

Number	WCEF-GM-HSE-0003			
Reasons for Creating or Amending Document	Full Review of Document			
Actual Change Details	Added section 8: Assessment of ototoxic chemicals Added section 11.1 Noise exposure and pregnancy Added section 11.2 Fit testing			
Version	4.0.0	Published	20/10/2025	Review Date 20/10/2028

TABLE OF CONTENTS

1. GENERAL PRINCIPLES	2
2. OBJECTIVES	2
3. LEGISLATION	2
4. STANDARDS	2
5. CODE OF PRACTICE	2
6. ROLES AND RESPONSIBILITIES	3
7. EVALUATION OF OCCUPATIONAL NOISE	4
7.1 FREQUENCY	4
7.2 COMPETENCY	4
7.3 MEASUREMENTS	4
7.4 EQUIPMENT	4
7.5 CALIBRATION	4
8. ASSESSMENT OF OTOTOXIC CHEMICALS	5
9. PREVIOUS NOISE ASSESSMENTS	6
10. CONTROL MEASURES TO REDUCE NOISE	6
10.1 NOISE CONTROL STUDIES	6
10.2 MAINTENANCE OF PLANT AND EQUIPMENT	7
10.3 ADMINISTRATIVE NOISE CONTROLS	7
10.4 TRAINING AND AWARENESS	7
10.5 PERSONAL HEARING PROTECTION	7
10.6 DUAL HEARING PROTECTION (EAR MUFFS AND EAR PLUGS)	8
11. HEALTH SURVEILLANCE	9
11.1 NOISE EXPOSURE AND PREGNANCY	9
11.2 FIT TESTING	9
11.3 AUDIOMETRIC TESTING	9
12. RELATED DOCUMENTS	9

1. GENERAL PRINCIPLES

Occupational noise induced hearing loss (ONIDL) is a significant health and economic problem. Exposure to excessive occupational noise is not only associated with hearing loss but also many adverse effects such as annoyance, fatigue and hypertension.

The following general principles apply:

- a. Consideration is given to eliminate or isolate noise at the source, where practical, in preference to other control methods.
- b. Reasonable steps must be taken to identify all high noise equipment and tasks.
- c. Where identified, a risk assessment must be completed, and controls such as engineering controls, administrative controls and hearing protection implemented.

2. OBJECTIVES

This document will provide:

- a. Applicable legislation and standards.
- b. Roles and responsibilities of workers and contractors.
- c. Evaluation of occupational noise.
- d. Control measures to reduce occupational noise.

3. LEGISLATION

Provision in the regulations for hazardous noise is covered in the Work Health and Safety (general) Regulations 2022 as follows.

Regulation 56 Meaning of exposure standard for noise

Exposure standard for noise, in relation to a person, means

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

Regulation 57 Managing risk of hearing loss from noise

A person conducting a business or undertaking at a workplace must

- Manage risks to health and safety relating to hearing loss associated with noise.
- So far as is reasonably practicable, ensure that the noise that a worker is exposed to at the workplace does not exceed the exposure standard for noise.

4. STANDARDS

- AS/NZS 1269 - Occupational Noise Management Set.
- AS/NZS 1270 – Acoustics – Hearing protectors.

5. CODE OF PRACTICE

- Managing noise and preventing hearing loss at work (2022)

6. ROLES AND RESPONSIBILITIES

Health and safety team

- Provide information and instruction to workers.
- Review, approve and distribute this document.
- Respond to any issues and actions that may arise through implementation of this document.
- Conduct assessments as required and maintain records of any results.
- Engage consultants to organise assessments.
- Provide hearing assessments to all workers as per WesCEF health surveillance program.
- Respond to any emergency situations that occur at the site.
- Report any issues and actions to the responsible manager.
- Liaise with regulatory bodies, employee groups and the public regarding any noise-related issues.
- Assign the actions outlined in the site noise survey reports.

Responsible officer/Accountable person

- Ensure a risk assessment is completed by to identify and assess high noise equipment and/or areas.
- Ensure adequate controls such as engineering controls, administrative controls and hearing protection are implemented to reduce the risk.
- Provide information and instruction regarding high noise equipment and/or areas to employees, visitors, and contractors.
- Adequately signposting/delineating all high noise areas and power tools.

Workers/Contractors

- Complete a risk assessment to identify and assess high noise equipment and/or areas.
- Controls such as engineering controls, administrative controls and hearing protection are adhered to reduce the risk.
- To wear and maintain, as instructed, all hearing protective equipment provided.
- Reporting any uncontrolled high noise equipment identified during their work.
- Participating in noise awareness training and monitoring programs.

7. EVALUATION OF OCCUPATIONAL NOISE

7.1 FREQUENCY

- Every five years.
- For new plant/equipment.
- When a major change in process has occurred.
- As required by business unit.

7.2 COMPETENCY

Noise assessments will be conducted by a competent Noise Officer. A competent Noise Officer is a person who has completed of noise officer course that meets the necessary training requirement for application for approval as a noise officer under Schedule 26 cl 2 (3) (a) of the Western Australian Work health and safety (Mines) Regulations 2022.

7.3 MEASUREMENTS

As per AS/NZS 1269.1 : Occupational noise management - Measurement and assessment of noise immission and exposure.

7.3.1 PARAMETERS

The following sound pressure levels will be measured as per AS/NZS 1269.1

- LAeqT.
- LCeqT.
- Peak dB(C)T.

7.3.2 PERIOD

The length of the activity or a portion of the activity for which the Leq reading has stabilized within +/- 0.5dB.. It should include at least two cycles. A rough guide should be at least 30 seconds.

7.3.3 POSITION

- Approximately 0.1m horizontally from operators ear (if present).
- Where the persons head could be expected to be (if not present).
- 1.5m above ground for standing and 0.8 above seat height for seated person.

7.4 EQUIPMENT

- Bruel & Kjaer type 2245 sound level meter and acoustic calibrator.
- Bruel & Kjaer type 4448 personal noise dose meter.
- Cirrus CR:161C sound level meter and acoustic calibrator

7.5 CALIBRATION

- Field calibration using an acoustic calibrator will be performed before and after each measurement period.

- Recalibration by a NATA accredited facility will be performed every 24 months to verify instruments.
- All calibration certificates will be stored in Cority.

8. ASSESSMENT OF OTOTOXIC CHEMICALS

Ototoxic chemicals are substances that can cause hearing loss. The risk of hearing loss can increase if you are exposed to high noise levels in combination with ototoxic chemicals, therefore additional controls may be required to protect worker hearing.

Some common ototoxic chemicals include:

Type	Name	Risk of skin absorption
Solvent	Butanol	√
	Carbon disulphide*	√
	Ethanol	
	Ethyl benzene	
	n-heptane	
	n-hexane	
	Perchloroethylene	
	Solvent mixtures and fuels, Stoddard solvent (white spirits)	√
	Styrene	
	Toluene	√
	Trichloroethylene	√
Xylenes		
Metal	Arsenic*	
	Lead*	
	Manganese	
	Mercury	√
	Organic tin*	√
Other	Acrylonitrile*	
	Carbon monoxide	
	Hydrogen cyanide	√
	Organophosphates	√
	Paraquat	

9. PREVIOUS NOISE ASSESSMENTS

During previous noise assessments, several areas with high noise equipment have been identified. The noise reports contain the location, noise level, and current controls for each area containing high noise equipment. Recommended actions based on the outcome of the risk assessment is also included in the noise survey reports.

Previous noise assessments are saved on the document control system, Docova.

10. CONTROL MEASURES TO REDUCE NOISE

10.1 NOISE CONTROL STUDIES

Undertake a noise control study to detail the noise control possibilities for areas and items of equipment designated and determine practical reduction possibilities as per below

10.1.1 ELIMINATION OR REDUCTION OF NOISE SOURCES

The most effective and acceptable way to reduce noise in the workplace is to change the noise source (such as a machine) so that it makes less noise. This may mean using a quieter process instead of a noisy one (such as pressing rather than hammering), reducing the amount of metal to metal impact, treating radiating panels or using vibration isolation mountings or changing the way the task is performed.

10.1.2 ISOLATE PATH OF TRANSMISSION

If the noise source cannot be eliminated, then try to stop it from reaching people. This may be done by moving the noise source further away, by enclosing it or partitioning it off, using sound-absorbing materials to reduce the build-up of noise, or remote controls to operate noisy plant from a distance.

10.1.3 ENGINEERING CONTROLS

Engineering noise controls available to be implemented include:

- Redesigning or modifying the noise source or workplace.
- Eliminating impacts between hard objects or surfaces through cushioning or separation.
- Minimising the drop height of objects or the angle that they fall onto hard surfaces.
- Using absorbent lining on surfaces to cushion the fall or impact of objects.
- Fitting exhaust mufflers on internal combustion engines.
- Fitting silencers to compressed air exhausts and blowing nozzles.
- Ensuring gears mesh together better.
- Fixing damping materials (such as rubber) or stiffening to panels to reduce vibration.
- Fitting sound-absorbing materials to hard reflective surfaces.
- Changing fan speeds or the speeds of components.
- Changing the material or its parts are made of (for example change metal components to plastic components).

10.2 MAINTENANCE OF PLANT AND EQUIPMENT

It is essential to maintain plant and equipment regularly as it will deteriorate with age and can become noisier. Check for changes in noise levels caused by worn bearings and gears, poor lubrication, blunt blades, loose parts, unbalanced rotating parts and steam or air leaks all create noise that can be reduced with good maintenance.

Engineering controls such as vibration mountings, impact absorbers, gaskets, seals, silencers, barriers, and other equipment should be regularly inspected and maintained.

10.3 ADMINISTRATIVE NOISE CONTROLS

Administrative noise control measures reduce the amount of noise to which a person is exposed by reducing the time they are exposed to it. Examples include:

- Organising schedules so that noisy work is done when only a few workers are present.
- Notifying workers and others in advance of noisy work so they can limit their exposure to it.
- Keeping workers out of noisy areas if their work does not require them to be there.
- Providing quiet areas for rest breaks for workers exposed to noisy work.
- Using job rotation to limit the time workers spend in noisy areas by moving them to quiet work before their daily noise exposure levels exceed the exposure standard.
- Signposting compliant with Australian Standard AS 1319 and delineating all high noise areas and power tools.

10.4 TRAINING AND AWARENESS

One of the main goals in effective hearing conservation is education of employees so that everyone can:

- Understand the harm that noise can do.
- Recognise situations involving risk.
- Understand why hearing protection is required in the work environment.
- Understand the short and long-term benefits of wearing the correct hearing protection.
- Understand ways of reducing noise exposure.
- Understand the use of noise control equipment and procedures.
- Understand how to use and care for hearing protection equipment.

10.5 PERSONAL HEARING PROTECTION

Personal hearing protectors, such as earmuffs or earplugs, should be used in the following circumstances:

- When the risks arising from exposure to noise cannot be eliminated or minimised by other more effective control measures.
- As an interim measure until other control measures are implemented.

- Where extra protection is needed above what has been achieved using other noise control measures.

10.5.1 Selection of personal hearing protectors

A selection of ear muffs and ear plugs shall be available on request from the store. Supervisors shall discuss the most suitable form of hearing protection with team members before drawing equipment from the store. Hearing protectors for WesCEF must be rated to a minimum of Class 4 or SLC80 22dB, unless the use of the task requires a lower level of protection as confirmed by the hygiene team.

The use of custom moulded earplugs have been implemented since 2020 and will continue to be rolled out across sites.

10.5.2 Maintenance

Personal hearing protectors must be regularly inspected and maintained to ensure they remain in good, clean condition. The inspections should include:

- Ear-muff seals are undamaged
- The tension of headbands is not reduced
- There are no unofficial modifications, and
- Compressible earplugs are soft, pliable and clean.

If disposable earplugs are used, they should only be worn once.

10.6 DUAL HEARING PROTECTION (EAR MUFFS AND EAR PLUGS)

There are times when the area being worked in, or the task being undertaken, will expose the worker to very high noise levels and the use of both ear muffs and ear plugs combined will be required to maintain noise exposure below the workplace exposure standard.

At WesCEF any work in areas where the **noise level exceeds 105 dB(A)** will require the use of dual hearing protection.

For specialist advice on the use of dual hearing protection, contact the Occupational Hygiene Team.

11. HEALTH SURVEILLANCE

11.1 NOISE EXPOSURE AND PREGNANCY

A foetus begins to develop its auditory system early in pregnancy and although sounds from outside the body are lower inside the womb, repeated exposure to high noise levels can damage the hearing of the foetus.

If you are pregnant or planning to become pregnant in the near future, it is important to consider noise exposure and inform the medical centre as soon as practical.

Further information can be found in the [Reproductive Management Procedure](#).

11.2 FIT TESTING

For personal hearing protectors to be effective, they must fit correctly. To verify that hearing protection is fitting correctly and providing adequate attenuation, workers who routinely wear hearing protection will take part in the hearing protection fit-testing program.

Further information can be found in the [WesCEF Health surveillance and biological monitoring](#) procedure.

11.3 AUDIOMETRIC TESTING

Employees required to frequently use personal hearing protectors as a control measure for noise that exceeds the exposure standard should undergo audiometric testing as per WesCEF health surveillance program.

Further information can be found in the [WesCEF Health surveillance and biological monitoring](#) procedure.

12. RELATED DOCUMENTS

- WesCEF Health surveillance and biological monitoring ([WCEF-PD-OHS-090-02](#))
- WesCEF Occupational hygiene management plan ([WCEF-PD-OHS-090-04](#))