

FLIGHT SAFETY

NOISE CONTROL POLICY

Exposure to constant or excessive levels of Noise in the Workplace has been attributed to hearing damage and loss. Flight Safety acknowledges its role in the prevention of Hearing Damage in the Workplace and has devised this Policy to mitigate the Risk of Hearing Damage and Loss. Flight Safety is committed to the ongoing Health and Safety of workers and as such has implemented an Audiometric Testing Schedule in compliance with the WHS Regulations 2011. This Policy is binding on all workers however engaged by Flight Safety.

THE MEANING OF KEY TERMS

Decibel (dB) is the unit for measuring sound levels.

Exposure standard for noise is defined in the WHS Regulations 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 or be so loud that it causes immediate hearing loss.

LAeq,8h means the eight-hour equivalent continuous A-weighted sound pressure level in decibels, referenced to 20 micropascals, determined in accordance with AS/NZS 1269.1. This is related to the total amount of noise energy a person is exposed to in the course of their working day. It takes account of both the noise level and the length of time the person is exposed to it. An unacceptable risk of hearing loss occurs at LAeq,8h values above 85 dB(A).

LC,peak means the C-weighted peak sound pressure level in decibels, referenced to 20 micropascals, determined in accordance with AS/NZS 1269.1. It usually relates too loud, sudden noises such as a gunshot or hammering. LC,peak values above 140 dB(C) can cause immediate damage to hearing.

Hazardous noise in relation to hearing loss means noise that exceeds the exposure standard for noise in the workplace.

Risk control means taking action to first eliminate health and safety risks so far as is reasonably practicable, and if that is not possible, minimising the risks so far as is reasonably practicable. Eliminating a hazard will also eliminate any risks associated with that hazard.

How much noise is too much?

Whether the exposure standard of 85 dB(A) averaged over eight hours is exceeded depends on the level of noise involved and how long workers are exposed to it.

Peak noise levels greater than 140 dB(C) usually occur with impact or explosive noise such as sledge-hammering or a gun shot. Any exposure above this peak can create almost instant damage to hearing.

Decibels are not like normal numbers. The decibel scale is logarithmic. On this scale, an increase of 3 dB therefore represents a doubling or twice as much sound energy. This means that the length of time a worker could be exposed to the noise is reduced by half for every 3 dB increase in noise level if the same noise energy is to be received.

Table 1 demonstrates the length of time a person without hearing protectors can be exposed before the standard is exceeded.

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, who then spends 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 mean that the standard is exceeded. Similarly, if a worker is using a machine that

Table 1: Equivalent Noise Exposures	
LAeq,8h = 85 dB(A)	
Noise Level dB(A)	Exposure Time
80	16 hours ¹
82	12hours ¹
85	8 hours
88	4 hours
91	2 hours
94	1 hour
97	30 minutes
100	15 minutes
103	7.5 minutes
106	3.8 minutes
109	1.9 minutes
112	57 seconds
115	28.8 seconds
118	14.4 seconds
121	7.2 seconds
124	3.6 seconds
127	1.8 seconds
130	0.9 seconds

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generates 121 dB(A) then the exposure standard would be exceeded after only 7.2 seconds.

There is a big range in different people's susceptibility to hearing loss from noise. Research shows that 8-hour average daily noise exposure levels below 75 dB(A) or instantaneous peak noise levels below 130 dB(C) are unlikely to cause hearing loss. With progressively increasing levels, the risk becomes greater.

The WHS Regulations set the exposure standard for noise at an LAeq,8h of 85 dB(A) and a peak noise level at 140 dB(C), which protects most but not all people. Therefore, workplace noise should be kept lower than the exposure standard for noise if reasonably practicable.

OTHER EFFECTS OF NOISE

Noise at levels that do not damage hearing can have other adverse health effects. This can arise when noise chronically interferes with concentration and communication. Persistent noise stress can increase the risk of fatigue and cardiovascular disorders including high blood pressure and heart disease.

Although safe levels to guard against these effects have not yet been fully determined, as a guide, the risk of adverse health effects can be minimised by keeping noise levels below:

- 50 dB(A) where work is being carried out that requires high concentration or effortless conversation
- 70 dB(A) where more routine work is being carried out that requires speed or attentiveness or where it is important to carry on conversations.

These levels include the noise from other work being carried out within the workplace.

To work safely, workers must also be able to hear warning signals above any other noise (ambient noise) at the workplace.

As personal protective equipment (PPE) is to be used at the workplace, Flight Safety has selected Hearing Protection to:

- minimise risk to health and safety,
- suit the nature of the work and any hazard associated with the work,
- be of a suitable size and fit and reasonably comfortable for the person wearing it,
- and be used by the worker, so far as is reasonably practicable.

A worker must, so far as reasonably able, wear the PPE in accordance with any information, training or reasonable instruction given by both Flight Safety Officials and Organisations in charge of the WHS of the Workplaces involved in all Inspections. Following Placard directions to use Hearing Protection is required at all Workplaces.

RECOMMENDED HEARING PROTECTION

It is important to select the most appropriate hearing protection for the situation and task being performed. While it is important to be afforded the best protection from hearing damage and loss, it is equally important to be able to hear your surroundings. Wearing protection that cuts out all sound can present new risks such as an inability to hear verbal instructions and being able to hear well enough to be alerted by warning bells, whistles and sirens. As such the Inspectors and Auditors need to be able to assess the situation and select the most appropriate level of protection required.

The **Table 2** outlines the typical sound levels caused by common situations and

Table 2: Common noise sources and their typical sound levels	
Typical sound level in dB	Sound source
140	Jet engine at 30m
130	Rivet hammer (pain can be felt at this threshold)
120	Rock drill
110	Chain saw
100	Sheet-metal workshop
90	Lawn-mower
85	Front-end loader
80	Kerbside Heavy traffic
	Lathe
70	Loud conversation
60	Normal conversation
40	Quiet radio music
30	Whispering
0	Hearing threshold

Table 3 outlines the recommended Class of Hearing Protector required for the dB levels.

Table 4: Recommended Class of hearing protector	
Measured exposure L _{Aeq,8h} dB(A)	Class
Less than 90	1
90 to less than 95	2
95 to less than 100	3
100 to less than 105	4
105 to less than 110	5