

# IMPROVED NOISE MANAGEMENT ON BUILDING SITES

## A REMEDIAL INTERACTIVE APPROACH

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**Introduction** Exposure to high levels of noise is common in the building industry as almost all the activities are noise producing. Without adequate noise management programs the inevitable outcome is increased industrial deafness. For NSW Australia, the claims for hearing loss from the construction industry represented approx 15% of the total claims each year from 1996 to 1999. In view of the nature of the workforce and its mobility it is estimated that the incidence of hearing loss is even greater. It was quite obvious that the normal strategies for achieving compliance with noise management, which are strongly biased towards conventional industry, needed to be reconsidered for application in the building industry. So the State government agency, WorkCover NSW commenced a project aimed at achieving improved noise management for this industry. The first part of the project involved identification of a baseline of current noise exposure levels on a representative range of building sites, assessment of the extent of the implementation of noise management codes on building sites and suggestions for strategies for improved implementation. The second stage involved education both of WorkCover inspectors and the industry. The third stage involved an intervention activity in the form of field compliance inspections with identification of non-compliance and issue of notices. The fourth stage involves follow up inspections to targeted sites.

**Current Noise Exposures** In Australia the exposure to noise in the workplace should not exceed an 8 hour noise level equivalent of 85 dB(A) or a peak level of 140 dB(C). The limited information on occupational noise levels was compiled. Data on the noise levels were then obtained for a range of activities and on a range of building sites – large city sites; large rural sites; small city sites; and small rural sites. Visiting a range of sites enabled assessment of any differences in work practices and in implementation of noise management procedures. Details of the sites and the noise levels for a range of activities are listed in the report [1]. For a structured working environment where the activities are regular and predictable, the determination of daily noise exposure is reasonably straightforward. For a building site, where the activities can vary greatly throughout the day and from one day to another, the determination is far more complex. The aim of the project was not to determine the noise exposure for any particular worker but to provide input for the subsequent education stages, it was important to identify and rank those areas of the industry that are at greatest risk of excessive noise exposure. This meant the data had to be consolidated while still being meaningful. Observations and discussions with those in the industry led to the use of three categories for the typical daily usage times: >2 hours; 30 mins to 2 hours; and <30 minutes per day. Combined with typical noise levels for the tasks the ranking of tasks as shown in Figure 1 and of trades as shown in Figure 2 were obtained. The use of explosive tools was the only activity found to produce peak levels above 140 dB while hammering of scaffolding was found to be 130-140 dB.

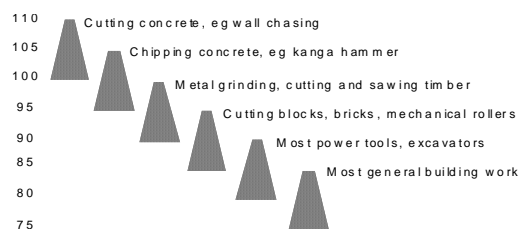


Figure 1 Ranking of tasks by noise level

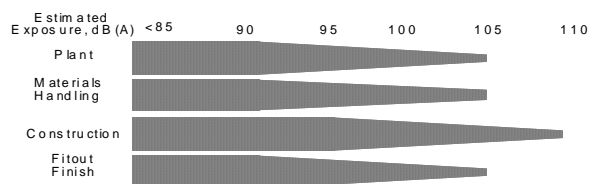


Figure 2 Ranking of trades by noise exposure.

**Education** The study showed poor understanding and little implementation of the elements of noise management programs. Using the findings from the study, WorkCoverNSW presented an industry seminar which focused on noise hazard identification, assessment and control as part of a systematic management of risk of noise induced hearing loss. It was made clear to the industry that noise management was considered a priority issue.

**Intervention Program** The first challenge for the intervention group was to overcome the poor understanding and little implementation of the elements of noise management programs. A group of WorkCoverNSW inspectors who formed the intervention group, received specific training in noise. These inspectors also participated in seminars presented to the industry which were focussed on noise management. It was made clear to the industry that noise management was considered a priority issue by the authority. In the first round of 60 intervention inspections only 20% had a formal noise policy and noise management program and overall poor compliance with the requisites.

Table 1 Extent of compliance with noise management program requisites

Effective Noise Management Program Requisites	% Non Compliance
Noise policy and/or noise management plan	80
Consultation on noise between management, employees and others.	68
Training and education of employees on noise.	75
Training records provide evidence of training on noise in the workplace.	86
Noise assessment, measurements taken and actions recorded.	97
Administrative, engineering or other noise control measures are in place	98
Personal hearing protectors are provided.	15
Employees are consulted and have input on selection of hearing protectors.	78
Procedures for care, maintenance and use of hearing protection devices.	98
A review system to monitor progress of noise management program.	100
A system for noise warning signs where the noisy activities take place.	97

**Conclusion** After only the industry education program the compliance with noise management by self implementation in the building industry was poor. Individual intervention inspections identified the limitations and highlighted the penalties for non-compliance. As a result of a number of follow up inspections, complete compliance was achieved. Further programs may be continued to determine the long term effectiveness.

## Reference

1. Burgess M. and Lai J.C.S. (1999) *Noise Management For The Building Industry Current Practices and Strategies for Improvement Condensed Report*, WorkCover NSW (available at <http://www.workcover.nsw.gov.au>)