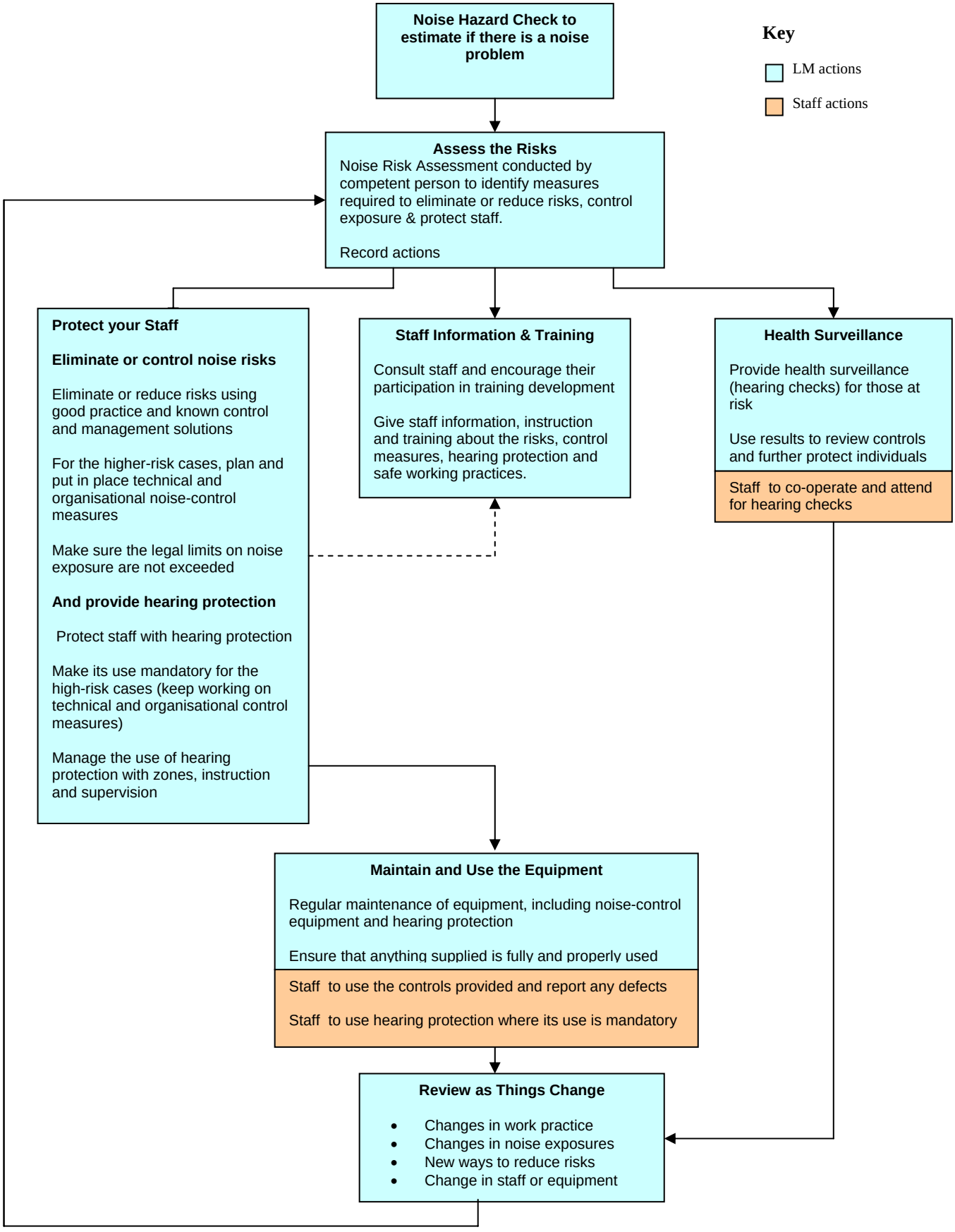
- Do staff work in a noisy environment e.g. construction; engineering, artillery range, airfield etc?
- Are staff using or working near noisy power tools or equipment for more than **half an hour each day** in total?
- Are there any impacts such as hammering, pneumatic impact tools etc explosive sources such as cartridge operated tools, detonators, or guns etc?
- Are there areas of the workplace where noise levels could interfere with warning or danger signals?

Listening Checks (excessive noise is defined as)

- Are staff exposed to noise which makes it necessary to shout to talk to someone **1 metre away**, for more than **half an hour per day** in total? The noise levels here are comparable with that of a pneumatic road drill.
- Are staff exposed to noise which makes it necessary to shout to talk to someone **2 metres away**, for more than **two hours per day** in total? The noise levels here are comparable with that of a hand-held power drill.
- Is conversation at 2 metres possible, but **noise is intrusive** for more than **six hours per day** in total? The noise levels here are comparable to a busy street or a crowded restaurant.

If the answer to any of the above questions is YES, then a formal noise risk assessment is required (this may necessitate a noise survey).

Managing Noise Risks



HIERARCHY OF CONTROLS

The CNAWR/MSFV(CNW)R requires that noise should be managed through a hierarchy of controls;

Equipment (Noise Source)

Elimination	Remove noise process entirely.
Reduce	Replace equipment with quieter alternative; Replace components with ones designed to operate more quietly; Planned maintenance.

Environment (Location of Equipment)

Insulate	Erect a barrier e.g. brick wall, erect an enclosure, or provide a quiet control/rest room for staff.
Absorb	Fix sound deadening material to walls etc to minimise reflected noise.
Isolate	Install equipment on vibration absorbing mounts to minimise structure borne noise. Avoid placing equipment where noise levels may be increased by reflected sound e.g. in corners.

Person

Distance	Move operator away from noise source.
Time	Design the process to limit the exposure or job rotation.
PPE	Wearing earplugs/ear defenders.
Discipline	All control measures are complied with and PPE equipment maintained.

COMPETENCE

1. NOISE RISK ASSESSORS

1.1 Noise risk assessors shall have adequate knowledge/experience and skill to under take the noise risk assessment. Essentially they should have the following skill set:

- Have knowledge of the Control of Noise at Work Regulations
- Have knowledge of MOD implementation policy
- Have ability to assess and/or measure noise
- Know how to record results and analyse results
- Can explain the results to others in simple to understand language
- Be able to interpret information provided by others (e.g. noise data by equipment manufacturers
- Be able to suggest appropriate control measures
- Know the limits of their own knowledge and know when and where to see further advice.

2. OBTAINING COMPETENT ADVICE

The local health and safety advisor shall be the initial point of contact for advice on the availability of competent noise assessors to undertake a noise risk assessment. If the local health and safety advisor is unable to assist then LMs should contact Service Environmental Personnel/Occupational Hygienists or their TLB Chief Environmental Safety Officer (CESO) for advice.

2.1.2 If competent advice is not available locally or from the TLB CESO, specialist in-house advice and expertise is available from the organisation's listed in Table 1. However, these resources are limited and enquiries from staff within these TLBs will be given priority.

Royal Air Force Head of Noise and Vibration Division	**DE&S** Defence Equipment and Support	**Army** Army Medical Directorate	**Royal Navy** Head of Acoustics and Vibration
RAF Centre of Aviation Medicine RAF Henlow Bedfordshire SG16 6DN Tel: 95381 7041	DES SE CESO AESG Noise RAF Wyton Huntingdon Cambridgeshire PE28 2EA Tel: 95371 8668	Environmental Monitoring Team Former Army Staff College, Slim Road, Camberley, GU15 4NP Tel: 94229 4799	Institute of Naval Medicine Alverstoke Gosport Hampshire PO12 2DL Tel: 9380 68080

Table 1: Source of MOD Internal Competent Noise Advice

2.3 If the above in-house expertise is unable to provide the service required, the LM should contact their TLB CESO for guidance in sourcing external competent advice/support.

3 NOISE RISK ASSESSORS TRAINING

3.1 Noise risk assessor training can be obtained from the following internal organisations.

Head of Noise and Vibration Division	Head of Acoustics and Vibration
RAF Centre of Aviation Medicine RAF Henlow Bedfordshire SG16 6DN Tel: 95381 7041	Institute of Naval Medicine Alverstoke Gosport Hampshire PO12 2DL Tel: 9380 68080

Table 2: Noise Assessor Training Providers

3.2 On successful completion of the training staff are requested to notify their local health and safety advisor and update their HRMS/JPA accordingly.