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# PERSONNEL ACCESS TO HEAVY MINING MACHINERY

## GUIDELINE



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## CONTENTS

	<b>Page</b>
<b>FOREWORD</b> .....	<b>2</b>
<b>1.0 INTRODUCTION</b> .....	<b>3</b>
<b>2.0 ACCESS WAYS TO MACHINES</b> .....	<b>4</b>
<b>3.0 MAINTENANCE SERVICING AND CLEANING</b> .....	<b>5</b>

## **FOREWORD**

This Department of Industry and Resources guideline is issued to assist in understanding the requirements to be considered for safe personnel access to heavy mining machinery, and to provide guidance, at the practical level, on essential design aspects and operating practice.

It is not a comprehensive technical document and does not deal in detail with specific tasks or operating procedures.

The procedures outlined in the body of this guideline are not regulations, and compliance with them is not mandatory. However, adherence to the procedures indicated should ensure a high level of worker safety. Procedures different from those set out in the guideline may also be acceptable.

Comments on, and suggestions for, improvements to the guideline are encouraged. The guideline will be revised as appropriate, to accommodate comments and to take account of new information on improvements in technology and operational experience.

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## 1.0 INTRODUCTION

The supplier of heavy mining machinery should, carry out a risk assessment of the accessibility of each type of machine to the satisfaction of the employer, and any hazards or deficiencies identified should be rectified in accordance with these guidelines before the machine is put into service.

This guideline outlines general requirements considered necessary for safe personnel access to heavy machinery, including earthmoving machinery, drills, cranes and other mobile equipment.

The Mines Safety and Inspection Regulations 1995 contains regulations which cover aspects relating to heavy machinery access.

### **Guards and handrails**

**4.4.** (1) The manager of, and each employer at, a mine must ensure that adequate handrails, guards or fences are provided on all steps, stairs, elevated walkways and platforms, and on any other elevated workplace where there is a risk of injury to employees from falling.

**4.5.** (1) The manager of, and each employer at, a mine must ensure that -

- (a) fall arrest equipment is provided to employees at a workplace if the risk of injury to employees from falling cannot be eliminated from the workplace or the system of work at the workplace; and
- (b) the equipment referred to in paragraph (a) is -
  - (i) appropriately designed for the task for which it is to be used;
  - (ii) used in such a way as to reduce, so as far as is practicable, the possibility of injury to the user; and
  - (iii) properly maintained.

Penalty: See regulation 17.1.

### **Plant to be maintained and operated in a safe manner**

**6.2.** (1) The principal employer, and every other employer, at a mine must ensure that, in respect to any plant in the mine -

- (a) a system is implemented to identify any hazards associated with the plant, and assess the risks of an employee being exposed to those hazards; and
- (b) all practical measures are taken to reduce those risks,

in order to ensure that the duties of employers under Part 2 of the Act to provide and maintain a safe working environment in relation to plant is carried out successfully and effectively.

(2) As a minimum, consideration should be given to the following methods of risk reduction -

- (c) ensuring that there is sufficient access and egress to the parts of the plant that require cleaning or maintenance, and to the operator's workstation for normal and emergency conditions;

## 2.0 ACCESS WAYS TO MACHINES

- ◆ All machines should be fitted with an appropriate means of access to those parts of the machine where a person is requested to work.
- ◆ Employees should be trained in the safe use of access ways and platforms, including:
  - ◆ looking before proceeding;
  - ◆ maintaining a firm grip on a rung with at least one hand at all times when climbing a ladder;
  - ◆ only using access ways and platforms provided (don't improvise);
  - ◆ stepping carefully from ladders and steps to ground, (don't jump); and
  - ◆ not carrying items by hand when on ladders.
- ◆ Employees who do not follow established procedures should be retrained.
- ◆ Steps or stairways, rather than ladders should be installed, where practicable.
- ◆ Steps, rungs, foot and hand holds should be highly visible and easily reached by all personnel using them.
- ◆ Steps and ladders should not deflect unnecessarily when in use, particularly as an initial reaction to a person's weight.
- ◆ The distance between the ground and the bottom rung or step should not be greater than 400 mm.
- ◆ All steps, rungs, platforms and walkways should be provided with non-slip surfaces and such surfaces should be maintained in good order.
- ◆ All access ways and their operating and safety components should be maintained in good working order.
- ◆ Provision should be made for carrying or lifting tools or equipment which ensures both hands are free when climbing ladders.

- ◆ Access ways and working platforms should be clearly identifiable and properly protected with railings and kick plates.
- ◆ All access ways should be adequately illuminated when in use and power switches should be provided in easily accessible places if not automatically illuminated.
- ◆ Where powered extension steps or ladders are fitted to a vehicle or machine a lock out device should be provided which prevents the vehicle or machine from moving or operating while the steps or ladder are in the extended position.
- ◆ A person operating powered steps or ladders should be able to view their operation from the control position to ensure that no person is placed in danger.
- ◆ Where a possibility exists of an operator being trapped in the event of a fire, an emergency egress should be provided in addition to the normal means of access.
- ◆ All access ways should conform to design standards contained in AS 3868 “Earthmoving machinery - Design guide for access systems” and AS 1657 “Fixed platforms, walkways, stairways and ladders - Design, construction and installation” where practicable.

### **3.0 MAINTENANCE, SERVICING AND CLEANING**

- ◆ Adequate provision should be made for access and working space in order to carry out maintenance or servicing.
- ◆ Provision should be made for safe and easy access for the external cleaning of control cabin windows either on the machine or by way of a purpose built working platform.
- ◆ Where suitable access ways and working platforms are not in place on the machine, purpose built platforms having similar safety provisions as detailed under part 2.0 of this guideline as appropriate, should be provided.
- ◆ Purpose built platforms should be functional and easy to use, and when of a transportable variety they should be secured when in use to prevent unintended movement.
- ◆ Manufacturers should endeavour to locate service points at readily accessible locations.