



Mines Safety Bulletin No. 109 and Dangerous Goods Safety Bulletin No. 0113

Subject: Management of blasting flyrock

Date: 20 December 2013

Summary of hazard

In two recent blasting incidents at separate mines, mine vehicles were significantly damaged when struck by flyrock. Workers were also exposed to flyrock in both events. In one incident, ten employees, including supervisory and blasting personnel, were standing beside a light vehicle when it was struck by flyrock. These events could have had more serious consequences.

Contributory factors

The following contributory factors were evident for both incidents.

- The shotfirer determined the safe distance for the blast exclusion zone without consulting and receiving approval from each responsible person.
- The shotfirer underestimated the extent of the danger associated with blast flyrock.

Actions required

These incidents highlight the importance of effective management when undertaking blasting operations. The shotfirer does not have the authority to unilaterally make and approve blasting controls at a Western Australian mine.

The primary responsibility for blasting procedures, standards, practices and blast exclusion zone distances lies with each responsible person involved in blasting operations. For a mining operation, this is defined to be the principal employer, any other employer and the manager.

Each responsible person at a mine must jointly ensure that controls are implemented to minimise the risks of injury or harm to people. To be effective, controls should be able to contend with human error.

The following measures are recommended.

- The blast design, procedures, standards, practices, and safe exclusion zone distances for all blasting operations are determined and approved jointly by the relevant responsible person, in consultation with the explosive manufacturer and under the advice of the shotfirer or other competent person on the mine.
- Any changes to blasting procedures, practices, standards or exclusion zone distances are referred to each responsible person for approval.
- Use the *Code of Good Practice – Blast Guarding in an Open Cut Mining Environment*, published by Australian Explosives Industry and Safety Group Inc. (AEISG), as a guideline when preparing safe blast exclusion zone distances for the different blast parameters.

Note: The code may be downloaded free from the AEISG website at www.aeiscg.org

- Where there is a danger to any person, public road or property not under the control or ownership of the principal employer:
 - change the blast design (i.e. reduce blast size and explosive energy)
 - use blast mats or
 - apply a combination of these strategiesto contain and prevent flyrock from being ejected outside the blast exclusion zone or boundaries of the mine.



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