

Safety Alert

Mines Inspectorate

Safety Alert No. 265
13 May 2011

Blast-exclusion zones

Mine type: All surface mines

Incident: A car travelling on a public access road was struck by flyrock. Although no-one was injured, the car was damaged and the potential for harm was high.

Equipment: No equipment or machinery was involved.

Hazard: Flyrock

Cause: Inadequate blast planning and exclusion-zone calculations

Comments: With four fly rock incidents in the past year, some sites may not be correctly calculating exclusion zones and/or recording this information on scaled aerial maps, even when exclusion zones are referenced in the sites' Blast Management Plans.

Recommendations:

To reduce the potential for fly rock incidents, consider:

1. the size, geological nature, shot location and site topography,
2. hole diameter, depth of charge and burden (charge weights, locations and detonation sequences) when determining an exclusion zone, using additional blanketing material when necessary,
3. the predicted throw direction of the blast and the potential for fly rock,
4. potential impact on public and private roads, infrastructure and neighbours, and identify their location on plans, and
5. whether the documented blast plan includes a surface plan or aerial picture to scale, displaying the calculated exclusion zone area.

Furthermore, ensure:

6. well controlled blast exclusion zones are established around each blast,
7. exclusion zones are clear of personnel before firing,
8. effective communication exists between all personnel managing or controlling the blast,
9. machinery within the blast zone is thoroughly visually inspected prior to its reuse, and
10. blasting procedures and blast management plans are updated to refer to blast exclusion zones.

References:

1. Queensland Government, Explosives Safety Alert No. 08, 25 July 2003, *Recent flyrock incidents*, see www.dme.qld.gov.au/zone_files/Explosives_Safety_alerts/safetyalert08.pdf
2. Queensland Government, Explosives Information Bulletin, 20 Sept 2007, *Precautions against flyrock*, see www.dme.qld.gov.au/zone_files/Explosives_information_bulletins/infobul11.pdf
3. Western Australian Government webpage, www.dmp.wa.gov.au/6713.aspx#7001, contains examples of mining blast plan templates.

Hermann Fasching

Acting Manager, Safety and Health — North

Contact: Katie Ormonde, Inspector of Mines, +61 7 4760 7405

Please ensure all relevant people in your organisation receive a copy of this safety alert. Any such advice supplied to site should reach those who require it, and it should also be placed on the mine noticeboards. See more safety alerts and safety bulletins at www.dme.qld.gov.au/mines/safety_information__bulletins.cfm