



## **AIOH SUBMISSION**

**Response to Senate Inquiry on Hearing Health in Australia:**

**DECEMBER 2009**

**Australian Institute of Occupational Hygienists Inc.  
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**Prepared by**  
AIOH Exposure Standards Committee

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## **Table of Contents**

Australian Institute of Occupational Hygienists Inc (AIOH).....	3
AIOH Exposure Standards Committee .....	4
Twenty-ninth AIOH Council .....	4
General comments.....	5
The extent, causes and costs of hearing impairment in Australia .....	5
The implications of hearing impairment for individuals and the community.....	6
The adequacy of access to hearing services, including assessment and support services, and hearing technologies .....	6
The adequacy of current hearing health and research programs, including education and awareness programs.....	7
Specific issues affecting Indigenous communities.....	7

## AUTHORISATION

This response has been prepared by the AIOH Exposure Standards Committee and authorised by the AIOH Council.

### **Australian Institute of Occupational Hygienists Inc (AIOH)**

The Australian Institute of Occupational Hygienists Inc. (AIOH) is the association that represents professional occupational hygienists in Australia. Occupational hygiene is the science and art of anticipation, recognition, evaluation and control of hazards in the workplace and the environment. Occupational hygienists specialise in the assessment and control of:

- Chemical hazards (including dusts such as silica, carcinogens such as arsenic, fibrous dusts such as asbestos, gases such as chlorine, irritants such as ammonia and organic vapours such as petroleum hydrocarbons);
- Physical hazards (heat and cold, noise, vibration, ionising radiation, lasers, microwave radiation, radiofrequency radiation, ultra-violet light, visible light); and
- Biological hazards (bacteria, endotoxins, fungi, viruses, zoonoses).

Therefore the AIOH has a keen interest in workplace and other exposures to noise, as its members are the professionals most likely to be asked to identify associated hazards and assess any exposure risks.

The Institute was formed in 1979 and incorporated in 1988. An elected governing Council, comprising the President, President Elect, Secretary, Treasurer and three Councillors, manages the affairs of the Institute. The AIOH is a member of the International Occupational Hygiene Association (IOHA).

Membership of the Institute has been growing rapidly over the past few years and is currently in excess of 600 members.

The overall objective of the Institute is to help ensure that workplace health hazards are eliminated or controlled. It seeks to achieve this by:

- Promoting the profession of occupational hygiene in industry, government and the general community.
- Improving the practice of occupational hygiene and the knowledge, competence and standing of its practitioners. To this end, the Institute has developed a certification scheme, which was approved by IOHA in May 2006.
- Providing a forum for the exchange of occupational hygiene information and ideas.
- Promoting the application of occupational hygiene principles to improve and maintain a safe and healthy working environment for all.
- Representing the profession nationally and internationally.

More information is available at our website – <http://www.aioh.org.au>.

## **Consultation with AIOH Members**

AIOH activities are managed through committees drawn from hygienists nationally. This submission has been prepared through the AIOH Exposure Standards Committee with comment offered to AIOH members generally and active consultation with particular members selected for their known interest and expertise in this area. The Chair of the Exposure Standards Committee initiates, coordinates, reviews and assembles comment into a submission that is passed on to Council or the President for approval. Various AIOH Exposure Standards Committee and other members were contributors in the development of this submission.

## **AIOH Exposure Standards Committee**

Current membership of the AIOH Exposure Standards committee.

Ian Firth (VIC) (Chairperson)  
Ross Di Corleto (QLD)  
Robert Golec (VIC)  
Ron Capil (QLD)  
Kevin Hedges (QLD)  
Dennis Henry (NSW)  
Alan Rogers (NSW)

## **Twenty-ninth AIOH Council**

President:	Sharann Johnson (VIC)
Secretary:	Gavin Irving (QLD)
Treasurer:	Gary Rhyder (NSW)
President Elect:	Charles Steer (SA)
Councillors:	Kevin Hedges (QLD)
	David Chambers (TAS)
	Barry Chesson (WA)

## **General comments**

The AIOH has a keen interest in the recognition, evaluation and control of noise hazards in the workplace and the environment. We therefore wish to present the following comments pertinent to a number of the terms of reference for the Senate inquiry into *Hearing Health in Australia*.

Members of the AIOH play a key role in assessing and controlling the potential for noise induced hearing loss (NIHL) due to the use of machinery in industry and on the land and modern technologies such as iPods.

A good example of our commitment to preventing NIHL is the effort that was applied during the last *Hearing Awareness Week* (23-29 August 2009). This national event has been run traditionally by charity organisations, deafness forums and the like, with an emphasis on how to measure the extent of hearing loss and to cope with the disability. The AIOH participated in this event to introduce preventive aspects and the issue that most AIOH members can relate to – how to best address Occupational NIHL.

This culminated in a 20-page colour supplement in *The West Australian* on 21 August 2009. A copy of this is available on the front page of the AIOH website (<http://www.aioh.org.au/downloads/documents/WANoiseSupplement.pdf>) and should be referenced as it provides good current information on noise and its effects on hearing loss.

## **The extent, causes and costs of hearing impairment in Australia**

There is a great deal of information available from Safe Work Australia on this topic (<http://safeworkaustralia.gov.au/>).

In the latest publication titled “[The Cost of Work-related Injury and Illness for Australian Employers, Workers and the Community 2005-06](#)” the total economic cost of work-related injury and disease for the 2005-06 financial year is estimated to be \$57.5 billion, representing 5.9 per cent of GDP for the 2005-06 financial year. In terms of the burden to economic agents, 3 per cent of the total cost is borne by employers, 49 per cent by workers and 47 per cent by the community. Unfortunately, noise is not separated out as an individual disease factor.

In the latest [Compendium of Workers' Compensation Statistics Australia 2006-07](#), deafness is shown to be 2.6 per cent of all serious disease and injury related claims. The number of claims has remained relatively stable since 2000-01.

The information in the document "National Occupational Disease Profiles Executive Summaries of Each Disease Category" states:

*Noise exposure is the commonest preventable cause of occupational hearing loss, resulting in health problems for many employees and a very significant social and economic burden for Australia. The number of workers compensation claims for deafness reported for the year 2001-02 was 4510, representing 19% of all disease-related claims made and 3.2% of the total disease and injury related claims. Nationally, an estimated 1 million employees in Australia may be potentially exposed to hazardous levels of noise at work (in the absence of hearing protection).*

- *In 2001-02, the occupation groups with the highest number of claims were labourers and related workers, tradespersons and related workers, and intermediate production and transport workers. These three groups accounted for 88% of all claims.*
- *Industry sectors with the highest number of claims were manufacturing (highest in metal product manufacturing), construction (highest in non-building construction) and transport and storage (highest in rail transport). The highest incidence rate was in mining (highest in coal mining).*

It is estimated that 22 per cent of adults over 15 in Australia have a hearing impairment, which poses a large problem for the nation. More than one third of this is due to excessive noise. Case studies show the devastating effect that hearing loss may have on everyday life, at home and at work.

The National Hazard Exposure Worker Surveillance (NHEWS) Survey: 2008 Results indicates that respondents who worked in the Mining and Manufacturing industries were most likely to be exposed to loud noise. On a typical day, those who worked in Mining were exposed to loud noise for an average of 7.3 hours, and for Manufacturing, an average of 5.9 hours. In terms of typical weekly exposure, the industries with the highest reported exposures were Manufacturing and Transport and Storage. Over a typical week, those who worked in Manufacturing were exposed to loud noise for an average of 18.7 hours, and for Transport and Storage, an average of 15.2 hours. Most of the respondents who worked in loud noise last week were provided with some form of protection. The most common forms of protection were ear muffs and ear plugs. Those who worked in the Health and Community Services and Education industries were most likely to report that they or their organisation had done nothing to prevent health problems caused from being exposed to loud noise.

There are also other noise related publications such as Work-Related Noise Induced Hearing Loss in Australia (2006) and Benchmarking of Noise Exposures in Selected South Australian workplaces Part of a Stakeholder Compliance Campaign.

## **The implications of hearing impairment for individuals and the community**

Industrial noise is linked to a range of health problems such as hearing loss and communication difficulties, raised blood pressure, headaches, stress and tinnitus (an annoying ringing or buzzing noise in the head). Noise can thus interfere with our quality of life and can also be a safety hazard at work, interfering with communication, acting as a distraction and making warnings harder to hear. These effects of noise are well documented in various text books. In fact, the AIOH has published the book *Principles of Occupational Health & Hygiene* (Ed. By C Tillman, 2006, Allen & Unwin), which has a chapter on *Noise and Vibration*.

## **The adequacy of access to hearing services, including assessment and support services, and hearing technologies**

As mentioned in our introductory comments on the AIOH, our members are the key people to assess workplace noise levels and recommend / implement controls. However, the profession of occupational hygiene is not recognised in any Australian regulatory documents as the profession to address noise and other such occupational health issues.

While audiometry is usually not the domain of the occupational hygiene profession, we do have concern for the mandated periodicity of hearing health surveillance. As is the case in

coal mining in the eastern states and in mining in general in Western Australia, health assessments are required on a 5-yearly basis. Such an interval is not adequate to predict early hearing loss; hence there is no impetus for improvement or reduction in hearing loss risk. Some of the more progressive companies will have more regular testing (based on risk) and noise management programs that are preventative. Many others may not be aware that audiometric testing can be used to detect the early signs of a permanent threshold shift in hearing.

The United States Occupational Safety and Health Administration (OSHA) provide a process to determine standard threshold shift (STS). This approach, by use of a simple algorithm, can also be used to detect temporary threshold shift (TTS). Detection of TTS will identify higher risk exposure groups, where action can then be taken before hearing loss becomes permanent. We would recommend the adoption of a risk-based approach to health surveillance (with guidance) and the determination of TTS as a part of an audiometric surveillance program.

### **The adequacy of current hearing health and research programs, including education and awareness programs**

It is crucial that the younger generation is aware of the way noise impacts on hearing, how noise and hearing loss are measured and assessed, and how engineering, administrative and personal protective equipment controls may be applied to reduce the impact.

In 2008, the AIOH provided specialised noise measuring equipment so that Southwest Occupational Health Services, a Western Australian company, could develop a noise awareness program to be presented to school-aged children throughout Western Australia. The presentation is designed to give children the tools they need to use their iPods and MP3 devices in a safe manner, and thus preserve their hearing.

The themes explored in the interactive session with the children included: How do our ears work? How does noise damage our ears? What can we do to protect our ears? It also included animations and demonstrations.

Prior to the session, participants are encouraged to bring along their iPods or MP3 players so that these devices can be tested to measure the noise level they are producing in their ears.

Over the past 18 months, the package has been presented free of charge to over 350 Western Australian school children. Measurement of devices during these sessions indicates that over 80 per cent of children surveyed were listening to their iPods at noise levels that could be damaging. This data highlights the potential for widespread hearing damage due to the use of iPods and MP3 players and further supports the need for targeted noise awareness training in primary school-aged children.

As already presented, the AIOH has also been active in promoting the hazards of noise and how to avoid NIHL through their participation in the 2009 *Hearing Awareness Week*.

It is important that *Hearing Awareness Week* and the noise awareness program for school-aged children be more widely promoted.

### **Specific issues affecting Indigenous communities**

I am not sure we can say much here, other than through indigenous employment programs such as are pursued by the larger resource companies (particularly in remote areas such as the

Pilbara and Kimberleys) indigenous people are provided training and awareness of hearing loss issues.

In fact, many of Australia's leading resource companies got behind the *Hearing Awareness Week* effort and ran activities at their sites. These included Chevron, Woodside, Shell, Rio Tinto, BHP Billiton and Alcoa. Activities included "Lunch and Learn" sessions in the Perth CBD, Noise Expos, crew toolbox presentations, noise control training for engineers and awareness sessions with management. We saw a focused effort on a major occupational health issue and a glimpse into the future in terms of what is possible with collective effort. We are already working towards a similar outcome nationally in 2010.