MINERALS INDUSTRY SAFETY HANDBOOK

Edition 1

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ACKNOWLEDGMENTS

We wish to thank the State Government regulators of Australia's mining industry and State Mineral Councils for their most welcome cooperation in support of this national publication and their contributions.

DISCLAIMER

Each State's legislative requirements may over-ride the information provided in this publication. Check the specific legal requirements in your state.

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TABLE OF CONTENTS

PURPOSE AND SCOPE

The mining industry must reach the highest levels of safety and occupational health practice. Minerals Industry Safety Handbook is a resource that will help all mine sites to reach these levels.

Everyone on a mine site has a 'duty of care' around safety and health. This includes mine owners, employees, employee representatives, site managers, corporate and technical staff, contractors, consultants and government officers. The mining and extractive industries' duty of care also extends to the community in many ways.

The information in Minerals Industry Safety Handbook is key when a mine develops or reviews its operating practices. As part of this, the Handbook can help to identify competency and training needs. A competent and trained workforce means that managers, supervisors and employees are better able to work safely and to fulfil their duty of care.

Mines can use the Handbook when assessing risks, developing risk controls and putting in place or reviewing workplace practices and procedures. When developing safety management systems, users can refer to the extra information listed at the end of each topic, particularly Australian Standards. As well, a complete list of relevant standards is given in Part 7.4.1.

The information in this has come from publications available from Government agencies and Minerals Councils in several States. The aim of all governments is to promote standards in best practice in Occupational health and safety. At the same time, when developing safety management systems, the reader should be aware that each State has specific requirements which must be met.

As these are provided in loose-leaf format, the topics are easy for site personnel to access, and easily amended to allow updates and to insert extra references.

Where possible, the structure for each major section first considers the importance of each topic, then looks at how to deal with identified hazards. This is followed by ways to control hazards, monitoring and analysis of results and making improvements.

The Handbook contain valuable information on hazards and safe working practices to protect miners from injury. They are a companion to the "Safety Management Plan – Workbook", which contains information on implementing safety management plans. This Handbook replaces the earlier "draft" Guidelines for Safe Mining, which were produced at the same time as the Workbook was released.

Many topics are yet to be developed or which require additional information. These constitute "work in progress". Some of this work is already under way and will be ongoing to keep abreast of changes in mining technology or improved standards.

We encourage your contribution to the ongoing development of this Handbook. Should you have ideas, information or comment on how to improve the Handbook, please fill in and return the feedback sheet in the Handbook to help the mining industry develop "best practice" methods of work.

DEFINITIONS

Specific terms are defined in a glossary in Part 7.

REFERENCES

In addition to references at the end of each respective topic, a more comprehensive schedule has been included in Part 7.

CROSS - REFERENCES WITH SAFETY MANAGEMENT PLAN – WORKBOOK

The following information provides a cross-reference between material provided in the Safety Management Plan – Workbook and this publication. This is to help people apply the information in this Handbook when developing their Safety Management Plans for the operation.

Safety Management Plan – Workbook		Minerals Industry Safety Handbook
Contents		Sections
1	Introduction	1.5 Risk Management
2	Document Control	1.2 Document Control
3	Policy	1.4 Policies and Management Plans
		3.1 Access to the Mine
4	Accountability and Responsibility	1.3 Responsibilities and Accountabilities
5	Risk Assessment	1.5 Risk Management
6	Emergency Response Planning	2.5 Emergency Planning and Response
7	Consultation and Communication	2.1 Communication and Consultation
8	Job Safety Analysis	2.2 Safe Operating Procedures
9	Safe Work Procedures	3.7 Manual Handling
10	Workplace Inspection	2.2 Safe Operating Procedures
		2.3 Workplace Inspection
11	Hazard Reporting	1.7 Hazard and Work Injury Reporting System
12	Injury/Illness Recording	
13	Workers Compensation and Injury Management	1.8 Workers Compensation and Injury Management
14	Accident Investigation	2.4 Accident Investigation
15	Environmental Monitoring	4.9 Vibration
		4.10 Noise
		4.11 Workplace Temperatures
		4.12 Dust
		4.13 Ventilation
16	Health Surveillance	3.6 Health and Facilities
17	Personal Protective Equipment	3.8 Personal Protection
18	Training and Development	3.5 Training and Development
19	Employee Selection	3.4 Employee Management
		3.3 Labour Hire
20	Purchasing	2.6 Purchasing
21	Design and Planning	4.1 Planning and Design
22	Information Resources	1.1 Information Resources
23	Audit and Review	2.2 Safe Operating Procedures
		2.3 Workplace Inspection
		2.4 Accident Investigation
24	Contractor Management	1.6 Contractor Management
25	Core Risk Programs	3.2 People Working Alone
		Section 4 Working Environment
		Section 5 Equipment and Machinery
		Section 6 Shafts, Winding and Hoisting Systems

LIST OF ABBREVIATIONS

^{o}C	degrees Celsius
A	amps
AC	alternating current
ADR	Australian Design Rule
AGPS	Australian Government Publishing Service
AS/NZS	Joint Australian/New Zealand Standard
AS	Australian Standard
cm-1	per centimetre
CO	carbon monoxide
CO^2	carbon dioxide
CSA	cross sectional area
cu m, m^3	cubic metre(s)
DB	dry bulb temperature (in ^{o}C)
DC	direct current
ECG	electrocardiogram
EIS	Environmental Impact Statement
EPA	Environment Protection Authority
FEL	front-end loader
FTIR	Fourier transform infra-red (spectrophotometry)
GT	globe thermometer temperature (in ^{o}C)
hp	horsepower
H^2S	hydrogen sulphide
Hz	hertz
ICS	International Classification for Standards
IEC	International Electrotechnical Commission
ISO	International Standard Organisation
kV	kilovolts
kVA	kilovolt amperes
kW	kilowatts
L (may be l)	litre(s)
LHD	load-haul-dump
LPG	liquefied petroleum gas
m/s	metres per second (velocity)
m/s^2	metres per second per second (acceleration)
MERD	Mine Emergency Response Development (Program)

mg/m^3	milligram(s) per cubic metre
mL (may be ml)	millilitre(s)
m	metres
mm	millimetres
MSDS	Material Safety Data Sheet(s)
MW	megawatt (million watts)
NEEITCC	National Electrical and Electronic Industry Training Committee
NFPA	National Fire Protection Authority, USA
NHMRC	National Health & Medical Research Council
NO	nitrogen (or nitrous) oxide
NO^2	nitrogen dioxide
NOHSC	National Occupational Health and Safety Council
NOx	nitrogen oxide(s)
OH&S	cccupational health and safety
RCD	residual current device
RMS	root mean square
RPM (or rpm)	revolutions per minute
SAA	Standards Association of Australia
SDE	sulphide dust explosion
SO^2	sulphur dioxide
SES	State Emergency Service
SWL	safe working load
t	tonnes
TLV	threshold limiting value
um	micron
V	volts
VA	volts amperes
VWF	vibration white finger
W	watt
W/m^2	watts per square metre
WB	wet bulb temperature (in ^oC)
WBGT	wet bulb globe temperature
WBV	whole-body vibration
XRD	X-ray diffraction (or diffractometry)