



## Dangerous Goods Safety Bulletin No. 0109

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**Subject:** Risk assessment requirements for fixed underground explosives magazines

### Background

Applications submitted to Resources Safety for licensing of underground fixed magazines have not been supported by proper risk assessments outlining risk control and mitigation measures for the safe storage of explosives. This raises concerns about the location of the magazines.

The inappropriate location of fixed underground magazines with inadequate separation distances can, in the case of an accidental explosion, result in an excessive air-blast hazard to persons, machinery and infrastructure in the mine.

### Issues

- Australian Standard AS2187.1:1998 *Explosives – Storage, transport and use – Storage*, section 2.6.2, does not prescribe quantity-derived separation distances between the explosives storage and the critical infrastructure of the mine (e.g. decline, electrical sub-stations, pumps). In general, licence applications for fixed underground magazines do not adequately address the risk arising from the explosives as a function of quantity and proximity to critical infrastructure.
- The storage quantities of explosives proposed in licence applications are generally higher than previously permitted under the provisions of the Mines Safety and Inspection Regulations 1995.
- The existing fixed magazine facilities at some underground mines have not been adequately planned in relation to the risk presented by the storage of large quantities of explosives underground.

### Requirements

An adequate risk assessment must be conducted for each underground fixed magazine, taking into account the quantity of explosives in the magazine and its proximity to critical mine infrastructure. The assessment must consider the effects of a potential explosion on the safety of persons working underground and their evacuation from the mine.

To progress an application for a license to store explosives in a fixed underground magazine licence, applications must be accompanied by assessment documentation that demonstrates:

- the risk presented by the proposed underground fixed magazine (i.e. location, design, and quantity of explosives to be stored) has been evaluated and found to be acceptable and as low as is reasonably practicable; and
- adequate and appropriate risk control and mitigation measures are in place.

Licensees are reminded of their duty to assess and minimise risk from dangerous goods, as required by the *Dangerous Goods Safety Act 2004*.

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