NSW DEPARTMENT OF
PRIMARY INDUSTRIES

SAFETY ALERT

Damage to oxygen self-rescue units

INCIDENT

During a practical demonstration of self-rescue units (oxygen-generating breathing apparatus), a member of a mine rescue team attempted to activate and wear a unit. The team member found that the mouthpiece and breathing circuit had been contaminated with a yellow powder and was unusable.

CIRCUMSTANCES

Mine rescue personnel were conducting a training exercise using oxygen self-rescue units. When one of the rescue team members donned a self rescue unit he noticed that the unit did not function and he was experiencing a burning sensation in his mouth. Upon inspecting the unit he noticed a yellow powder on the mouthpiece. The unit could not be worn due to the possibility of chemical burns and was subsequently sent for testing. Additional units were also found to be unserviceable during recent testing and training activities.

INVESTIGATION

The investigation found that the compromised self-rescue units were approaching the end of their service life (approximately five years). The units displayed signs of substantial damage (dents) to the metal lid of the unit and to the plastic housing. The units tested appeared to have been frequently and significantly impacted/dented and each unit exhibited varying presences of yellow dust. This dust has originated from the chemical pellets used in the unit. It appears the pellets had deteriorated during prolonged abrasion within the self-rescue unit.

The damage to the self-rescue unit outer case is thought to have occurred during day-to-day handling underground, and also during the end of shift ‘return’ procedure. This procedure involved dropping the units into a storage box with a ‘spring loaded’ base. Dropping the self-rescue units on top of each other has contributed significantly to the damage to their protective casing and the deterioration of the chemical pellets.

ABN 51 734 124 190
www.dpi.nsw.gov.au

Mine Safety Report No: SA08-10
File No: 07/7290
Comet ID:317555408001
Prepared by: G. Welsh
Phone: 08 8088 9328
Date Created: 11 September 2008

RECOMMENDATIONS

1) Mines using self-rescue breathing apparatus should review the mine's systems for managing the use, storage and inspection of these units.
2) Mine management should develop a system of 'in-service testing' for self-rescue units.
3) Mines should conduct a review of training procedures to ensure mine personnel are aware of the importance of proper handling and storage of self-rescue equipment.
4) The equipment supplier should provide an estimate of the service life expectancy of self-rescue units, given the frequency of use and prevailing mine conditions.

NOTE: Please ensure all relevant people in your organisation receive a copy of this Safety Alert, and are informed of its content and recommendations. This Safety Alert should be processed in a systematic manner through the mine's information and communication process. It should also be placed on the mine's notice board.

Signed

Rob Regan
DIRECTOR
MINE SAFETY OPERATIONS BRANCH
NSW DEPARTMENT OF PRIMARY INDUSTRIES

View more safety alerts at www.dpi.nsw.gov.au/minerals/safety/safety-alerts. If you would like to receive safety alerts by email, send your contact details to mine.safetyalert@dpi.nsw.gov.au