



Department of Consumer
and Employment Protection
Government of Western Australia

Resources Safety 

Mines Safety

Significant Incident Report No. 134

Detonator found inside ANFO loader

Incident

During charge-up operations at an underground mine, the operator noticed a restricted flow of ANFO coming from the delivery hose. Upon examination, a non-electric detonator and a small rock were found in the actuator valve located at the base of the 'kettle'. Charge-up operations were immediately ceased and the blockage cleared. The supervisor was notified and an investigation commenced.

Had the detonator exploded the consequences for the charge-up crew could have been catastrophic.

Causes

The investigation revealed that, prior to the incident, detonators were being stored on the lip of the kettle by the charge-up crew. It appears that at some stage a detonator fell undetected from the lip into the kettle.

There was no wire-mesh screen present on the funnel to prevent lumps of ANFO and other items, including detonators, from entering the kettle.

Recommendations

Managers of underground mines should review their charge-up practices to ensure that such an incident cannot occur at their operations.

The following actions must be considered:

- mesh screening devices to be installed on all ANFO loading kettles to prevent foreign material, including detonators, from entering the kettle
- detonators, primers and explosives not to be stored on an ANFO loading kettle at any time
- checks to be made before filling a kettle with ANFO to ensure that no foreign material is present inside the kettle
- systems to be introduced to account for all detonators used during charge-up operations.

There was a similar incident recently at a mine in Queensland prompting Explosives Safety Alert No. 11 to be issued by the Queensland Government – Natural Resources and Mines. This may be downloaded from www.nrm.qld.gov.au/mines/explosives/index.html

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18 August 2005