



Defence People Policy, SafetyMan

Noise Management Policy And Guidance

Policy statement

1. Defence has a responsibility to provide and maintain a safe and healthy work environment, including protecting workers from noise-induced hearing loss and tinnitus which can occur from exposure to excessive noise in the workplace.

Scope

2. This policy applies to all Defence workers, including ADF members, APS employees, ADF cadets, contractors and other persons.
3. The application of this policy to contractors and sub-contractors is dependent on the degree of control and influence that Defence has over the undertaking and will be defined within the relevant contractual arrangements.

Policy – core elements

4. Risk assessments must be undertaken when planning or conducting activities that could cause excessive noise.
5. Noise-related risks are to be eliminated or reduced so far as reasonably practicable by application of the hierarchy of controls ensuring worker exposure does not exceed the exposure standard.
6. Environmental and personal risk factors are to be considered in the assessment of noise-related risk.

Roles and responsibilities

7. Group Heads and Service Chiefs as officers of the Person Conducting a Business or Undertaking are responsible for allocating sufficient resources to effectively manage noise related risks.
8. Commanders/managers and supervisors must take all practicable steps to protect the health and safety of workers. They have a responsibility to:
 - 8.1. understand how noise affects their workers and the work being performed;
 - 8.2. consult with workers to identify, assess and control noise related hazards and risks;
 - 8.3. ensure appropriate risk management is conducted for activities so that noise exposure does not exceed the exposure standard;
 - 8.4. provide all workers with appropriate information, education, training, instruction and supervision;
 - 8.5. implement improvements to reduce noise related risks so far as is reasonably practicable;
 - 8.6. provide audiometric testing to all workers who are required by Defence to use personal protective equipment (hearing protection); and



- 8.7. analyse event reports for which exposure to noise was the cause or a contributing factor.
9. All workers have a responsibility to:
 - 9.1. take all reasonably practicable steps to safeguard their own health and safety, and the safety of others in the workplace;
 - 9.2. understand and follow established safe work practices and procedures, participate in appropriate training and hazard identification, and control risks arising from noise related hazards in accordance with guidance;
 - 9.3. wear personal protective equipment provided, as directed;
 - 9.4. advise supervisors of any perceived risk that could increase exposure to injury or illness;
 - 9.5. monitor themselves and their fellow workers and take action when they observe elevated risks to themselves or others; and
 - 9.6. report events that caused, or could have caused, hearing-related injury or illness.

Noise and hearing loss

10. Hazardous noise affects the inner ear and may cause temporary hearing loss. After a period of time away from noise, hearing may be restored. With further exposure to hazardous noise, the ear will gradually lose its ability to recover and hearing loss can become permanent.
11. Permanent hearing loss can also occur suddenly if a person is exposed to very loud impact or explosive sounds.
12. The degree of hearing loss that occurs depends on how loud the noise is, how long someone is exposed to the noise and individual susceptibility. The frequency or pitch can also have some effect on hearing loss as high-pitched sounds are more damaging than low-pitched ones.
13. Workers exposed to hazardous noise may also experience tinnitus (ringing in the ears or head) which could become permanent.

Excessive noise exposure

14. Noise levels are measured in decibels (dB) and levels normally vary during the work day. Noise exposure is the average noise level to which a person is exposed over a period of time. The legislated exposure standard is 85 dB(A) averaged over eight hours. This standard can be exceeded if the noise level is too high and/or if workers are exposed to noise for too long. The exposure standard and the exposure units dB(A) and dB(C) are explained in the Work Health and Safety Regulations 2011, *Regulation 56 – Meaning of exposure standard for noise* (Annex A).
15. A worker who is exposed to 85 dB(A) for 8 hours receives the same noise energy as someone exposed to 88 dB(A) for 4 hours with the balance of the day in a very quiet environment. In both cases the exposure standard is not being exceeded. However, being exposed to 88 dB(A) for more than 4 hours would exceed the exposure standard. Similarly, for a worker using a machine that generates 121 dB(A) the exposure standard would be exceeded after only 7.2 seconds.
16. Impacts such as sledge-hammering or peak noises (gun shots) cause peak noise levels greater than 140 dB(C). Exposure above this peak can create almost instant damage to hearing.

References and related documents

17. [Work Health and Safety Act 2011](#)
18. [Work Health and Safety Regulations 2011](#)
19. [Code of Practice - Managing Noise and Preventing Hearing Loss](#)
20. SafetyMan - Defence Work Health and Safety Management and Consultative Arrangements Policy and Guidance
21. [Australian Standards/New Zealand Standards](#)
 - 21.1. AS/NZS 1269.0:2005 - Occupational Noise Management, Overview and General Requirements
 - 21.2. AS/NZS 1269.1:2005 - Occupational Noise Management - Measurement and Assessment of Noise Emission and Exposure
 - 21.3. AS/NZS 1269.2:2005 - Occupational Noise Management - Noise Control Management
 - 21.4. AS/NZS 1269.3:2005 - Occupational Noise Management - Hearing Protector Program
 - 21.5. AS/NZS 1269.4:2014 - Occupational Noise Management - Auditory Assessment
22. [Sentinel](#)
23. [STARS \(Safety Trend Analysis and Reporting Solution\)](#)
24. Campus e-learning: 'Hearing and Noise Awareness'
25. [Defence Occupational Noise Officer course](#)

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Annex

- A. Work Health and Safety Regulations 2011, Regulation 56 – Meaning of exposure standard for noise

Annex A

Work Health and Safety Regulations 2011

Part 4.1 – Noise

Regulation 56 - Meaning of exposure standard for noise

(1) In these Regulations, ***exposure standard for noise***, in relation to a person, means:

- (a) LAeq,8h of 85 dB(A); or
- (b) LC,peak of 140 dB(C).

(2) In this regulation:

LAeq,8h means the eight-hour equivalent continuous A-weighted sound pressure level in decibels (dB(A)) referenced to 20 micropascals, determined in accordance with AS/NZS 1269.1:2005 (Occupational noise management—Measurement and assessment of noise immission and exposure).

LC,peak means the C-weighted peak sound pressure level in decibels (dB(C)) referenced to 20 micropascals, determined in accordance with AS/NZS 1269.1:2005 (Occupational noise management—Measurement and assessment of noise immission and exposure).



Defence People Policy, SafetyMan

Noise Management Procedure 01 – Noise and Hearing Management Requirements

1. This procedure relates to *SafetyMan – Noise Management Policy and Guidance* and provides an overview of the main requirements for managing noise and its impact on hearing in Defence. The detailed processes and tools for implementing the policy and meeting noise management requirements are provided in the suite of noise procedures.

Introduction

2. The Defence Noise Management Program and associated procedures were developed to meet regulatory requirements for noise management and are structured around the capability systems life cycle.
3. Noise, a prominent and widespread hazard in Defence workplaces, is generated by materiel including platforms (guns, aircraft and armoured vehicles), explosives, ordnance, vehicles, plant, equipment, and power tools. Without hearing protection, average noise exposure levels for workers over the working day could be well in excess of the noise exposure standard. Sudden loud noise can also exceed the noise exposure standard and can cause immediate damage to hearing. Noise-induced hearing loss can be irreversible and is a major health risk that must be managed.
4. Exposure to some chemicals can result in hearing loss and are known as ototoxic substances. Hearing loss can be exacerbated when noise is combined with some (ototoxic) substances and/or with vibration (particularly hand-arm vibration).

Noise management requirements process

5. The noise policy and associated procedures define the noise management process required to meet the requirements of the *Work Health and Safety Regulations 2011*.
6. The policy and procedures provide a risk management approach to eliminate or minimise noise hazards in all Defence workplaces so far as is reasonably practicable, and thereby minimise the risk of noise-induced hearing loss. Noise hazards must be identified, assessed, managed, reviewed and communicated. A key requirement is to limit noise exposure to less than the workplace exposure standard.
7. Further information about safety risk assessments is in the *SafetyMan Work Health and Safety Risk Management Suite*.
8. A summary of the main elements of the noise management process follows.
 - 8.1. Where practicable, eliminate or minimise noise hazards prior to the point of entry into service. Noise hazards should be identified early and mitigated at the beginning of the capability life cycle.
 - 8.2. Noise hazards that cannot be eliminated must be identified before or during the introduction into service and must have noise controls applied through the hierarchy of controls.



- 8.3. The noise emission and safety information must be communicated by the Defence purchaser to all operators, maintainers and other workers who may be exposed. Commanders/managers and any other stakeholders must also be informed.
- 8.4. Commanders/managers must periodically review their workers' circumstances including their range of work tasks, new and changed noise hazards, noise measurements and safety information. Commanders and managers must use this information to review orders, instructions and publications, develop training and plan noise management and controls.
- 8.5. Monitoring, assurance and review reporting must be provided to relevant commanders/managers, committees and other stakeholders, with follow up action and traceability to close out residual risk issues and ensure continual improvement.
9. Existing assurance and management systems can be used to manage noise hazards including:
 - 9.1. orders, instructions and publications;
 - 9.2. the incident reporting system (via Sentinel or form *AE527 Sentinel Event Report – Non DPR (DRN) Users*);
 - 9.3. defect reporting and work requests, eg reports on defective or unsatisfactory materiel, aviation safety occurrence reports, Defence Garrison and Estate Management System reports, and Corporate Services and Infrastructure Requirement requests;
 - 9.4. health surveillance, eg audiometric testing;
 - 9.5. workplace inspections/surveys, eg occupational hygiene surveys, noise surveys/assessments;
 - 9.6. assurance audits and reviews; and
 - 9.7. work health and safety committees and base management forums.

Introducing new noise sources to Defence

10. Defence must act to preempt to minimise noise hazards created by the introduction of the new capability. Defence applies the 'upstream safety' concept and 'prevention principle' to new capability development processes in order to minimise worker exposure to noise.
11. Worker/workplace health and safety must remain a key consideration throughout the capability systems life cycle. Hence, during all phases, as additional information about the new capability and options comes to light, hazard and risk assessments should be reviewed and updated. The following processes present opportunities to review and assess hazards and risks:
 - 11.1. hazard identification and safety risk assessment for each capability/option when developing capability development proposals such as the first- and second-pass proposals for government consideration;
 - 11.2. reviews/audits using the *Work Health and Safety checklist*;
 - 11.3. review and compliance safety risk assessment; and
 - 11.4. capability system safety assessment, including human systems integration.
12. In accordance with *Work Health and Safety Regulations 2011*, Defence must take all reasonable steps to obtain and provide information to any persons to whom the plant was supplied. In addition, designers and manufacturers must ensure that plant is designed and manufactured so noise emission is as low as is reasonably practicable.

13. The Group or Service responsible for operating/providing a new capability must ensure that the noise emission information is communicated to relevant commanders/managers, operators/users, maintainers and other workers, and is incorporated into orders, instructions and publications and training.
14. Noise safety information is generated during the acquisition and in-service phases of the capability systems life cycle, and more specifically during the technical design and noise risk assessment processes.
15. Noise information sources include:
 - 15.1. noise-related safety system products (major designs only);
 - 15.2. noise information or test reports;
 - 15.3. noise source labelling;
 - 15.4. noise safety data sheets;
 - 15.5. noise hazard registers;
 - 15.6. hearing protection areas;
 - 15.7. noise risk assessment reports;
 - 15.8. noise management plans;
 - 15.9. logistical data;
 - 15.10. orders, instructions and publications associated with the operation and support of materiel and systems of work;
 - 15.11. health monitoring requirements (eg audiometric testing);
 - 15.12. health monitoring registers and reports (as required);
 - 15.13. base occupational hygiene monitoring plans;
 - 15.14. hazard-specific education and training programs; and
 - 15.15. other information sources used by Groups and Services.
16. Details of the requirements for introducing noise sources into Defence and other references are described in *SafetyMan - Noise Management Procedure 02 – Introducing Noise Sources into Defence*. Other applicable Defence materiel requirements are provided in relevant orders, instructions and publications and in technical regulatory framework documentation.
17. Where practicable, alternative materiel/infrastructure/processes that are relatively quiet should be introduced. Defence should aim to limit noise exposure from all sources by buying quiet, ie below exposure standard—75 dB(A)—whenever technologically and economically feasible and compatible with performance and environmental requirements. When this is not reasonably achievable then Defence should minimise noise so far as is reasonably practicable.
18. Storage and access to relevant safety information is through Objective or the Sentinel database system.
19. A noise management plan must be implemented at the early stage of introduction to service (e.g. during the procurement and technical regulatory framework phases), at the unit or fleet level for ongoing in-service activities and in response to noise surveys.

Noise risk assessment

20. Risk must be managed and mitigated using the hierarchy of controls in accordance with *Work Health and Safety Regulations 2011* and *Code of Practice - Managing Noise and Preventing Hearing Loss at Work*.
21. Noise control measures are developed, implemented and maintained to manage and mitigate noise risks so the noise exposure standard is not exceeded. This should be done through the use of noise management plans or hazard or exposure reduction plans.
22. A noise management plan can be part of, or be generated in response to:
 - 22.1. an ongoing noise management plan (as part of an overarching noise hazard plan or exposure reduction program or specific Group/Service program); and
 - 22.2. in-service noise assessments, incident reports or workplace changes.
23. Noise survey and assessment reports and other relevant information should provide technical input to actions for the noise management plan process. A preliminary noise management plan with clear and concise control actions should form part of the noise assessment reports.

Noise control and review

24. The noise management plan process and actions should involve consultation and coordination with all stakeholders, including Capability Acquisition and Sustainment Group, Estate and Infrastructure Group, and applicable managers and commanders. Implementation of controls must be documented and signed off by the person (commander/manager) who approves the risk assessment or noise management plan or by other workers with applicable responsibility or authority.
25. At specified intervals, control measures and associated noise management plans must be reviewed by qualified personnel—eg a Defence Occupational Noise Officer. Reviews are also required in situations when:
 - 25.1. existing control measures are no longer effective (eg due to degradation over time);
 - 25.2. there are significant changes to noise sources and/or the workplace environment or conditions;
 - 25.3. there are adverse health surveillance results or incidents; and
 - 25.4. in response to noise surveys and assessments as new/different noise controls may need to be implemented as a result.
26. The procedure that governs implementation, maintenance and review of noise controls (and management programs) is *SafetyMan Noise Management Policy - Procedure 06 – Noise Management Plans*.

Sustainment of program and performance measurement

27. The cycle of processes that comprise the Defence noise management program are maintained and sustained through review and are updated when required by change in legislation.
28. Continual assessment of noise compliance and performance is required to ensure that known noise hazards remain effectively controlled, and that new or foreseeable hazards are identified, assessed and appropriately managed. Performance measurement must be undertaken through the application of a range of upstream and downstream key performance indicators.

29. Monitoring, evaluation, assurance audits and reviews are required with regular reporting to relevant commander/s, committees and stakeholders. Managers and commanders are required to act on reports, with accountability and traceability, to close out residual risk issues and ensure continual improvement.

References and related documents

- 30. [Work Health and Safety Act 2011](#)
- 31. [Work Health and Safety Regulations 2011](#)
- 32. [Code of Practice - Managing Noise and Preventing Hearing Loss at Work](#)
- 33. [Work Health and Safety checklist](#)
- 34. SafetyMan - Work Health and Safety Risk Management Policy
- 35. SafetyMan - Noise Management:
 - 35.1. Procedure 02 – Introducing Noise Sources into Defence
 - 35.2. Procedure 03 – Noise Information and Labelling
 - 35.3. Procedure 04 – Noise Identification, Assessment and Monitoring
 - 35.4. Procedure 05 – Audiometric Testing
 - 35.5. Procedure 06 – Noise Management Plans
 - 35.6. Procedure 07 – Education, Training and Instruction

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Defence People Policy, SafetyMan

Noise Management Procedure 02 – Introducing Noise Sources Into Defence

Introduction

1. This procedure provides general and specific information on the processes required during the acquisition of new Defence materiel so noise hazards can be managed and hearing loss minimised. The procedure relates to *SafetyMan – Noise Management Policy and Guidance*.
2. Noise is a significant hazard for workers. The Defence noise management program seeks to eliminate or reduce noise hazards that could be introduced to Defence in the form of new capabilities and the associated materiel (including platforms, vehicles, equipment, plant, new processes/systems and ordnance). In addition, any residual risk from exposure to noise must be controlled so far as reasonably practicable to protect worker health and safety and minimise the impact on workers' hearing.
3. The *Work Health and Safety Act 2011* requires that plant, substances and structures (and their related systems of work) are designed and tested to protect workers and other persons against harm to their health, safety and welfare by eliminating or minimising risks arising from work. The *Work Health and Safety Act 2011* also requires monitoring of these hazards to ensure they remain effectively controlled.
4. The most effective way to protect personnel from noise hazards and potential harm such as hearing loss is to eliminate or minimise those hazards at the design or acquisition stage - before entry to service. For noise hazards that cannot be eliminated, management systems are required throughout the capability system life cycle to control the hazards.

Scope

5. This procedure details the process for introducing new noise sources, in the form of new materiel, into Defence. This applies to all managers and other personnel involved in the acquisition of new or modified materiel.
6. Although new materiel may be introduced through various processes, the objective of each process is to ensure hazards are identified, managed and eliminated or minimised.

Processes for introducing new noise sources to service

7. The processes for introducing new noise sources to service apply when:
 - 7.1. Defence acquires new noise sources; and
 - 7.2. Defence workers use new noise sources.
8. Keeping noise hazards out of the workplace can be more effective than having to manage their presence. Therefore, where practicable, Defence seeks to eliminate or minimise noise hazards at, or prior to, the entry of new materiel to service. Hazards that cannot be eliminated must be identified before or during introduction into service and must have noise controls applied as part of the Defence Technical Regulatory Framework and associated auditing regimes.



9. New noise sources are introduced into Service by several pathways including: major, minor and rapid acquisition projects; plant modification, inspection and deviation; estate maintenance programs; and other acquisition processes (eg by base/unit commanders). The processes normally completed as part of each acquisition pathway are identified in the following table:

Introduction to service process	First pass process	Second pass process	Technical integrity processes	Logistics processes	Noise risk assessment
Major acquisition project	Yes	Yes	Yes	Yes	Yes
Minor acquisition project	Yes	Yes	Yes	Yes	Yes
Rapid acquisition project	Yes	Yes	Yes	Yes	Yes
Estate maintenance program			Yes	Yes	Yes
Plant modification, inspection and deviation			Yes	Yes	Yes
Other acquisition processes				Yes	Yes

10. Processes for introducing noise sources into service may also be described in Defence orders, instructions and publications and technical regulatory framework documentation.
11. Details of the process for noise information and labelling, noise hazard registers and hearing protection areas, are described in *SafetyMan - Noise Management Procedure 03 – Noise Information and Labelling*.

Minimum requirements to be considered for all acquisitions

12. Defence organisations regularly develop their own informal systems of work and/or purchase materiel to meet a local workplace need. The potential noise exposure of such systems of work and materiel must be considered.
13. New materiel being considered for purchase must have the lowest sound emission levels that are technologically and economically feasible and compatible with performance and environmental requirements. Defence must 'buy quiet' - ie identify alternative, quieter noise sources and processes, where available and practicable - to minimise worker exposure.
14. Defence should have a design aim of 75 dB(A) for all materiel (to be measured at 1 metre or nearest distance to worker/operator). If the design aim is not reasonably achievable, then Defence should design the noise emission to as low as is reasonably practicable. All possible and available noise control measures are to be considered and applied where practicable. Any residual risk needs to be addressed by applying the hierarchy of controls.
15. When developing new/modified systems, during the test and evaluation stage Defence needs to identify the prospective noise levels through reference to data from existing systems and from modelling of anticipated noise levels and measurement of noise levels. The military standard, *MIL-STD-1474E Department of Defense Design Criteria Standard Noise Limits* provides guidance on noise limits, testing requirements and measurement techniques for determining conformance to the noise limits.

16. The following factors should be considered and other pertinent aspects or data may also need to be taken into account:
 - 16.1. noise emission levels (sound power levels, sound pressure levels, and/or LAeq.8h and Lc,peak levels at likely operator/worker distances) in accordance with *Work Health and Safety Regulations 2011, Regulation 56 – Meaning of exposure standard for noise* (Annex A);
 - 16.2. noise source operation, maintenance and management;
 - 16.3. installation and operational considerations that affect noise generation and personnel exposures;
 - 16.4. mitigation technologies and their current status;
 - 16.5. estimate of numbers of workers to be affected through the capability system life cycle; and
 - 16.6. level of worker exposure and likely health impacts.
17. Irrespective of how a potential noise source is introduced to service, when specifying and/or procuring the new noise source the following minimum requirements must be met:
 - 17.1. A noise risk assessment is to be conducted to identify hazards and develop controls.
 - 17.2. A noise checklist and noise management plan is required.

Registration

18. Noise sources introduced to service must be correctly registered. The Defence Occupational Noise Officer is responsible for updating an introduced noise source on:
 - 18.1. the noise hazard register;
 - 18.2. the noise information report;
 - 18.3. the noise label;
 - 18.4. the noise management plan; and
 - 18.5. orders, instructions and publications and standard operating procedures.
19. The procedure that governs noise source registration is *SafetyMan - Noise Management Procedure 03 – Noise Information and Labelling*. This procedure also applies to units using (or acquiring internally/locally) excessive noise sources.
20. Prior to supply or acquisition, purchasers must ensure that the designers, manufacturers, importers or suppliers of noise sources comply with their duties under the *Work Health and Safety Act 2011* and *Work Health and Safety Regulations 2011*.

Information from introduction to service processes

21. For all noise sources introduced into service, the sponsor is responsible for compiling the noise safety information which is used to manage and control noise. Further information is in *SafetyMan - Noise Management Procedure 03 – Noise Information and Labelling*.
22. Noise safety information is generated throughout the introduction to service processes, and particularly through the technical design and noise risk assessment. Noise information includes:
 - 22.1. noise-related safety system products (for major designs only);
 - 22.2. noise information or test reports;
 - 22.3. noise source labelling;

- 22.4. noise hazard registers;
 - 22.5. hearing protection areas;
 - 22.6. noise risk assessment reports;
 - 22.7. noise management plans;
 - 22.8. logistics data;
 - 22.9. orders, instructions and publications associated with the operation and support of plant and systems of work;
 - 22.10. health monitoring requirements (eg audiometric testing);
 - 22.11. health monitoring registers and reports (as required);
 - 22.12. base occupational hygiene monitoring plans from Estate and Infrastructure Group;
 - 22.13. hazard-specific education and training programs; and
 - 22.14. other information sources used by Groups and Services.
23. Storage and access to safety information is through Objective or the Sentinel database system.
24. For materiel supplied or imported by Defence, the organisational element that is responsible for the acquisition and supply must take all reasonable steps to obtain and provide information to all stakeholders about the noise emission values of the materiel for the applicable operating conditions. Estate and Infrastructure Group must also be informed if there are specific accommodation requirements for the item.
25. Procurement stakeholders would include Capability Acquisition and Sustainment Group, Estate and Infrastructure Group and Vice Chief of Defence Force Group, with Capability Acquisition and Sustainment Group informing the acquisition process and other Defence acquisition agencies. The users requiring noise emission information include commanders, platform/machinery operators, maintainers and workers, and personnel who train workers to use the new materiel.
26. Importantly, noise controls should be implemented during the acquisition phase and may include redesign or engineering noise controls implemented by the original equipment manufacturer for new materiel. A redesign or retrofit of noise control treatments may be required in cases such as:
- 26.1. when second hand materiel (eg from other countries or agencies) has been acquired; or
 - 26.2. any in-service/local purchase of materiel as described in paragraph 13.
27. In both cases (26.1 and 26.2), any infrastructure modifications are the responsibility of Estate and Infrastructure Group.

System safety program products

28. For major design changes, the system safety program will produce a series of safety products including a noise management plan. System safety products are developed in accordance with Navy, Army and Air Force technical regulatory requirements and Capability Acquisition and Sustainment Group processes.

Noise information reports

29. Noise information reports or noise test reports are to be obtained or developed for every major noise source used by Defence. The procedure that governs the generation/delivery of noise information reports is *SafetyMan - Noise Management Procedure 03 – Noise Information and Labelling*.

Noise source labelling

30. Labels that provide a clear and concise summary of noise safety information are to be generated for every major noise source used by Defence.
31. Each noise source producing noise levels greater than 85 dB(A) (measured at 1 metre or nearest distance to worker/operator) must be marked to alert personnel of the potential noise hazard. The exception will be when an entire space is designated as a hazardous noise area (and when the equipment is stationary) and hearing protection area signage is required and applied.
32. Further guidance about noise source labelling is in *SafetyMan - Noise Management Procedure 03 – Noise Information and Labelling*.

Noise hazard register

33. For all major noise sources introduced into service, the Defence sponsor of the capability requirement is responsible for placing the noise source (and noise safety information) on noise hazard registers. Alternatively, noise hazards could be placed on other general hazard registers. Further guidance about noise hazard registers is in *SafetyMan - Noise Management Procedure 03 – Noise Information and Labelling*.

Hearing protection areas

34. The procedures that govern the generation and application of hearing protection areas are:
 - 34.1. *SafetyMan - Noise Management Procedure 03 – Noise Information and Labelling*; and
 - 34.2. *SafetyMan - Noise Management Procedure 06 – Noise Management Plans*.

Risk assessments

35. Noise risk information is obtained from the noise hazard identification and noise risk assessments which are conducted as part of the introduction to service processes.
36. Noise safety data and other noise information are required to inform the risk assessment process. Commanders and managers must use this information for introduced noise hazards and must undertake additional exposure and risk assessments for specific tasks/activities for which the noise source is used. This information then must be used to inform orders, instructions and publications, standing operating procedures, training design and noise management planning (including the implementation of noise control measures).

Noise control and noise management plans

37. Noise control measures are developed and implemented to mitigate noise-related risks identified during the acquisition process. The noise risks are to be identified for all personnel who will interact with the materiel—including operators, maintainers and handlers. Safety considerations must be applied and integrated into the capability system life cycle of the item.
38. Noise emissions/hazards must be managed using the hierarchy of controls and documented through the use of noise management plans and associated documentation (such as noise control specification and design documents). The general noise

management plan requirements are described in *SafetyMan - Noise Management Procedure 06 – Noise Management Plans*.

39. The noise hazard identification and noise risk assessment provide technical input to the noise control methods that may be required before the materiel is introduced into service.
40. The identified engineering noise controls must be appropriately specified and designed to achieve the noise reduction levels required (ideally with a conservative safety margin applied). Design advice should be obtained from suitably qualified acoustics subject matter experts and integrated into the design.
41. The approved engineering noise controls must be installed/affixed to the materiel before it is introduced into service and accepted by the service release authority. The process must be conducted in accordance with technical regulatory systems and logistics processes defined by the relevant Groups/Services.

Orders, instructions and publications

42. The sponsor of the noise information for new noise sources must ensure all relevant noise hazards, safety and control information is communicated to the relevant stakeholders so that it can be integrated into the orders, instructions and publications used by those workers who maintain/operate or otherwise work with the noise source.

Education and training programs

43. Education and training programs ensure the workforce has the necessary knowledge and skills to manage noise hazards and implement controls. The sponsor of the noise source and noise information is to ensure appropriate training is designed, developed and implemented. New or revised orders, instructions and publications must be communicated to workers and training provided where required.
44. The procedure governing noise training, information and instruction is *SafetyMan - Noise Management Procedure 07 – Education, Training and Instruction*.

Record keeping

45. Records are to be kept to document the decisions made during the introduction to service processes, and the noise hazard and risk assessment information.

Consultation, cooperation and coordination

46. Formal and informal consultation, cooperation and coordination with all relevant stakeholders is fundamental for effective noise management and should include all Defence workers, including contractors. Formal mechanisms and sources of information include:
 - 46.1. the Work Health and Safety website;
 - 46.2. the Defence work health and safety committee;
 - 46.3. base and unit work health and safety committees; and
 - 46.4. Group/Service, and Capability Acquisition and Sustainment Group work health and safety reporting.
47. Informal mechanisms include:
 - 47.1. workplace visits from noise specialist personnel,
 - 47.2. workplace visits from occupation health professionals,
 - 47.3. unit safety personnel walk-around consultations; and

47.4. informal workplace continuation training.

Contractors

48. In accordance with the *Work Health and Safety Act 2011*, Persons Conducting a Business or Undertaking have a duty of care to protect the health and safety of workers under their control. In work environments where there are both Defence and contracted workers, there is a shared duty of care. *DPPI 4/2012 - Engagement of Principal Contractors under the Work Health and Safety Legislation* details the general responsibilities and interaction between Defence and contractors.

Continual review of noise management, materiel and processes

49. Noise management should continually evolve with the release of new standards and the integration of updated equipment and tools into the system. Sponsors of noise information are to continually monitor new materiel developments and new processes to identify alternative noise sources and processes that could be adopted to reduce worker exposure.

References and related documents

- 50. [Work Health and Safety Act 2011](#)
- 51. [Work Health and Safety Regulations 2011](#)
- 52. [MIL-STD-1474E Department of Defense Design Criteria Standard Noise Limits](#)
- 53. [DPPI 4/2012 - Engagement of Principal Contractors under the Work Health and Safety Legislation](#)

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Annex

- A. Work Health and Safety Regulations 2011, Part 4.1, Regulation 56 – Meaning of exposure standard for noise

Annex A

Work Health and Safety Regulations 2011

Part 4.1—Noise

Regulation 56 - Meaning of exposure standard for noise

(1) In these Regulations, ***exposure standard for noise***, in relation to a person, means:

- (a) LAeq,8h of 85 dB(A); or
- (b) LC,peak of 140 dB(C).

(2) In this regulation:

LAeq,8h means the eight-hour equivalent continuous A-weighted sound pressure level in decibels (dB(A)) referenced to 20 micropascals, determined in accordance with AS/NZS 1269.1:2005 (Occupational noise management—Measurement and assessment of noise immission and exposure).

LC,peak means the C-weighted peak sound pressure level in decibels (dB(C)) referenced to 20 micropascals, determined in accordance with AS/NZS 1269.1:2005 (Occupational noise management—Measurement and assessment of noise immission and exposure).



Defence People Policy, SafetyMan

Noise Management Procedure 03 – Noise Information And Labelling

1. This procedure relates to the *SafetyMan – Noise Management Policy and Guidance* and details the processes for compiling and providing noise safety information to workers.
2. Where feasible, noise hazards should be eliminated or minimised during the design or acquisition of new materiel (eg platforms, ordnance, vehicles, plant, equipment and tools). For noise hazards that cannot be eliminated, noise safety information must be compiled and used to develop systems to manage noise hazards throughout the capability systems life cycle, including the acquisition, introduction to service, in-service and disposal phases.
3. This procedure applies to all Defence workers involved in compiling and using noise safety information, and describes:
 - 3.1. noise safety information and labelling for the acquisition, in-service and disposal phases of the capability systems life cycle; and
 - 3.2. record keeping requirements.
4. Noise hazard registers and noise management plans are also covered by this procedure.

Noise safety information and labelling

5. The Defence sponsor of new equipment is responsible for compiling the noise safety information. Further information is in *SafetyMan - Noise Management Procedure 02 – Introducing Noise Sources into Defence*.
6. Commonly, noise safety information is contained in:
 - 6.1. requirements and acquisition phase documents;
 - 6.2. first and second pass safety assessment process documents;
 - 6.3. work health and safety checklists, project risk and issues registers;
 - 6.4. review and compliance safety risk assessment documents;
 - 6.5. health hazard assessments;
 - 6.6. capability system safety assessments, including human systems integration; and
 - 6.7. systems safety program.
7. Storage and access to relevant safety information is through Objective or Sentinel.
8. Noise emission information must be communicated to all relevant users including commanders, materiel operators, maintainers and workers, and personnel who train workers to use new materiel.
9. For new or upgraded facilities installed by Defence Estate and Infrastructure Group must take all reasonable steps to obtain and provide information about the noise emission values for the applicable operating conditions of facilities, infrastructure, equipment and plant.



10. New noise sources being introduced to service must be registered into documents including the noise hazard register, the noise information report, the noise management plan and orders, instructions and publications.

Noise information reports

11. Noise information or noise test reports must be obtained for every major (ie: >85 dB(A)) noise source introduced into Defence. Designers, manufacturers, suppliers and importers must give purchasers and other potential users the information they need to safely use the plant, including the results of any calculations, analysis or testing carried out.

Noise source labelling

12. Labels that provide a clear and concise summary of noise safety information are required for every major noise source used by Defence workers. Materiel (platforms, vehicles, ordnance, plant, etc) producing noise levels greater than 85 dB(A) (measured at 1 metre or at the operator's ear) must be clearly marked to alert personnel of the potential noise hazard. The exception will be when an entire space or area is designated as a hazardous noise area, the equipment is fixed and hearing protection area signage is used.
13. Noise labels are to be affixed or close to - the noise source in a way that ensures easy visibility to workers. Exteriors, but not interiors, of military combatant equipment are excluded from this requirement. A Defence Occupational Noise Officer should be consulted when labelling tools and equipment.
14. The labels or signs describing (with words or other visual symbols) the potential hazard and the protective measures to be taken must be used to designate hazardous noise areas and equipment (eg 'Warning - hazardous noise', 'hearing protection required when in operation').

Noise hazard register

15. Where a major noise source is introduced to service, the Defence sponsor of the requirement is responsible for registering the noise source and relevant noise safety information on a noise hazard or general hazard register.
16. The noise hazard register or general hazard register should provide a list of all of the major noise hazards (sources, activities and areas) and associated materiel in the unit that exceed the noise exposure standard. The hazards should be assigned a risk level based on a risk assessment, having considered the level of exposure, the likelihood and frequency of exposure/injury, the likely consequences and the number of workers affected.
17. The hazard register should also include a description of the safety requirements for each hazard and hearing protection area zone, and the minimum personal hearing protection requirement. The maximum exposure time without personal hearing protection and the minimum safe distance without personal hearing protection can also be included, along with the trades or other groups of employees who might experience similar levels of exposure.
18. Registers must be maintained, kept up-to-date and be easily accessible at the Group and Service level and at the base/platform and unit level. The registers and related safety information must be used by managers, commanders and safety representatives to assist in managing and controlling noise. They must be understood by Defence workers; hence, sufficient supporting awareness, instruction and training is to be provided.
19. There should be clear links between the noise hazards register and noise safety information for each hazard - such as survey reports. In addition, the noise hazard register could be linked to the base occupational hygiene monitoring plan.

Hearing protection areas

20. Hearing protection area zones are established according to the colour codes and classification criteria described in the table in paragraph 42. The hearing protection requirements for the zones are also listed in the table. The hearing protection area zones and protection requirements are illustrated in paragraph 43.
21. Hearing protection area zones in workplaces should be reviewed and revised whenever there is any significant change in noise sources, work tasks/activities, equipment, workload/shifts or the workplace/building environment. Any new hearing protection areas or revised hearing protection areas must be clearly delineated and sign-posted. The sponsor/owner of the noise source must ensure hearing protection area signs are posted. In addition, warning notices or hearing protection area signs should be positioned prominently on noisy material that exceeds hearing protection area noise criteria, as described in paragraph 43.
22. Hearing protection area signs must be posted and maintained at the entrance/s to the hearing protection area/s (and on prominent walls inside hearing protection areas) informing personnel who enter these areas that hearing protection is required. Portable hearing protection areas signs should also be placed temporarily in areas (on walls or on stands on the ground) during particularly noisy activities that are not frequently conducted in the area.
23. Further guidance and information is in: *SafetyMan – Noise Management Procedure 06 – Noise Management Plans; Code of Practice: Managing Noise and Preventing Hearing Loss at Work* and *AS/NZS 1269.1:2005: Occupational Noise Management – Measurement and Assessment of Noise Immission and Exposure*.

Risk assessments

24. Noise safety information and data are used to inform the risk assessment process. Noise hazard and risk assessment information is obtained from noise hazard identification work groups, workplace monitoring, noise identification checklists and noise surveys, and assessment reports.
25. Commanders and managers must use this information to implement risk management systems and controls for introduced noise hazards. They must also undertake additional risk assessments for specific tasks/activities conducted by their unit/workplace, for the conditions applicable to their unit/workplace, and for all noise hazards introduced by their unit/workplace. The information and the resultant management systems and controls then must be incorporated into orders, instructions and publications, training and noise management planning.
26. Noise hazard and risk assessment information is obtained from noise hazard identification work groups, workplace monitoring, noise identification checklists and noise surveys, and assessment reports.
27. The procedures governing noise identification and risk assessments are *SafetyMan – Noise Management Procedure 04 – Noise Identification, Assessment and Monitoring*. Further information is in the *Code of Practice: Managing Noise and Preventing Hearing Loss at Work* and *AS/NZS 1269.3:2005 Occupational Noise Management – Hearing Protector Program*.
28. Noise risk assessments are to be retained in noise hazard registers and in the Sentinel library.

Noise management plans

29. Noise exposure is managed using the 'hierarchy of controls' and risk management decisions are documented in noise management plans. Noise surveys, risk assessments and other relevant information (eg noise control specification and design documents) provide technical input to actions for the noise management plan process.
30. A noise management plan is required at the early stage of introduction to service and at the unit level for ongoing in-service activities. The implementation of controls must be documented and signed off by the person who approves the risk assessment (eg acquisition agency or commander/manager).
31. For information on noise management plans see *SafetyMan - Noise Management Procedure 06 – Noise Management Plans*.

Orders, instructions and publications

32. Noise information should be included in relevant orders, instructions and publications for the equipment.
33. Changes to a procedure or noise hazard require the Defence Occupational Noise Officer to conduct a review of the noise risk assessment -or a new risk assessment - and revision of the orders, instructions and publications. Any new or revised orders, instructions and publications must be communicated to workers and may also require revised instruction and training.

Health monitoring

34. Health monitoring is used to identify changes in worker health due to exposure to hazards such as noise. Defence provides audiometric testing to ADF members in accordance with *Defence Health Manual, Volume 2, Part 6, Chapter 3: Frequency of Audiometric Examinations*. The procedures for health monitoring are in *SafetyMan - Noise Management Procedure 05 – Audiometric Testing*.
35. A register of workplaces that require health monitoring should be kept to ensure that the monitoring is undertaken and reported in accordance with the legislation. This register is to be cross-referenced with unit noise registers, and hazard risk and issues registers.

Education and training programs

36. Education and training programs are required to provide the workforce with the appropriate knowledge and skills to manage noise hazards and implement controls. All persons required to work in areas where hearing protection is worn must complete the Campus Hearing and Noise Awareness course (course ID 00009711).
37. When new noise hazards are introduced, the sponsor of the noise information is to ensure appropriate training is designed and implemented. New or revised orders, instructions and publications must be communicated to workers with revised instruction and any necessary training.

Disposal and handover information

38. During handover of materiel to a Defence person/element or to an external (non-Defence) entity, noise information must be compiled and passed on with the materiel. This information must be accurate and complete.
39. Noise data, reports and noise management information must be passed on to newly-arrived personnel during the handover/takeover process.
40. Before disposal of materiel, the noise information must be communicated to relevant personnel and archived in an appropriate manner.

Record keeping

41. Records must be readily accessible to Defence workers and all workers must be made aware of the record keeping requirements.

Hearing protection areas in Defence

42. The criteria for hearing protection areas are defined in the following table, along with the required hearing protection measures.

Hearing protection area	Criteria	Control
Amber	<ul style="list-style-type: none"> Continuous noise at or above 85 dB(A) but below 100 dB(A) for a total of 15 minutes or more in a normal working day; or Impulse noise is at or above 140 dB(C) but below 150 dB(C) at any time. 	Suitably rated earplugs or earmuffs.
Red	<ul style="list-style-type: none"> Continuous noise at or above 100 dB(A) but below 115 dB(A) for a total of 30 seconds or more in a normal working day; or Impulse noise is at or above 150 dB(C) but below 160 dB(C) at any time. 	Suitably rated earmuffs.
Black	<ul style="list-style-type: none"> Continuous noise at or above either 115 dB(A) or 115 dB(C) but below both 120 dB(A) and 120 dB(C); or Impulse noise is at or above 160 dB(C) but below 166 dB(C). 	A combination of suitably rated earmuffs and earplugs.
Extreme	<ul style="list-style-type: none"> Continuous noise at or above either 120 dB(A) or 120 dB(C); or Impulse noise at or above 166 dB(C). 	A combination of suitably rated earmuffs and earplugs, and limitations on exposure time as determined by specialists such as preventive medicine and environmental health personnel.

43. Hearing protection area signs must denote the colour code of the area and the type of personal hearing protection device(s) required, as shown in the following diagrams.



References and related documents

- 44. [Work Health and Safety Act 2011](#)
- 45. [Work Health and Safety Regulations 2011](#)
- 46. [Code of Practice: Managing Noise and Preventing Hearing Loss at Work](#)
- 47. [Australian Standard/New Zealand Standard](#)
 - 47.1. AS/NZS 1269.3:2005 Occupational Noise Management – Hearing Protector Program.
 - 47.2. AS/NZS 1269.1:2005 Occupational Noise Management – Measurement and Assessment of Noise Immission and Exposure.
- 48. [Defence Health Manual, Volume 2, Part 6, Chapter 3: Frequency of Audiometric Examinations.](#)

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Defence People Policy, SafetyMan

Noise Management Procedure 04 – Noise Identification, Assessment And Monitoring

1. This procedure relates to *SafetyMan – Noise Management Policy and Guidance* and details the process for noise identification, assessment and monitoring. This procedure applies to all Defence workers involved in the management and use of noise sources.
2. This procedure provides an overview of:
 - 2.1. noise hazard identification;
 - 2.2. routine and detailed noise surveys;
 - 2.3. noise risk assessment;
 - 2.4. health monitoring and audiometric testing; and
 - 2.5. monitoring equipment.

End state

3. The desired end state is that Defence executes a consistent and comprehensive noise hazard identification and assessment system for input to effective noise management compliant with the *Work Health and Safety Act 2011* and *Work Health and Safety Regulations 2011*.

Hazard identification and risk assessment process

4. Before risks can be assessed and controlled, the noise hazards that give rise to them must be identified. Apart from noise hazards that we are advised of by manufacturers and suppliers, it is necessary to survey and monitor the workplace, including the physical work environment; equipment, tools, plant, materiel and platforms; work tasks/processes and how and when they are performed. Workers should be consulted and all available information from manufacturers, suppliers, regulators, industry associations, technical specialists and any workplace incident records and data that exist should be reviewed.
5. The noise hazard identification, risk assessment and subsequent management process require the following:
 - 5.1. when reasonably practicable, prevent the introduction of noise hazards into the workplace;
 - 5.2. prevent, eliminate or minimise the risk of hearing loss due to noise hazards in the workplace;
 - 5.3. focus on reducing the extent and impact of the major noise hazards, particularly at, or prior to, the point of entry;
 - 5.4. undertake the identification and risk assessment of noise hazards and exposure. This must be documented in noise survey/assessment reports, noise hazard registers, incident reports, audiometric test data, audit reports, etc;
 - 5.5. manage risks emanating from noise hazards identified in workplaces;



- 5.6. develop, implement and maintain the control measures to manage noise risks. This must be done using the hierarchy of controls and noise management plans at the early stage of introduction to service or at the base/unit level for ongoing in-service activities;
- 5.7. controls to eliminate or minimise the risk/s must be documented and authorised by the person (eg commander/manager, technical engineer) who approves the risk assessment;
- 5.8. review and revise the risk assessment and control measures:
 - 5.8.1. at periods recommended in the noise survey report, as specified in noise management plan documentation or as otherwise required by the *Work Health and Safety Regulations 2011*;
 - 5.8.2. in response to consultation with workers; and
 - 5.8.3. when requested by the work group health and safety representative or Defence work health and safety committee.
- 5.9. feed information back to relevant committees, managers and workers;
- 5.10. use feedback to inform and continually improve orders, instructions and publications, training, planning and controls; and
- 5.11. monitor, audit, review and report to relevant command and committees with follow up action to verify management controls have been implemented, are effective, and ensure continual improvement.
6. Continual assessment of noise compliance and performance is required at all levels within Defence to ensure that known hazards remain effectively controlled, and that new hazards are identified, assessed and appropriately managed. Commitment must extend beyond satisfying legislative and regulatory requirements to a culture where continual improvement is normal business.

Noise hazard identification and noise surveys

7. The following definitions apply in relation to noise monitoring and assessment in accordance with *Australian/New Zealand Standard 1269.1:2005 - Occupational Noise Management - Measurement and Assessment of Noise Immission and Exposure*.
 - 7.1. Exposure standard for noise - defined in the *Work Health and Safety Regulations 2011* as an LAeq,8h of 85 dB(A) or an Lc,peak of 140 dB(C). There are two parts to the exposure standard for noise because noise can either cause gradual hearing loss over a period of time or be so loud that it causes immediate hearing loss.
 - 7.2. LAeq,8h - means the eight-hour equivalent continuous A-weighted sound pressure level in decibels, referenced to 20 micropascals. This is related to the total amount of noise energy a person is exposed to in the course of their working day (taking into account both the noise level and the length of exposure time). An unacceptable risk of hearing loss occurs at LAeq,8h values above 85 dB(A).
 - 7.3. Lc,peak - means the C-weighted peak sound pressure level in decibels, referenced to 20 micropascals. It usually relates to loud, sudden noises such as a gunshot or hammering. Lc,peak values above 140 dB(C) can cause immediate damage to hearing.
8. The key features of the noise identification and evaluation process are summarised in the following table:

Step	Action
1	Review available information Collate and review relevant workplace data, previous reports etc.
2	Routine or baseline survey Basic or preliminary assessment, eg walk-through inspection.
3 -1	Detailed or targeted survey Noise measurement survey, analysis and risk assessment.
3 -2	Outputs from survey Noise survey report and noise controls.
4	Stakeholder involvement and action Coordination, review, signoff and implement control action plan.
5	Ongoing review Regular follow-up, checks, review and improvement.

9. The identification of noise hazards must be performed:
 - 9.1. at the design or procurement stage of materiel prior to the point of entry or during the introduction to service;
 - 9.2. during the normal course of work activities;
 - 9.3. focusing on reducing the extent and impact of the major noise sources/hazards on high noise exposure groups;
 - 9.4. whenever there is a significant change in the noise sources or work activities or operations/equipment or workload/shifts or workplace/building environment;
 - 9.5. in response to a noise incident investigation, a noise management issue or a request from a unit safety adviser or health and safety representative;
 - 9.6. when noise control measures are no longer effective (eg due to degradation of a control measure or noise source over time);
 - 9.7. at time intervals agreed through consultation with health and safety representatives and workers; and
 - 9.8. at least every five years for large workplaces such as major platforms and bases.
10. The five-yearly surveys do not always require a detailed noise measurement survey of the whole of base or platform. As a minimum, these surveys require a focused check of all major noise sources, complex situations, trades/groups that could experience similar exposure and changed situations.
11. Before noise surveys are conducted, clear direction and resources are required (including personnel, equipment, and funding and workplace access) and assignment of responsibilities of personnel including stakeholders. The process must involve consultation, cooperation/collaboration and coordination of all stakeholders and workers, and may include sharing of resources and funding.

12. Noise hazard and exposure identification (for in-service hazards) is conducted involving the following processes/tools:
 - 12.1. workplace inspection checklists;
 - 12.2. base occupational health surveys (occupational hygiene monitoring);
 - 12.3. noise surveys and assessments (base/platform/unit);
 - 12.4. Sentinel event reports and investigations;
 - 12.5. health monitoring, such as audiometric testing results (to protect the privacy of employees, these results must be anonymous and all personal identification data must be deleted);
 - 12.6. noise management plan development and investigations;
 - 12.7. noise compliance audits and reviews; and
 - 12.8. additional processes such as management reviews.

Information review

13. The first step, before a noise survey is undertaken, is to review all available pertinent information such as:
 - 13.1. base or workplace description (eg units, platforms, activities);
 - 13.2. the relevant Group or Service work health and safety and noise management system;
 - 13.3. the hazard/risk register and current/previous noise management plans;
 - 13.4. incidents/work requests, such as Sentinel work health and safety event reports;
 - 13.5. trades, tasks, similar exposure groups and personnel numbers;
 - 13.6. manufacturer's data including noise levels for materiel; and
 - 13.7. previous noise surveys (and results/control actions required).
14. Further guidance about conducting noise surveys is in the *Code of Practice: Managing Noise and Preventing Hearing Loss at Work* and *Australian/New Zealand Standard 1269.1:2005 - Occupational Noise Management - Measurement and Assessment of Noise Immission and Exposure*.
15. An injury or exposure incident could indicate that a noise hazard has not been adequately controlled. Units are to investigate and report work health and safety events on Sentinel and implement controls to prevent recurrence.
16. A summary of the report should be kept with local records; the summaries must be anonymous and all personal identification data must be deleted. The summary may be analysed to determine suitable risk control measures.

Routine or baseline noise survey

17. The second step before a noise survey is undertaken is to perform a routine walk-through inspection (or baseline or preliminary survey) of the workplace to:
 - 17.1. inspect all work areas for all units and sections;
 - 17.2. note types of plant or materiel;
 - 17.3. identify the trades/similar exposure groups and activities/tasks/processes (eg time spent per task, number/type of tasks per shift, length of shift, etc);

- 17.4. count the personnel in each trade or similar exposure groups in each work area;
 - 17.5. talk to workers and supervisors including unit safety advisers and coordinators, environmental health officers and Defence occupational noise officers;
 - 17.6. identify the main noise sources and noisy tasks/activities;
 - 17.7. identify hearing protection areas and the type/class, extent and signage;
 - 17.8. note personal protective equipment/personal hearing protectors (type (ear plugs, ear muffs), condition, use in accordance with instructions, application/fitting and signage); and
 - 17.9. review previous control measures.
18. Guidance and detail as to the survey methodology are contained in the *Code of Practice: Managing Noise and Preventing Hearing Loss at Work* (and Appendix B is an example of a noise hazard identification checklist) and *Statement of Work Requirements: Occupational/Workplace Noise Surveys and Assessments*.

Detailed or targeted noise survey

19. The need for a new or detailed noise survey and assessment is determined based on the walk-through inspection findings or considerations such as:
 - 19.1. introduction of new or modified noise sources;
 - 19.2. changes to work tasks/processes (or workload/shifts or workplace environment);
 - 19.3. response to a noise incident investigation or health surveillance issue or noise management issue;
 - 19.4. ineffective previous control measures; and
 - 19.5. major/high noise hazard areas are not properly controlled, and ineffective hearing protection areas/personal hearing protectors.
20. Noise surveys and assessments are to be conducted by qualified Defence personnel such as Defence Occupational Noise officers, environmental health officers or qualified civilian consultants who meet the competency requirements in *Australian/New Zealand Standard 1269.1:2005 - Occupational Noise Management - Measurement and Assessment of Noise Immission and Exposure*. The recommended process for undertaking a noise survey and assessment is provided in *Statement of Work Requirements: Occupational/Workplace Noise Surveys and Assessments*.
21. Noise surveys and assessments must be performed in accordance with the methodology in *Statement of Work Requirements: Occupational/Workplace Noise Surveys and Assessments*. This will ensure compliance with the *Code of Practice: Managing Noise and Preventing Hearing Loss at Work* (and Appendix C provides an example method for determining exposure) and *Australian/New Zealand Standard 1269.1:2005 - Occupational Noise Management - Measurement and Assessment of Noise Immission and Exposure*. Further details and guidance on personal exposure monitoring can also be found in these documents.
22. A noise survey will normally entail the measurement of noise levels at worker ear positions, workstations and workplace areas using a sound level meter. Sound level meters should meet the requirements of Class 1 meters, as per *Australian/New Zealand Standard 1269.1:2005 - Occupational Noise Management - Measurement and Assessment of Noise Immission and Exposure*. Special high-pressure microphones (capable of measuring sharp impulses up to 170-180 dB, instead of the typical range up to 140 dB) may be required for

high intensity impulse noise such as that associated with the operation of weapons and aircraft engines.

23. A noise survey will also entail recording automated dosimetry data for a relevant sample of personnel using a noise dosimeter (or dose meter or personal sound exposure meter).
24. Dosimetry sample size should be determined based on previous available data and gaps, types of jobs/tasks and from observation during the survey, and should be performed over representative time periods (eg over eight-hour or 12-hour shift, as applicable). Statistically significant data can be representative of a similar exposure group.
25. Noise data collected should include at least LAeq,8h, LCEq and Lc,peak noise levels over representative time periods. Spectral data (eg octave or third octave frequency bands) should be collected for frequency analysis where applicable (eg for major noise sources, sources with tones or isolating contributing noise sources).
26. Specialist advice from an acoustic engineer may be required in complex situations, to conduct assessments and/or to advise on controls.
27. LAeq and Lc,peak levels must be for use in hearing protection evaluations. Narrow band spectra may assist in identifying significant tonal components. Vibration measurements may need to be performed in conjunction with noise measurements for more complex situations. The combination of noise spectra and vibration data can assist in defining noise/vibration transmission paths and noise source contributions.
28. Using the measured noise data, the relevant time-averaged and peak noise levels (including noise exposure levels and time or distance limits, where applicable) should be determined for relevant shift periods and site areas, and for each main trade/task type or similar exposure groups.

Noise risk assessment

29. Noise risk assessments must be done in accordance with the methodology in *Statement of Work Requirements: Occupational/Workplace Noise Surveys and Assessments*. This ensures compliance with *Work Health and Safety Regulations 2011*, 56 – *Meaning of exposure standard for noise* and 57 – *Managing risk of hearing loss from noise* (Annex A) and *Australian/New Zealand Standard 1269.1:2005 - Occupational Noise Management - Measurement and Assessment of Noise Immission and Exposure*.
30. Noise risk assessments should be done by a competent and experienced person in accordance with *Australian/New Zealand Standard 1269.1:2005 - Occupational Noise Management - Measurement and Assessment of Noise Immission and Exposure*. Such persons could include appropriately trained and qualified Defence personnel such as Defence occupational noise officers course graduates, environmental health officers, or appropriately qualified external consultants.
31. The noise risk assessment process integrates, and is informed by, available information including occupational hygiene monitoring data, health monitoring data, health effects (injury data) and workplace exposure (including noise survey) data. Audiometric testing data or statistics must be evaluated to determine the actual occurrence and severity of any noise induced hearing loss or tinnitus.
32. Commanders and managers must use this information for introduced noise hazards and undertake additional noise risk assessment of specific tasks/activities where required (and for any noise hazards introduced by the unit). This information must then be used to inform noise management planning (including the definition and implementation of noise control measures).

33. Noise sources should be ranked and prioritised for treatment based on a risk assessment, such as assigning a risk level or index (from a matrix of likelihood and consequence/severity). Alternatively, similar exposure groups can be ranked and prioritised. The risk level associated with a noise source or similar exposure group would be based on information including the magnitude of the noise exposure levels, the frequency of exposure (during a shift or longer periods), the applicable hearing protection area zone/s and observations of personal hearing protection use.
34. The standard *Statement of Work Requirements: Occupational/Workplace Noise Surveys and Assessments* should be followed and provides informative guidance and detail.

Adjusted exposure standards

35. Noise assessments must take account of any ototoxic (as defined in *SafetyMan - Noise Management Procedure 01 – Noise and Hearing Management Requirements*) substances and/or vibrations that are present in combination with any noise. Further information about these interactions is detailed in Appendix A of the *Code of Practice: Managing Noise and Preventing Hearing Loss at Work*.
36. In the presence of ototoxic substances and/or hand-arm vibration, lower noise exposure standards apply - LAeq,8h must not exceed 80 dB(A) and Lc,peak must not exceed 135 dB(C).
37. In addition to a lower exposure standard, workers exposed to ototoxic substances must be given regular audiometric testing. For workers regularly exposed to the combination of high levels of noise (greater than 100 dB(A) and ototoxic substances (eg aircraft re-fullers), further limits on noise exposure should be applied.
38. A lower exposure standard should be considered and applied for workers who work shifts greater than eight hours per day. For example, the equivalent noise level over a 12-hour shift (ie LAeq,12h) should be converted and normalised to an eight-hour equivalent LAeq,8h. Then an adjustment (from +1 to +3 dB) is added to the normalised LAeq,8h (in accordance with the *Code of Practice: Managing Noise and Preventing Hearing Loss at Work* and *Australian/New Zealand Standard 1269.1:2005 - Occupational Noise Management - Measurement and Assessment of Noise Immission and Exposure*).
39. Alternatively, instead of converting to a normalised eight-hour equivalent LAeq,8h, a lower exposure standard could be used over a shift for application to regular extended work shifts. For example, a lower exposure standard of 82 dB(A) LAeq,12h may be applicable for 12-hour shifts, and 80 dB(A) LAeq,16h may be applicable for 16-hour shifts.
40. A lower exposure standard should be considered and applied for workers whose working week is more than five days. For example, the equivalent noise level over a six-day week (ie LAeq,6day) should be converted and normalised to a five-day week, LAeq,5day (in accordance with the *Code of Practice: Managing Noise and Preventing Hearing Loss at Work* and *Australian/New Zealand Standard 1269.1:2005 - Occupational Noise Management - Measurement and Assessment of Noise Immission and Exposure*).
41. Other noise exposure standards or adjustments may need to be applied for special or complex situations such as exposure to high intensity impulse noise. *MIL-STD-1474E Department of Defense Design Criteria Standard Noise Limits* provides useful guidance for exposure for large caliber weapon use, such as the allowable number of rounds over a period of time.
42. Non-auditory effects of noise may need to be considered in assessments, such as impacts on broader personnel safety and performance. Loud noise and highly variable noise work environments can interfere with worker communication, warning signal perception, concentration and task performance, and can cause distraction, annoyance, fatigue, safety

issues and effects to health. In Defence, this could generate issues associated with 'situational awareness' and 'habitability' (eg while onboard vessels, vehicles or aircraft). Further information is provided in the *Code of Practice: Managing Noise and Preventing Hearing Loss at Work* and *Australian/New Zealand Standard 1269.1:2005 - Occupational Noise Management - Measurement and Assessment of Noise Immission and Exposure*. The ISO 2923:1996 *Acoustics - Measurement of noise on board vessels* provides guidance on the different metrics that may apply in ship/vessel habitability criteria.

Specialist advice for noise assessment

43. Groups and Services are responsible for developing their own noise management capability to support their own needs. However, there are a number of subject matter experts within Work Health and Safety Branch and Joint Health Command who can provide specialist advice or support to remediate/manage significant noise issues.
44. Health professionals with noise knowledge can provide advice in accordance with Group or Service communication and consultation arrangements. The following health professionals are available to provide advice on noise issues:
 - 44.1. occupational hygienists - ADF and APS environmental health officers and contractors who may be identified via Work Health and Safety Services Standing Offer Panel; and
 - 44.2. occupational physicians - appropriately qualified ADF and APS doctors and contractors who may be identified via Work Health and Safety Services Standing Offer Panel.

Outputs from survey

45. Other information sources and reporting requirements include:
 - 45.1. audiometric hearing test reports and hearing change summaries, excluding personal information, for analysis purposes;
 - 45.2. results from noise surveys including noise measurement data and personal noise dosimetry data;
 - 45.3. noise assessment reports and noise management plans (see *SafetyMan - Noise Management Procedure 06 - Noise Management Plans*); and
 - 45.4. audit and annual reports.
46. The risk assessment of noise hazards should be documented in noise assessment reports, risk assessment reports or other appropriate documents. The recommended reporting requirements for noise surveys and assessments are provided in the *Code of Practice: Managing Noise and Preventing Hearing Loss at Work* and *Statement of Work Requirements: Occupational/Workplace Noise Surveys and Assessments*.
47. Noise survey and assessment reports must provide clear recommendations for noise control measures. The recommendations should be in the form of concise control actions developed using the hierarchy of controls and form a preliminary noise management plan. Guidance on noise management plans is in *SafetyMan - Noise Management Procedure 06 - Noise Management Plans* and the *Code of Practice: Managing Noise and Preventing Hearing Loss at Work*.
48. The noise assessment documentation must be submitted to the relevant managers/officers, work health and safety advisors and the relevant work health and safety committee; made available to other stakeholders as required; made easily accessible and traceable. The main findings should be included in training for workers.

Record keeping

49. Records of risk assessments and reviews should include:
 - 49.1. the identified hazards, assessed risks and chosen control measures (including hazard checklists, worksheets and assessment tools used in the risk management process);
 - 49.2. how and when control measures were implemented, monitored and reviewed;
 - 49.3. who was consulted;
 - 49.4. relevant training records; and
 - 49.5. any plans for change.
50. The recommended reporting requirements for noise surveys and assessments are provided in the Defence standard in the *Code of Practice: Managing Noise and Preventing Hearing Loss at Work* and in *Statement of Work Requirements: Occupational/Workplace Noise Surveys and Assessments*.
51. Noise management plans and associated noise surveys and risk assessments are to be stored in Sentinel.

Review

52. Risk assessments and control measures must be reviewed, and revised if needed, in the following circumstances:
 - 52.1. at intervals specified in the report/noise management plan documentation or as otherwise required by the regulations;
 - 52.2. following consultation with workers;
 - 52.3. when requested by the work group health and safety representative, unit safety advisors or work health and safety committee;
 - 52.4. when existing control measures are no longer effective (eg due to degradation over time);
 - 52.5. when there are significant changes to noise sources and workplace environment or conditions; and
 - 52.6. when there are adverse health surveillance results or incidents.
53. The effectiveness of implemented noise controls needs to be reviewed and verified by measuring noise levels after controls have been installed, and compared with previous noise levels.
54. Noise management should be constantly evolving with the release of new standards and the integration of updated equipment and tools into the system. Sponsors of noise information are to undertake regular environmental scanning to identify new alternative noise sources and processes that could minimise worker exposure.

Health monitoring and audiometric testing

55. Health monitoring is used to identify changes in a workers' health due to exposure to a hazard. In support of this requirement, Defence provides audiometric testing for ADF members in accordance with *Defence Health Manual, Volume 2, Part 6, Chapter 3, and 'Frequency of Audiometric Examinations'*.

56. Policy and procedures governing health monitoring for hearing are *outlined in SafetyMan - Noise Management Procedure 05 – Audiometric Testing*.

Monitoring equipment

57. A range of monitoring equipment will be employed to undertake monitoring and measurement for:
- 57.1. routine monitoring via workplace inspections, walk-throughs, baseline surveys, noise surveys and audits;
 - 57.2. targeted monitoring which is conducted in response to emerging noise management issues or noise incident investigations or changes to workplaces and materiel; and
 - 57.3. health monitoring such as audiometric testing.
58. The types of noise monitoring equipment include:
- 58.1. sound level meters, including microphones, for performing attended noise measurements. Sound level meters should comply with the requirements of Class 1 meters, as per *Australian/New Zealand Standard 1269.1:2005 - Occupational Noise Management - Measurement and Assessment of Noise Immission and Exposure*. Special high-pressure microphones (capable of measuring sharp impulses up to 170-180 dB, instead of the typical range up to 140 dB) may be required for high intensity impulse noise;
 - 58.2. noise loggers for unattended and long-term noise measurements;
 - 58.3. noise analysers for high resolution spectral noise measurements;
 - 58.4. noise dosimeters or personal sound exposure meters for personal noise exposure dosimetry;
 - 58.5. calibration equipment including sound level meters and dosimeter calibrators.
59. Sound level meters and noise dosimeters must be factory calibrated at least every two years. Users of sound level meters and dosimeters must calibrate the equipment manually before and after measurements.
60. Quick reference guides on the use of sound level meters and dosimeters are available on the *Work Health and Safety Branch Occupational Health* webpage.
61. Further detail and guidance on noise survey methodology can be found in the *Code of Practice: Managing Noise and Preventing Hearing Loss at Work, Australian/New Zealand Standard 1269.1:2005 - Occupational Noise Management - Measurement and Assessment of Noise Immission and Exposure and Statement of Work Requirements: Occupational/Workplace Noise Surveys and Assessments*.

Maintenance of plant and infrastructure

62. Materiel (such as platforms, vehicles, plant, equipment, ordnance) and infrastructure must be maintained so noise hazards are appropriately controlled and monitored.
63. For all major noise sources, the Defence sponsor is responsible for compiling noise safety information which includes:
- 63.1. noise information or test reports from manufacturers, suppliers or importers;
 - 63.2. noise source labelling;
 - 63.3. noise hazard registers;
 - 63.4. signage for hearing protection areas;

- 63.5. noise risk assessment reports;
- 63.6. noise management plans; and
- 63.7. orders, instructions and publications for operating and supporting materiel and systems of work.

Deployments (including exercises)

- 64. For deployed personnel, there are significant health risks from exposure to noise that are not normally encountered in Australia. Policy and procedures governing hazard management on deployment are in the *Joint Operations Command Work Health, Safety and Injury Management System Manual* (JOCSafe).

Information change management

- 65. Noise information is to be maintained through approved Group or Service change processes consistent with the Defence noise management program (*SafetyMan - Noise Management Procedure 06 - Noise Management Plans*). The sponsor of the noise information is responsible for ensuring it is updated to maintain the required level of protection for workers.
- 66. Noise emission and safety information (for new or modified materiel) must be communicated by Defence acquisition agencies to all operators, maintainers, other workers that may be exposed and commanders/managers. Commanders/managers must use noise data and safety information to adequately inform orders, instructions and publications, training, noise management planning and noise controls.
- 67. Information must be fed back to committees, managers and workers, and used to inform and continually improve orders, instructions and publications, training and control.

Compliance assurance

- 68. The work health and safety corporate audit tool is applied by Groups and Services to assess and improve compliance with noise Work Health and Safety regulations using the policies and procedures detailed in the Defence noise management program.
- 69. The Defence noise management program Manager is responsible for conducting periodic system audits of the complete program.
- 70. Monitoring, assurance and review reporting must be provided to relevant command and committees, with follow up action to manage residual risk and ensure continual improvement.

References and related documents

- 71. [Work Health and Safety Act 2011](#)
- 72. [Work Health and Safety Regulations 2011](#)
- 73. [Code of Practice – Managing Noise and Preventing Hearing Loss at Work](#)
- 74. [MIL-STD-1474E Department of Defense Design Criteria Standard Noise Limits](#)
- 75. [ISO 2923:1996 Acoustics - Measurement of noise on board vessels](#)
- 76. [Defence Health Manual, Volume 2, Part 6, Chapter 3, 'Frequency of Audiometric Examinations'](#)
- 77. [Work Health and Safety Branch Occupational Health](#) webpage.
- 78. [Joint Operations Command Work Health, Safety and Injury Management System Manual](#)

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Annex

A. Work Health and Safety Regulations 2011

- Regulation 56 - Meaning of exposure standard for noise
- Regulation 57 - Managing risk of hearing loss from noise

Work Health and Safety Regulations 2011

Regulation 56 - Meaning of exposure standard for noise

(1) In these Regulations, **exposure standard for noise**, in relation to a person, means:

- (a) LAeq,8h of 85 dB(A); or
- (b) LC,peak of 140 dB(C).

(2) In this regulation:

LAeq,8h means the eight-hour equivalent continuous A-weighted sound pressure level in decibels (dB(A)) referenced to 20 micropascals, determined in accordance with AS/NZS 1269.1:2005 (Occupational noise management—Measurement and assessment of noise immission and exposure).

LC,peak means the C-weighted peak sound pressure level in decibels (dB(C)) referenced to 20 micropascals, determined in accordance with AS/NZS 1269.1:2005 (Occupational noise management—Measurement and assessment of noise immission and exposure).

Regulation 57 - Managing risk of hearing loss from noise

(1) A person conducting a business or undertaking at a workplace must manage, in accordance with Part 3.1, risks to health and safety relating to hearing loss associated with noise.

Note: WHS Act—section 19 (see regulation 9).

(2) A person conducting a business or undertaking at a workplace must ensure that the noise that a worker is exposed to at the workplace does not exceed the exposure standard for noise.

Penalty:

- (a) In the case of an individual—\$6 000.
- (b) In the case of a body corporate—\$30 000.

Note: Section 12F of the Act provides that strict liability applies to each physical element of each offence under the Act, unless otherwise stated. The reference in section 12F of the Act includes these Regulations.



Defence People Policy, SafetyMan

Noise Management Procedure 05 – Audiometric Testing

1. This procedure relates to SafetyMan – Noise Management Policy and Guidance and provides general information and guidance on audiometric testing for all Defence workers, when and how audiometric testing is to be undertaken, and how it is to be managed.
2. This procedure applies to all Defence workers. Details of the procedure for audiometric testing for ADF members are provided in Defence Health Manual, Volume 3, Part 14, Chapter 8 'Noise'.
3. This procedure provides an overview of:
 - 3.1. baseline (or reference) and the process for audiometric testing;
 - 3.2. ongoing audiometric testing and ototoxic substances; and
 - 3.3. deployment and operations.

Baseline audiometric testing

4. The Work Health and Safety Regulations 2011 mandate that the Person Conducting a Business or Undertaking must provide audiometric testing for any worker who is required to use personal protective equipment to protect against hearing loss within three months of the worker commencing work.
5. The resultant audiogram from this initial test establishes the baseline or reference audiogram for a worker. Subsequent audiograms are referenced against the baseline.
6. The exposure standards and terminology for noise are defined in Work Health and Safety Regulations 2011, Regulation 56 - Meaning of Exposure Standard for Noise and Australian/New Zealand Standard 1269.1:2005 Occupational Noise Management – Measurement and Assessment of Noise Immission and Exposure. The exposure standards for noise are:
 - 6.1. LAeq,8h of 85 dB(A) – steady state noise level; and
 - 6.2. Lc,peak of 140 dB(C) – peak noise level.

Ongoing audiometric testing

7. Follow-up audiograms should be undertaken after a minimum of two hours into the work shift so that any temporary hearing loss can be detected.
8. For any worker who is frequently required to use personal protective equipment to protect their hearing, the Person Conducting a Business or Undertaking must provide audiometric testing at least every two years. In addition, regular testing is recommended in situations where workers are also exposed to ototoxic substances. Further information about ototoxic substances is in [Ototoxic Substances and Hearing Impact](#).



9. Audiometric monitoring is required when:
 - 9.1. workers are exposed to high levels of noise (LAeq,8h equal to or greater than 100 dB(A))—more frequent audiometric testing should be provided;
 - 9.2. workers are exposed to any of the ototoxic substances listed in the Code of Practice – *Managing Noise and Preventing Hearing Loss at Work, Appendix B—Other causes of hearing loss in the workplace* where the airborne exposure is greater than 50 per cent of the workplace exposure standard for the substance (without regard to respiratory protection worn), regardless of the noise level;
 - 9.3. ototoxic substances at any level and noise with LAeq,8h greater than 80 dB(A) or LC,peak greater than 135 dB(C); and
 - 9.4. hand–arm vibration at any level.

Deployment and operations

10. There are significant risks to the health and hearing of deployed personnel. Historically, the lack of adequate data and infrastructure has made it difficult to effectively manage noise risks on operations effectively.
11. Personnel returning from deployment are subject to medical checks ((specified in the *Defence Health Manual, Volume 2, Part 7, and Chapter 17, 'Post–deployment health requirements*), pursuant to which they may require post-deployment audiometric testing. The test results, in conjunction with records of the particular tasks/exercises and types of controls used while on deployment, will enable more effective management of noise risks on future operations. Hence, the particular tasks/exercises and controls should be recorded.
12. Headquarters Joint Operations Command and single-Service Headquarters may direct additional policy and procedures to govern hazard management during deployment.

References and related documents

13. [Work Health and Safety Act 2011](#)
14. [Work Health and Safety Regulations 2011](#) - Regulation 56 - Meaning of Exposure Standard for Noise
15. [Defence Health Manual](#):
 - 15.1. Volume 2, Part 7, Chapter 10 – Pre-deployment health preparation
 - 15.2. Volume 2, Part 7, Chapter 17 – Post-deployment health requirements
 - 15.3. Volume 3, Part 14, Chapter 8 – Noise
16. [Safe Work Australia Code of Practice – Managing Noise and Preventing Hearing Loss at Work](#), Appendix B, Other causes of hearing loss in the workplace
17. [AS/NZS 1269.1:2005 Occupational Noise Management – Measurement and Assessment of Noise Immission and Exposure](#)

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Defence People Policy, SafetyMan

Noise Management Procedure 06 – Noise Management Plans

Introduction

1. This procedure relates to *SafetyMan – Noise Management Policy and Guidance* and details the procedures for developing noise management plans to control and manage noise and hearing loss.
2. The most effective way to protect personnel from noise exposure and harm such as hearing loss is to eliminate noise hazards. For noise hazards that cannot be eliminated, management systems are required. Control measures are implemented to manage and mitigate noise through the use of noise management plans.
3. This procedure involves providing detailed processes for:
 - 3.1. noise management plans;
 - 3.2. hierarchy of noise control measures;
 - 3.3. implementing, maintaining and reviewing noise controls;
 - 3.4. consultation, cooperation and coordination;
 - 3.5. record keeping.

Noise management plans

4. A noise management plan is an action plan specifying how noise exposures can be reduced by applying hierarchy of controls. The noise management plan will assist in reducing noise exposures and should evolve and improve with review and revision.
5. A noise management plan must be implemented at the early stage of introduction to service - eg during the acquisition phase - or at the unit or fleet level for ongoing in-service activities, or in response to noise surveys.
6. Importantly, noise controls are implemented during the acquisition phase of new materiel. The approved noise controls should be installed/affixed to the materiel before it is introduced into service and accepted by the Service Release Authority.
7. Noise survey and assessment reports and other information should provide technical input to actions for the noise management plan process. A preliminary noise management plan, with clear and concise control actions, should form part of the noise assessment reports.
8. Noise management plan recommendations or actions arising from workplace/occupational noise surveys and assessments should accord with the hierarchy of controls and be technologically and economically feasible and compatible with performance and environmental requirements.



Information to be included in a noise management plan

9. Noise management plans should include recommendations for the selection of suitable, effective noise control measures where appropriate and practicable, based on the hierarchy of controls:
 - 9.1. removal or elimination of noise sources, if possible;
 - 9.2. substitution or isolation of noise sources;
 - 9.3. engineering noise control treatments;
 - 9.4. administrative noise control or process/operation changes;
 - 9.5. the selection of appropriate personal hearing protection devices;
 - 9.6. classifying hearing protection areas and any required changes to existing hearing protection areas and signage; and
 - 9.7. further work or additional survey data, where required, and improvements in training (eg the Defence occupational noise officers course) and systems (eg orders, instructions and publications and standard operating procedures).
10. Noise management plan recommendations should:
 - 10.1. be clear, realistic, effective, practical and suitable for the nature of the work/source;
 - 10.2. consider, identify and make allowance for any constraints (eg access, cost, maintenance); and
 - 10.3. consider, identify and make allowance for any likely impact on operations or processes (eg ventilation).
11. Information in a noise management plan should include:
 - 11.1. descriptions of noise control measures that need to be implemented and their anticipated/likely effectiveness;
 - 11.2. as a minimum, conceptual information describing the type and extent of noise control measures (for use by Groups and Services to engage specialists to specify and design the detailed noise control measures);
 - 11.3. prioritised noise control measures, with priorities based on the results (such as critical noise sources and similar exposure groups) of the noise assessment; and
 - 11.4. prioritised actions for control, based on urgency and nature of hazard.

Actions and responsibilities for a noise management plan

12. Groups and Services are responsible for defining the control measures in a more detailed noise management plan. Noise control actions identified would need to be converted to approved and planned actions with assigned priority level, scheduled timing, approved budget, resources required, person responsible for completion and person responsible for verification (in collaboration with the relevant Defence agency such as Capability Acquisition and Sustainment Group/System Program Office or Estate and Infrastructure Group and technical specialists where needed).
13. Groups and Services are responsible for engaging acoustic engineering specialists to specify and/or design the detailed noise control measures. Groups and Services are then responsible for ensuring the noise management plan actions are completed within the required time frame and verified accordingly.

14. The noise management plan is an auditable document with key performance indicators. All noise management plan goals and actions must be specific, measurable, attainable, realistic and timely.
15. The effectiveness of noise controls should be reviewed and verified every two years. Ongoing results and progress (including review) regarding the noise management plan process must be communicated to relevant managers/officers, workgroup work health and safety advisors and relevant committees. The main noise management plan actions and outcomes should be included in the training for workers.
16. Noise management plans are to be stored in an approved corporate record keeping system in accordance with Group and Service procedures (Objective or Sentinel database system) and must be easily accessible.

Hierarchy of controls for noise

17. The 'hierarchy of controls' is used to manage and mitigate noise hazard risks.
18. If possible, noise sources should be removed/eliminated. Effective measures include substituting old noisy equipment with new quieter equipment and isolating, relocating or consolidating noisy equipment into areas that are separate from, or shielded from, the main work area.
19. Existing control measures that are no longer effective must be revised, upgraded or replaced with effective controls. Engineering noise control measures must be considered and implemented where practicable, if elimination or substitution of noise hazards is not possible or reasonably practicable.
20. Note that some hazards - for example, platforms or weapons - are effectively 'untreatable', or engineering control options may be limited due to the impact on combat performance and effectiveness or logistical considerations. In such cases a combination of engineering, administrative and personal protective equipment controls can be applied.

Engineering controls for noise

21. Engineering controls for noise should be specified in a practical manner and in a form that enables application by the relevant Group/Manager. Capability Acquisition and Sustainment Group and Estate and Infrastructure Group may need to be involved in specification requirements for equipment and platforms.
22. Noise measurements and information from noise surveys are important in defining the types of effective noise controls that may be required in different situations. Note that vibration measurements may be required to assist in determining noise/vibration transmission paths and isolating and ranking the noise contributions from different sources. Noise reduction or isolation should be considered at the source, along the transmission path/s and at the worker position/s.
23. Examples of engineering and substitution controls for noise include:
 - 23.1. replacing workshop tools such as air guns, rattle guns, grinders with quieter tools;
 - 23.2. providing quieter vehicles and platforms or fitting engine/machine shrouding, quieter exhaust mufflers;
 - 23.3. maintenance programs to reduce the noise effects of wear with age;
 - 23.4. installing acoustic screens/barriers in workshops, tyre/welding bays, noisy offices;
 - 23.5. enclosing noisy areas (partitions/walls or sealed enclosures);
 - 23.6. using mobile or portable acoustic screens;

- 23.7. using absorptive baffles or barriers (between areas) and absorptive lining/insulation on ceilings/walls;
 - 23.8. building barriers around noisy plant and weapon emplacements;
 - 23.9. fitting silencers and low noise fittings to compressed air hoses, generator sets, maintenance tools, vehicles; and
 - 23.10. using quieter nozzles and exhaust silencers on pneumatic tools.
24. Further guidance and information is in the *Code of Practice: Managing Noise and Preventing Hearing Loss at Work* and *Australian/New Zealand Standard 1269.2:2005 - Occupational Noise Management - Noise Control Management*.

Administrative controls

25. If engineering controls are not possible or reasonably practicable, then administrative control measures must be implemented to minimise noise exposure where applicable and practicable.
26. Examples of administrative controls include:
- 26.1. job rotation - controlling the exposure time by limiting work in noisy environments, through job rotation or personnel rotation;
 - 26.2. scheduling - managing/scheduling noisy work to minimise personnel exposure;
 - 26.3. changing work process - modifying the task or work process to reduce noise and/or the number of personnel exposed;
 - 26.4. limiting times for tasks - applying maximum exposure times for certain tasks (during a work shift or work week);
 - 26.5. applying minimum safe working distances in the vicinity of major noise sources or activities or areas;
 - 26.6. limiting exposure to ototoxic substances - managing tasks that involve the use of ototoxic substances to reduce exposure, particularly in combination with noise;
 - 26.7. limiting exposure to hand-arm vibration - managing tasks that involve the use of vibratory hand tools and equipment to reduce vibration exposure, particularly in combination with noise;
 - 26.8. using effective tools such as orders, instructions and publications/standing operating procedures, checklists, hazard registers and safety information;
 - 26.9. applying warning signs (eg hearing protective area signs) and warning/alarm devices (visual or audible) that activate when noise levels exceed thresholds;
 - 26.10. providing quiet rest areas (eg enclosed/sealed lunch rooms) for workers away from noisy environments;
 - 26.11. regularly maintaining plant/equipment to minimise wear (that can make machinery noisier);
 - 26.12. buying quiet materiel;
 - 26.13. regularly monitoring hazards; and
 - 26.14. promoting noise awareness by providing instruction, training and supervision.

Personal protective equipment

27. Personal protective equipment, such as ear-muffs or ear-plugs, should be used in the following circumstances:

- 27.1. when the risks arising from exposure to noise cannot be eliminated or minimised by other more effective controls;
 - 27.2. as an interim measure until other control measures are implemented; and
 - 27.3. when extra protection is needed above what has been achieved using other noise control measures.
28. Personal protective equipment, such as personal hearing protectors, must be reviewed for effectiveness, suitability and condition. Personal protective equipment should be reviewed as part of the process of routine or baseline surveys and detailed noise assessments. Personal hearing protectors that are in poor condition may not reduce (attenuate) the noise level adequately to protect workers.
 29. The assessment of 'in-ear' noise reduction levels for an 8-hour shift (ie LAeq,8h) with the application of particular personal hearing protectors should be conducted in accordance with *Australian/New Zealand Standard 1269.3:2005 Occupational Noise Management - Hearing Protector Program*.
 30. Initial screening for all personal hearing protectors requirements should be conducted using the classification method which is outlined in *Australian/New Zealand 1269.3:2005 Occupational Noise Management - Hearing Protector Program*. After the initial screening using the classification method, an octave-band analysis should be applied to determine the suitability of different configurations of hearing protectors for all Red, Black and Extreme hearing protection area zones.
 31. For a combination of ear plugs and ear muffs, as used in Black and Extreme hearing protective areas, an additional 3 dB should be added to the highest noise reduction level of the two personal hearing protectors.
 32. Refer to *SafetyMan - Noise Management Procedure 04 - Noise Identification, Assessment and Monitoring* for information on extended work shifts and impulse noise. Double hearing protection (Class 5 ear plugs and muffs) should be used for high intensity impulse noise and may also require additional limits on the number or extent of exposures. Further information can be found in *Australian/New Zealand 1269.3:2005 - Occupational Noise Management - Hearing Protector Program*.
 33. Personal protective equipment should be selected and maintained in accordance with *Work Health and Safety Regulations 2011, Division 5, Regulation 44 – Provision to workers and use of personal protective equipment* (Annex A), the *Code of Practice: Managing Noise and Preventing Hearing Loss at Work* and *Australian/New Zealand 1269.3:2005 Occupational Noise Management - Hearing Protector Program*. Workers should be involved in the selection process and should be offered a reasonable choice of personal hearing protector types. Workers must (in accordance with *Work Health and Safety Regulations 2011, Division 5 Regulation 46 – Duties to worker* (Annex B), so far as is reasonably practicable, wear the personal protective equipment in accordance with information, training and instruction provided to them.
 34. Importantly, workers must be given refresher training on the correct use and fitting of personal hearing protectors including ear plugs, ear muffs, custom-moulded in-ear plugs and headsets. The training should include reminders of the effects of noise exposure and the potential impact of not wearing personal hearing protectors or not wearing them correctly.

Hearing protection areas

35. Hearing protection areas must be reviewed for applicability and effectiveness and any new areas required must be clearly defined and sign-posted. In addition, warning notices or signs should be prominently placed on noisy tools, equipment, plant and platforms that

exceed noise criteria. Hearing protection area signs should be clear and designed/installed in accordance with AS 1319-1994, *Safety Signs for the Occupational Environment*.

36. Hearing protection area zones should be reviewed, and revised where required, as a result of any significant changes in the noise sources or work tasks/activities or equipment or workload/shifts or workplace/building environment.
37. The Hearing protection area zones applicable in Defence are outlined in *SafetyMan - Noise Management Procedure 03 – Noise Information and Labelling*.
38. Other control or management measures in Defence could include:
 - 38.1. collecting further survey data as per *SafetyMan Noise Management Procedure 04 - Noise Identification, Assessment and Monitoring*;
 - 38.2. reviewing audiometric testing statistics for trades/similar exposure groups;
 - 38.3. improving - or providing additional - training, instruction and awareness programs;
 - 38.4. improving systems, orders, instructions and publications and standing operating procedures; and
 - 38.5. using new management tools.

Implementation, maintenance and review of noise controls

39. Defence must ensure that control measures are implemented, verified and maintained in accordance with *Work Health and Safety Regulations 2011* identified below and attached at Annex C:
 - 39.1. Regulation 36 – Hierarchy of control measures
 - 39.2. Regulation 37 – Maintenance of control measures
 - 39.3. Regulation 38 – Review of control measures
40. Implementation of controls must be documented and authorised by the person who accepted the risk assessment or noise management plan (eg acquisition agency or commander/manager) or by other personnel with appropriate responsibility or authority.
41. The effectiveness of noise controls needs to be reviewed and verified—for example, noise levels should be checked before and after controls have been implemented and the levels should be compared to verify the controls are effective/adequate. Additional controls should be implemented if required.
42. Noise control measures (and associated noise management plans) must be reviewed by the responsible personnel at appropriate intervals and revised where required. The review interval should be no more than five years, as required by *AS/NZS 1269.1:2005 Occupational Noise Management - Measurement and Assessment of Noise Immission and Exposure*; or more often as determined from consultation with workers; or when requested by the workgroup work health and safety advisor or committee.
43. Additionally, any significant changes in the noise sources or work tasks/activities or equipment or workload/shifts or workplace/building environment will require control measures to be reviewed at the time of the change. Reviews are also required in situations when existing control measures are no longer effective (eg due to degradation over time), when there are adverse health surveillance results or incidents and in response to noise surveys and assessments. Noise controls may need to be modified, or new controls introduced, as a result.
44. After reviews, follow up action by managers/commanders is required, along with accountability and traceability, to eliminate or minimise risk.

Consultation, cooperation and coordination

45. Formal and informal consultation, cooperation and coordination amongst all relevant stakeholders is fundamental for effective noise management. Consultation, cooperation and coordination are conducted in accordance with individual Group and Service procedures. Considering the range of personnel involved with noise management, consultation, cooperation and coordination is to include all Defence workers, including contractors.
46. Informal mechanisms include:
 - 46.1. workplace visits from noise specialist personnel, occupation health professionals and unit safety personnel; and
 - 46.2. informal workplace continuation training.

Environmental scanning

47. Noise management should continually evolve with the release of new standards and the integration of better (quieter) materiel into the system. Sponsors of noise information are to undertake environmental scanning to identify new alternative materiel and processes which could minimise worker exposure.

Noise subject matter experts

48. Groups and Services are responsible for developing their own hazardous noise management capability to service their own needs. However, specialists can provide advice on noise issues to assist in noise management and control in the workplace. The following subject matter experts are available within Work Health and Safety Branch and Joint Health Command to provide specialist advice for managing noise:
 - 48.1. senior occupational physicians- accessible through Work Health and Safety Branch and Joint Health Command Directorate of Military Medicine;
 - 48.2. senior occupational hygienists - accessible through Work Health and Safety Branch; and
 - 48.3. specialist noise subject matter expertise - contractors accessible from the *Work Health and Safety Standing Offer Panel*.

Health professionals with noise knowledge

49. Health professionals with noise knowledge can provide advice in accordance with Group and Service communication and consultation arrangements. The following health professionals are available to provide advice on noise issues:
 - 49.1. occupational hygienists - ADF and APS environmental health officers and contractors via the Estate and Infrastructure Group *Work Health and Safety Standing Offer Panel*; and
 - 49.2. occupational physicians - ADF and APS doctors and contractors via the *Work Health and Safety Standing Offer Panel*.

Noise management plan managers

50. Groups and Services and Work Health and Safety Branch are responsible for identifying and establishing appropriate personnel to manage the implementation of the noise management plan.
51. The key personnel involved in managing the noise management plan are unit safety advisors, responsible within a unit or workplace for providing noise advice and for implementing, monitoring and reviewing the unit/workplace noise management system.

Personnel who work in a noisy environment

52. Personnel who work in a noisy environment must have the awareness and knowledge to operate noise sources or noisy plant/systems safely. The Campus e-learning course (course ID 00009711) provides generic noise awareness training for Defence workers; however, training in specific systems of work is the responsibility of the relevant Group, Service or Capability Acquisition and Sustainment Group task sponsor.

Example of a noise management plan

53. An example of a noise management plan follows. The format and content can be varied to fit various circumstances and requirements.

References and related documents

54. [Work Health and Safety Act 2011](#)
 55. [Work Health and Safety Regulations 2011](#)
 56. [Code of Practice: Managing Noise and Preventing Hearing Loss at Work](#)
 57. [Australian Standard/New Zealand Standard](#)
 57.1. AS/NZS 1269.2:2005 Occupational Noise Management - Noise Control Management
 57.2. AS/NZS 1269.3:2005 Occupational Noise Management - Hearing Protector Program
 57.3. AS/NZS 1269.3:2005 Occupational Noise Management - Hearing Protector Program
 57.4. AS/NZS 1269.1:2005 Occupational Noise Management - Measurement and Assessment of Noise Immission and Exposure
 57.5. AS 1319-1994, Safety Signs for the Occupational Environment
 58. [Work Health and Safety Standing Offer Panel](#)

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Annexes

- A. Work Health and Safety Regulations 2011- Division 5 – Personal protective equipment Regulation 44 - Provision to workers and use of personal protective equipment; and
 B. Work Health and Safety Regulations 2011- Division 5 – Personal protective equipment Regulation 46 - Duties of worker
 C. Work Health and Safety Regulations 2011 – Chapter 3 – General risk in the workplace management –
- Regulation 36 – Hierarchy of control measures
 - Regulation 37 – Maintenance of control measures

- Regulation 38 – Review of control measures

Work Health and Safety Regulations 2011

Division 5 – Personal protective equipment

Regulation 44 - Provision to workers and use of personal protective equipment

(1) This regulation applies if personal protective equipment is to be used to minimise a risk to health and safety in relation to work at a workplace in accordance with regulation 36.

(2) The person conducting a business or undertaking who directs the carrying out of work must provide the personal protective equipment to workers at the workplace, unless the personal protective equipment has been provided by another person conducting a business or undertaking.

Penalty:

- (a) In the case of an individual—\$6 000.
- (b) In the case of a body corporate—\$30 000.

Example: Equipment that has been provided by a labour hire company.

Note: Section 12F of the Act provides that strict liability applies to each physical element of each offence under the Act, unless otherwise stated. The reference in section 12F of the Act includes these Regulations.

(3) The person conducting the business or undertaking who directs the carrying out of work must ensure that personal protective equipment provided under subregulation (2) is:

- (a) selected to minimise risk to health and safety, including by ensuring that the equipment is:
 - (i) suitable having regard to the nature of the work and any hazard associated with the work; and
 - (ii) a suitable size and fit and reasonably comfortable for the worker who is to use or wear it; and
- (b) maintained, repaired or replaced so that it continues to minimise risk to the worker who uses it, including by ensuring that the equipment is:
 - (i) clean and hygienic; and
 - (ii) in good working order; and
- (c) used or worn by the worker, so far as is reasonably practicable.

(4) The person conducting a business or undertaking who directs the carrying out of work must provide the worker with information, training and instruction in the:

- (a) proper use and wearing of personal protective equipment; and
- (b) the storage and maintenance of personal protective equipment.

Penalty:

- (a) In the case of an individual—\$6 000.
- (b) In the case of a body corporate—\$30 000.

Note 1: A person conducting a business or undertaking must not charge or impose a levy on a worker for the provision of personal protective equipment (see section 273 of the Act).

Note 2: Section 12F of the Act provides that strict liability applies to each physical element of each offence under the Act, unless otherwise stated. The reference in section 12F of the Act includes these Regulations.

Work Health and Safety Regulations 2011

Division 5 – Personal protective equipment

Regulation 46 - Duties of worker

(1) This regulation applies if a person conducting a business or undertaking provides a worker with personal protective equipment.

(2) The worker must, so far as the worker is reasonably able, use or wear the equipment in accordance with any information, training or reasonable instruction by the person conducting the business or undertaking.

Penalty:

- (a) In the case of an individual—\$6 000.
- (b) In the case of a body corporate—\$30 000.

Note: Section 12F of the Act provides that strict liability applies to each physical element of each offence under the Act, unless otherwise stated. The reference in section 12F of the Act includes these Regulations.

(3) The worker must not intentionally misuse or damage the equipment.

Penalty:

- (a) In the case of an individual—\$6 000.
- (b) In the case of a body corporate—\$30 000.

Note: Section 12F of the Act provides that strict liability applies to each physical element of each offence under the Act, unless otherwise stated. The reference in section 12F of the Act includes these Regulations.

(4) The worker must inform the person conducting the business or undertaking of any damage to, defect in or need to clean or decontaminate any of the equipment of which the worker becomes aware.

Penalty:

- (a) In the case of an individual—\$6 000.
- (b) In the case of a body corporate—\$30 000.

Note: Section 12F of the Act provides that strict liability applies to each physical element of each offence under the Act, unless otherwise stated. The reference in section 12F of the Act includes these Regulations.

Work Health and Safety Regulations 2011

Chapter 3 – General risk and workplace management

Regulation 36 - Hierarchy of control measures

- (1) This regulation applies if it is not reasonably practicable for a duty holder to eliminate risks to health and safety.
- (2) A duty holder, in minimising risks to health and safety, must implement risk control measures in accordance with this regulation.
- (3) The duty holder must minimise risks, so far as is reasonably practicable, by doing one or more of the following:
 - (a) substituting (wholly or partly) the hazard giving rise to the risk with something that gives rise to a lesser risk;
 - (b) isolating the hazard from any person exposed to it;
 - (c) implementing engineering controls.
- (4) If a risk then remains, the duty holder must minimise the remaining risk, so far as is reasonably practicable, by implementing administrative controls.
- (5) If a risk then remains, the duty holder must minimise the remaining risk, so far as is reasonably practicable, by ensuring the provision and use of suitable personal protective equipment.

Note: A combination of the controls set out in this regulation may be used to minimise risks, so far as is reasonably practicable, if a single control is not sufficient for the purpose.

Regulation 37 - Maintenance of control measures

A duty holder who implements a control measure to eliminate or minimise risks to health and safety must ensure that the control measure is, and is maintained so that it remains, effective, including by ensuring that the control measure is and remains:

- (a) fit for purpose; and
- (b) suitable for the nature and duration of the work; and
- (c) installed, set up and used correctly.

Regulation 38 - Review of control measures

- (1) A duty holder must review and as necessary revise control measures implemented under these Regulations so as to maintain, so far as is reasonably practicable, a work environment that is without risks to health or safety.
- (2) Without limiting subregulation (1), the duty holder must review and as necessary revise a control measure in the following circumstances:
 - (a) the control measure does not control the risk it was implemented to control so far as is reasonably practicable;

Examples:

- 1 The results of monitoring show that the control measure does not control the risk.
- 2 A notifiable incident occurs because of the risk.
 - (b) before a change at the workplace that is likely to give rise to a new or different risk to health or safety that the measure may not effectively control;

- (c) a new relevant hazard or risk is identified;
 - (d) the results of consultation by the duty holder under the Act or these Regulations indicate that a review is necessary;
 - (e) a health and safety representative requests a review under subregulation (4).
- (3) Without limiting paragraph (2)(b), a change at the workplace includes:
- (a) a change to the workplace itself or any aspect of the work environment; or
 - (b) a change to a system of work, a process or a procedure.
- (4) A health and safety representative for workers at a workplace may request a review of a control measure if the representative reasonably believes that:
- (a) a circumstance referred to in paragraph (2)(a), (b), (c) or (d) affects or may affect the health and safety of a member of the work group represented by the health and safety representative; and
 - (b) the duty holder has not adequately reviewed the control measure in response to the circumstance.

Example of a Noise Management Plan

Action number	Area / Section	Action type		Action required	Actionee (person/appt responsible)	Target completion date	Comments
		Priority level	Timing				
1.	XX AVN/SQN – Flightline + Maintainers	High	Immediate (urgent)	Hearing Protection: Existing Hearing Protection Device (HPD) provision and usage needs to be improved. Recommended Hearing Protection Device (HPD) information is provided in Annex C and section 4, such as a Comms Headset with DSP (Digital Signal Processing) and ANC (Active Noise Control, using fast electronic circuitry).			
2.	XX AVN/SQN – Hangars, Workshops	High	Immediate (urgent)	Hearing Protection: Existing Hearing Protection Device (HPD) provision and usage needs to be improved. Recommended HPD information is provided in Annex C and section 4. Class 1 HPD (e.g. ear plug) applies for general tools/tasks, but a Class 4 HP (e.g. ear muff) must be worn by operators of hand/air/bench tools for high noise level tasks (e.g. riveting, grinding etc).			
3.	XX AVN/SQN – Flightline	High	Immediate (quick/easy fix)	Administrative: The current Black HPA zones for XX AVN/SQN should be maintained. It is recommended that Black HPA Zone signs be erected at each entry/exit airside.			
4.	XX AVN/SQN – Hangars, Workshops	High	Immediate (quick/easy fix)	Administrative: New Amber HPA zone signage should be placed (easily visible and at head height) on the internal and external hangar walls and near entrance/exit doorway. Also, portable Red HPA signage should be used when high noise level tasks are occurring.			
5.	XX AVN/SQN – Hangars, Workshops	Moderate	Near to medium term	Administrative: Install a visual warning device in an elevated location in the hangar & workshop that operates an amber flashing light when noise levels are exceeded.			
6.	XX AVN/SQN – Hangars, Workshops	Important	Medium term (ongoing)	Engineering: Buy quiet equipment for workshop tools: a) low noise spec. rattle and needle guns, b) alternative grinding disks. Also, silencers, straight-through mufflers and low noise fittings for exhaust air outlets on range of pneumatic tools.			
7.	XX AVN/SQN – Hangars, Workshops	Moderate–important	Medium term (ongoing)	Data: Noise measurements should be performed for any noisy equipment not covered in this survey. A noise survey is also required of any other new equipment that is introduced in future. Need on-going & more regular dosimetry of SEGs.			
8.	XX AVN/SQN – Flightline + Maintainers	Important	Near to medium term (ongoing)	Administrative: Flightline personnel, such as Aircrew, Maintainers, Aircraft/Avionics Technicians should have 6-monthly audiometric tests, with any significant hearing threshold shifts noted and actioned, and a statistical database kept up-to-date.			
9.	XX AVN/SQN – Hangars, Workshops	Important	Medium term (ongoing)	Administrative: All personnel should have at least 12-monthly audiometric testing, with any significant hearing threshold shifts noted and actioned, and a statistical database kept up-to-date. However, note that regular 6-monthly audiometric testing should be required for personnel doing regular high noise level tasks.			
10.	XX AVN/SQN – Top level	Important	Medium term (ongoing)	Training: Improved noise awareness and training is required for all Army & RAAF personnel, covering noise exposure awareness & the correct use/fitting of HP devices. A subset of Army personnel should undertake the DONO course or equiv, with regular updates. Also, use of new noise assessment tools from DCOHS.			
11.	XX AVN/SQN – Top level	Moderate–important	Medium term (ongoing)	Administrative: The unit should develop a Standard Operating Procedure (SOP) and Hazard Register for noise (or add a noise specific part to a general WHS SOP), plus place noise awareness posters and information posted on unit WHS Noticeboards.			
12.	XX AVN/SQN – Top level	Moderate–important	Medium to long term (ongoing)	Administrative: This Noise Management Plan (NMP) should be monitored and kept up-to-date by relevant Army/RAAF managers, with regular audit by DCOHS and SMEs for monitoring and evaluation of progress against the recommended actions.			



Defence People Policy, SafetyMan

Noise Management Procedure 07– Education, Training and Instruction

Introduction

1. This procedure relates to *SafetyMan - Noise Management Policy and Guidance* and details the requirements for education, training and instruction to ensure the workforce has the knowledge and skills to manage noise hazards and implement controls. In this procedure, education, training and instruction are collectively referred to as 'training'.

Training

2. Training programs are required to provide all workers with the knowledge and skills needed to manage and control noise hazards.
3. When new noise hazards are introduced, the sponsor of the noise information is to ensure appropriate training programs are developed and integrated into existing training programs, or new programs are developed.
4. Service Chiefs and Group Heads are responsible for training and instruction of the trades, mustering and categories under their control. This would involve the development, implementation and ongoing review of training and training plans.
5. Training should be provided to:
 - 5.1. those workers who may be exposed to hazardous noise or other agents that may contribute to hearing loss;
 - 5.2. managers and supervisors and other relevant personnel including contractors;
 - 5.3. Work health and safety committees and work Health and Safety Representatives, including Unit Safety Advisors, Unit Safety Coordinators, Environmental Health Officer;
 - 5.4. those responsible for purchasing materiel, noise control equipment and personal hearing protectors; and
 - 5.5. those responsible for the scheduling, layout and supervision of work.

Noise-related courses/programs

6. Basic 'Hearing and Noise Awareness' training is provided by e-learning on Campus (Course ID 00009711) and is mandatory for all personnel working in areas where they are required to wear hearing protection and to relevant commanders, managers and supervisors of units or areas that contain noise sources. Work Health and Safety Branch, as the course sponsor, is responsible for ongoing evaluation of the course to ensure it continues to meet the workplace need.
7. The Defence Occupational Noise Officer course [PMKeys code 204785] is conducted at the Australian Defence Force Academy (University of New South Wales). This five-day course is designed to provide selected personnel with information and practical experience in basic noise measurements, regulations, management and control.



8. Selected personnel within each Group and Service should be nominated by Group Safety Coordinators to undertake the Defence Occupational Noise Officer course. Suitable candidates include unit safety advisors, unit safety coordinators, environmental health officer and preventive medicine technicians. Defence Occupational Noise Officers should be stationed at each large workplace - ie at each base or facility that contains major noise sources and should perform noise-related tasks.
9. On successful completion of the course, Defence Occupational Noise Officers are competent persons as defined in *Australian/New Zealand Standard 1269.1:2005 Occupational Noise Management - Measurement and Assessment of Noise Immission and Exposure* and the *Code of Practice: Managing Noise and Preventing Hearing Loss at Work*.
10. To maintain currency, Defence occupational noise officers require refresher training within five years of their initial Defence Occupational Noise Officer course.
11. All workers need to be instructed and reminded of the applicable orders, instructions and publications and standard operating procedures that apply.
12. Task-related hazard and control information must be integrated into orders, instructions, publications, standard operating procedures. Any changes to the task process or noise hazard will require revision of orders, instructions and publications/standard operating procedures. New or revised orders, instructions and publications/standard operating procedures must be communicated to workers.
13. Information on training can be found on the Work Health and Safety Branch website page, 'Noise'. Training documentation (plans, schedules and records) must be maintained on PMKeyS.

Information and communication

14. Noise information and safety requirements must be communicated during awareness instruction and training.
15. Communication is critical for effective understanding, awareness and action on noise management issues. The coordination of training is to include all Defence workers, including contractors.
16. Sources and mechanisms for conveying information about noise and noise management to workers include:
 - 16.1. orders, instructions and publications and standard operating procedures;
 - 16.2. unit notice boards, newsletters and publications;
 - 16.3. the Defence occupational noise officer course and notes;
 - 16.4. Work Health and Safety Branch, Group or Service websites;
 - 16.5. industry, training and other websites;
 - 16.6. professional societies and organisations; and
 - 16.7. conferences, seminars, workshops and forums.

References and related documents

17. [*Australian/New Zealand Standard 1269.1:2005 Occupational Noise Management - Measurement and Assessment of Noise Immission and Exposure*](#)
18. [*Code of Practice: Managing Noise and Preventing Hearing Loss at Work*](#)

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