

CONTROL GUIDE

MANAGEMENT OF NOISE AT WORK

Acknowledgment

The Occupational Safety & Health Service wishes to thank the National Occupational Health and Safety Commission, Sydney (Worksafe Australia) for their permission to use the material in this guide. The material is based on the National Occupational Health and Safety Commission's publication *Noise Management at Work: Control Guide* (ISBN 0644-12866-6).

Published by the Occupational Safety and Health Service,
Department of Labour,
Wellington,
New Zealand.

First Edition: November 1996

ISBN 0477-03569-8

Price \$50 (incl. GST)

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PREFACE

The Occupational Safety & Health Service (OSH) *Control Guide: Management of Noise at Work* has been prepared in response to a problem which resulted in over 9,000 workers' compensation claims to ACC in the 1991-92 year for industrial deafness and cost the nation \$38 million in compensation payments alone.

Noise-induced hearing loss (NIHL) is one of the priority areas for action of the Occupational Safety & Health Service. The Service's national strategy for the prevention of occupational noise-induced hearing loss, which sets a framework for national action on this issue, has been endorsed by employer and employee organisations.

Elements of the national strategy include the promotion of preventive measures; development of materials to assist workplace prevention, training and education; research; and the development of legislation, standards and an approved code of practice.

The legislative framework for noise exposure prevention, which sets noise exposure limits and responsibilities for employers and employees, is in place. The Occupational Safety & Health Service has developed regulations on occupational noise and issued an approved code of practice for the management of noise and the protection of hearing at work.

Legislation on its own, however, is not enough. It is important to understand that effective prevention requires that managers, workers and the general public have a better understanding of the potential for noise-induced hearing loss and access to information about how to control noise.

The *Control Guide: Management of Noise at Work* provides step by step guidance to assist organisations to effectively manage workplace noise and prevent noise-induced hearing loss.

The best way to control noise is to purchase quieter equipment in future, and to apply noise control measures to existing noisy equipment.

For some workplaces in some industries, achieving safe noise levels may require the application of noise management policies, planning and budgeting over a number of years.

While these control measures are being formulated and implemented, employees need to be protected from the effects of unsafe levels of noise through personal hearing protection programmes. To be effective, such programmes must be carefully managed. This guide therefore provides comprehensive information to assist organisations to conduct an effective personal programme as an interim measure for those employees at risk.

To summarise, this guide provides the information needed by management to implement a comprehensive programme and strategy for managing noise. The essential ingredient from management is commitment to action, shown through personal involvement and the allocation of adequate resources.

CORE MODULE CONTENTS

Structure of the Control Guide

Using the Control Guide

Noise Management Flow Chart

STEP 1 Establish a Basis for Action

- Introduction
- What does the law say?
- What harm does noise do?
- What if we don't do anything?
- Haven't we done enough already?
- What does it cost to deal with noise?
- Conclusion

STEP 2 Assess Your Present Position

- Nominate a noise manager
- Establish consultative process
- Conduct a walk-through audit
- Evaluate present measures
- Interim noise management
- Conduct a noise survey

STEP 3 Set Goals and Policies

- Introduction
- Policy issues
- Responsibilities and obligations

STEP 4 Establish a Noise Management Strategy

- Introduction
- Buy quiet programme
- Noise control plan
- Personal protection programme

STEP 5 Monitor and Evaluate

- Introduction
- Monitoring programme implementation
- Evaluation
- A note on audiometry
- Monitoring checklist

APPENDIX 1 Glossary of Technical Terms

APPENDIX 2 Measures of Noise Exposure

APPENDIX 3 Directory of Products and Services

MODULE SUMMARIES

MODULE 1 CASE STUDIES	Case Studies Case Study 1: Waratah Wire Products Case Study 2: Johnson and Johnson
MODULE 2 WALK THROUGH AUDIT	A Walk-Through Assessment of your Workplace Setting it Up Assessment Procedure
MODULE 3 IN-HOUSE CONTROL	Reducing Noise through “In-House” Maintenance, Modification and Upgrading of Plant What you will need Overview of Maintenance and Modification Practical Diagnosis Diagnostic Tests Maintenance or Modification? Upgrading the Plant Minimising Maintenance Noise Conclusion Referenced Documents Appendix
MODULE 3 CONSULTANTS	Getting the Best from Consultants and Contractors Consultant or Contractor? Using a Consultant or Contractor Summary
MODULE 5 USING SURVEYS	Understanding and Using Noise Survey Reports Purpose of a Noise Survey What you need to use a Survey Define Scope of Survey Identify Exposed Employees Describe Plant Operating Conditions Assess Risk to Employees Identify Areas of Highest Exposure Select Hearing Protectors Provide Information Define Statutory Obligations Summary
MODULE 6 COSTS/BENEFITS	Costs of Noise and Benefits of Noise Control Overview Introduction Costs of Noise to Organisations Costs of Noise to Exposed Personnel Benefits of Noise Control for the Organisation Benefits of Noise Control for Exposed Personnel Referenced Documents
MODULE 7 NOISE POLICY	Developing a Noise Policy for your Workplace What is a Noise Policy? Purposes of a Noise Policy Benefits of a Noise Policy Factors to take into Account Specific Issues that may be dealt with

MODULE 7 NOISE POLICY	Developing the Organisation's Noise Policy Using the Policy Further Reading
MODULE 8 BUY QUIET	Buy Quiet Purchasing Policy and Procedures Introduction Basic Buy Quiet Rules Purchasing Procedure Overview Policy and Procedural Issues Further Reading
MODULE 9 EVALUATING OPTIONS	Evaluating Noise Control Options Identifying Noise Control Options Estimating the Effectiveness of Options Selecting the Most Effective Treatment Option Costing the Options Example: Stamping Numbers on Steel Gas Cylinders Implementing the Chosen Solution Basic Noise Control Further Reading
MODULE 10 FACT SHEETS	Fact Sheets FACT SHEET 1: Effects of Noise and Value of Good Hearing FACT SHEET 2: Questions and Answers on Noise and Noise Control FACT SHEET 3: Ways of avoiding Hearing Damage FACT SHEET 4: Hearing Protectors
MODULE 11 TRAINING AND INFORMATION	Training and Information Introduction Senior Managers Production Managers, Engineers and Technicians Employees and Supervisors SESSION 1: Noise, a Major Issue SESSION 2: Noise, an Issue in this Organisation SESSION 3: Identifying and Solving Noise Problems SESSION 4: The Effective Use of Personal Hearing Protection Evaluation
MODULE 12 PERSONAL PROTECTION	Setting up an Effective Personal Protection Programme Overview Selecting Hearing Protectors with Adequate Noise Reduction Select the Right Protectors for each Person Compatibility with the Work Acceptability to the Wearer Monitoring the Use of Hearing Protectors Hearing Protector Maintenance Checklists Problems Further Reading

STRUCTURE OF THE CONTROL GUIDE

The control guide consists of a core and twelve modules. The core comprises five basic steps and provides an overview of what is involved in organising a complete noise management programme. A short chapter explains what is involved in each step.

The twelve modules provide supporting information which can be drawn on in implementing each of the steps. The flow chart on page xii illustrates the implementation process and indicates the links between the core and the modules. It also highlights the need to involve a range of people in the programme.

While the entire control guide is intended to be a resource accessible to everybody involved in the organisation's noise management programme, the table below indicates which modules are most relevant to specific functional sub-groups. The noise manager especially will find all the modules useful in co-ordinating the programme and developing reports to, for example, the chief executive officer, production engineer and health and safety committee.

<i>Module</i>	<i>Chief Executive Officer</i>	<i>Production Engineering Staff</i>	<i>Maintenance Staff</i>	<i>Nurse/Medical Staff</i>	<i>Purchasing Staff</i>	<i>Employee Reps/OHS Committee</i>
1	✓	✓				✓
2		✓	✓			✓
3		✓	✓			
4		✓				
5		✓				✓
6	✓	✓				
7	✓	✓				✓
8		✓			✓	
9		✓				
10	✓	✓	✓	✓	✓	✓
11				✓		✓
12				✓		✓

USING THE CONTROL GUIDE

The material in the guide can be approached in many different ways, depending on the user's needs. The following notes suggest how three key groups might most efficiently use the guide.

CHIEF EXECUTIVE OFFICERS:

- Scan CORE pages 1 to 6 for overviews of your organisation's legal obligations regarding noise and of the costs and benefits of managing noise effectively.
- Scan the Overview (page v).
- Scan CORE pages 14 to 16 for suggestions regarding delegation of responsibilities for the programme.
- If time permits, scan other parts of the guide that interest you, especially modules 1, 6, 7 and 10.
- Delegate responsibility for detailed management of the noise management programme to an appropriate person (the guide refers to this person as the noise manager) and pass the guide on to this person with an indication of your personal support for the programme.

NOISE MANAGERS:

- Read through the entire core section to get a clear overview before starting work on the programme itself — if you set aside ten to fifteen minutes a day, this will take no more than two weeks.
- Arrange a meeting to inform and consult with others who will be involved in or be affected by the programme (see ESTABLISH CONSULTATIVE PROCESS, page CORE 8).
- As necessary, photocopy relevant modules and sections of the guide and distribute them to others (see the table on page ix).
- Systematically work through the programme steps (see the flow chart on page CORE xii for an overview), referring to specific modules as the need arises.

EMPLOYEE AND HEALTH AND SAFETY REPRESENT- ATIVES:

- Read *Module 10: Fact Sheets* for a general review of the effects of noise on hearing and approaches to prevention.
- Read Step 1 (CORE pages 1 to 6) for an overview of

legal and other reasons your organisation should tackle noise problems.

- Read *Module 7: Noise Policy*.
- As time permits, read modules 2, 5, 11 and 12 for further information and ideas.
- Cooperate in the development of your organisation's noise management programme, using the guide as a general reference.

NOISE MANAGEMENT FLOW CHART

Time Frame	Programme Steps (see details in Core)	Consultation	Module Reference
Immediate	<div style="border: 1px solid black; padding: 5px; text-align: center;"> 1 Establish a Basis for Action </div>	Inform all levels of management Advise employee representatives	1 Case Studies 6 Costs/Benefits 10 Fact Sheets
Short Term	<div style="border: 1px solid black; padding: 5px; text-align: center;"> 2 Assess your present position </div>	Consult through existing mechanism, (e.g. OHS Committee, Employee Reps)	2 Walk Through Audit 4 Consultants 5 Using Surveys
	Nominate a Noise Manager	Report/ recommend to senior management	11 Training and Information 12 Personal Protection
	Establish a Consultative Process		
	Conduct a Walk Through Audit	Interim Noise Management	Inform/involve supervisors and workers in assessments
	Evaluate present Measures	Implement obvious or simple control measures immediately	Consider formalising consultative mechanisms (e.g. establish noise committee)
	Conduct a Noise Survey	Implement and upgrade hearing protection programme	
Medium Term	<div style="border: 1px solid black; padding: 5px; text-align: center;"> 3 Set Goals and Policies </div>	Implement buy quiet programme	7 Noise Policy
	<div style="border: 1px solid black; padding: 5px; text-align: center;"> 4 Establish a Noise Management Strategy </div>	Implement noise control plan	3 In-house noise Control 8 Buy Quiet 9 Evaluating Options 11 Training and Information
		Implement hearing protection programme	
Ongoing	<div style="border: 1px solid black; padding: 5px; text-align: center;"> 5 Monitor and Evaluate </div>	OHS Committee and Employee Representatives	