



Australian Government

**National Occupational
Health and Safety Commission**

**NATIONAL STANDARD
FOR OCCUPATIONAL NOISE
[NOHSC: 1007(2000)]
2nd Edition**

**Canberra
July 2000**

**NATIONAL OCCUPATIONAL HEALTH AND SAFETY
COMMISSION**

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ISBN 1 920763 41 4

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FOREWORD

In seeking to achieve Australian workplaces free from injury and disease NOHSC works to lead and coordinate national efforts to prevent workplace death, injury and disease.

We seek to achieve our mission through the quality and relevance of information we provide and to influence the activities of all parties with roles in improving Australia's OHS performance.

NOHSC has five strategic objectives:

- improving national data systems and analysis;
- improving national access to OHS information;
- improving national components of the OHS and related regulatory framework;
- facilitating and coordinating national OHS research efforts; and
- monitoring progress against the National OHS Improvement Framework.

This publication is a contribution to achieving those objectives.

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PREFACE

Occupational noise-induced hearing loss (NIHL) is a major compensable industrial disease in Australia and entails substantial economic costs. Exposure to excessive noise also entails largely unrecognised costs to organisations by way of increased employee turnover and absenteeism, lowered performance and possible contribution to accidents.

As well as the economic cost for employers, NIHL imposes a severe burden on health and social services, and the Australian economy as a whole.

To the individual affected, the social handicaps of NIHL are also severe. NIHL is irreversible and leads to communication difficulties, impairment of interpersonal relationships, social isolation and a very real degradation in the quality of life. The family and others close to the affected person often experience secondary consequences of the condition. While NIHL¹ cannot be fully restored the advancement in hearing aid technology can overcome some of the problems. Of those people affected, 20 per cent or more also suffer from tinnitus (ringing in the ears), in some cases to a severe degree.

The National Occupational Health and Safety Commission (NOHSC) is concerned about noise-induced hearing loss as a major occupational disease. In December 1988, NOHSC endorsed its strategy for the prevention of NIHL¹ and followed this up with the development of a national standard and code of practice. Drafts of these documents were released for public comment in November 1989. Having considered public comment on the draft document, NOHSC declared the *National Standard for Occupational Noise* [NOHSC:1007(1993)] and the *National Code of Practice for Noise Management and Protection of Hearing at Work* [NOHSC:2009(1993)] in March 1992.

In 2000 NOHSC amended the national standard and code of practice to update the measurement of peak noise from an unweighted (linear) peak sound pressure level, L_{peak} , to a C-weighted peak sound pressure level, $L_{C,peak}$. C-weighting measurement is a more reliable form of measurement when compared to the linear response to impulse noise.

The latter may vary according to different sound measuring instruments.

The national standard for exposure to noise in the occupational environment is an average daily exposure level of 85 decibels. This is consistent with overwhelming scientific evidence which indicates that exposure levels above 85 decibels represent an unacceptable risk to the hearing of those exposed. Many other developed countries have introduced legislation based on this standard. For peak noise, the national standard is a peak sound pressure level of 140 decibels.

¹ National Occupational Health and Safety Commission, *National Strategy for the Prevention of Occupational Noise-induced Hearing Loss* [NOHSC:4004(1989)], Australian Government Publishing Service, Canberra, 1989.

The *National Code of Practice for Noise Management and Protection of Hearing at Work* provides practical guidance on how the national standard can be achieved. The national code of practice is intended to assist employers, employees, unions, management, health and safety committee representatives, safety officers, occupational health and safety professionals and others requiring guidance on understanding and reducing workplace noise exposure.

The levels specified in the national standard are the maximum acceptable exposure levels for noise in the workplace. However, over long periods, repeated noise exposure at between 75 and 85 decibels may be a small risk to some people. With progressively increasing levels, the risk becomes greater. Workplace noise levels lower than 85 decibels are, therefore, desirable, if practicable.

1. TITLE

1.1 This national standard may be cited as the *National Standard for Occupational Noise* [NOHSC: 1007(2000)].

2. OBJECTIVE

2.1 The objective of this *National Standard for Occupational Noise* [NOHSC: 1007(2000)] is to reduce significantly the incidence and severity of occupational noise-induced hearing loss.

3. NATIONAL STANDARD FOR OCCUPATIONAL NOISE

3.1 The national standard for exposure to noise in the occupational environment is an eight-hour equivalent continuous A-weighted sound pressure level, $L_{Aeq,8h}$, of 85dB(A). For peak noise, the national standard is a C-weighted peak sound pressure level, $L_{C,peak}$, of 140dB(C).

3.2 The exposure to noise is taken to be that measured at the employee's ear position without taking into account any protection, which may be afforded by personal hearing protectors.

4. INTERPRETATION

4.1 In this National Standard for Occupational Noise [NOHSC: 1007(2000)]:

' $L_{Aeq,8h}$ ' (eight-hour equivalent continuous A-weighted sound pressure level in dB(A) referenced to 20 micropascals) means that steady noise level which would, in the course of an eight-hour period, cause the same A-weighted sound energy as that due to the actual noise over an actual working day. $L_{Aeq,8h}$ is to be determined in accordance with Part 1 of Australian/New Zealand Standard AS/NZS 1269¹.

' $L_{C,peak}$ ' (peak noise level) means C-weighted peak sound pressure level in decibels measured by a sound level meter with a peak detector-indicator characteristic complying with Australian Standard AS 1259.1².

'Noise' means any unwanted or damaging sound.

'Personal hearing protectors' means a device, or pair of devices, worn by a person or inserted in the ears of a person to protect the person's hearing.

REFERENCED DOCUMENTS

1. Standards Australia, AS/NZS 1269 *Occupational noise management Parts 0-4*, Standards Australia, Sydney.
2. Standards Australia, AS 1259.1 *Acoustics – Sound Level Meters, Part 1: Non-integrating*, Standards Australia, Sydney.

