Department of Minerals & Energy
Western Australia

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S A F E T Y B U L L E T I N

RE-ENTRY AFTER BLASTING

The Inspectorate has become concerned by a recent spate of accidents and incidents relating to the exposure of personnel to blasting fumes in underground mines. A survey of mining operations has been carried out with a view to finding out how managers of underground mines determine that it is safe for persons to re-enter areas of their mines following blasting. The answer appears to be (almost without exception) that managers rely solely on the expertise of their employees, who, in turn, are expected to rely solely on their senses of sight and smell to establish whether an area is safe to re-enter.

It is acknowledged that Regulation 9.22 (5) of the Mines Safety and Inspection Regulations 1996 casts a duty on each person as an individual to satisfy himself that fumes from blasting have been effectively dispersed and that the atmosphere is safe to breathe before entering any area of the mine. Employers and managers, however, need to consider whether reliance on sight and smell alone will be adequate to enable every person in the mine to make this determination.

Regulation 9.22(4) casts specific responsibilities on the manager of the mine to ensure that procedures are established AND followed to ensure that persons do not enter areas where toxic blasting fumes have not been effectively dispersed or where the oxygen level may be depleted to a hazardous extent as a result of blasting operations.

Section 9 of the Mines Safety and Inspection Act 1995 casts a clear duty on employers to have in place some means of preventing employees from being exposed to the undoubted hazard of blasting fumes in dangerous concentrations. Similarly, Section 13 of the Act casts a duty to prevent such exposures on all managers and principal employers.

Managers and employers need to ask themselves just how these duties are being fulfilled at their own mines:

- how, in practical terms, they expect their employees to satisfy themselves that fumes have dispersed;
- what systems are established or procedures are in place to prevent inadvertent exposure?

Managers, for instance, might have regular on the spot monitoring of the time taken to disperse fumes in different parts of the mine carried out and publicise the results to employees as well as incorporating those results in a foolproof, fail-safe re-entry procedure. Similarly, employers might consider whether it is necessary to provide test instruments or alarm devices to employees to allow them to make valid judgements on the safety of the atmosphere in their working environment.

As a basic minimum, employers and managers must have calculations carried out to determine the time necessary to clear blasting fumes from the various parts of the mine, but they should be aware of the limitations of using the very variable output capabilities of fans and other ventilating devices (whether theoretically assessed or actually measured practically) to arrive at a definitive result. What should not be done is to trust to luck and rely on the experienced nose of the employee!

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