



ACCIDENT/INCIDENT ALERT

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Mines Rescue Brigadesman Escapes Suffocation During Training

What Happened

A mines rescue employee, wearing a Draeger BG-4 self-contained breathing apparatus, fell unconscious and began to suffocate while being trained in the entrapment procedure at the local Mines Rescue Station. He was rescued by the team captain and given oxygen and recovered almost immediately.

The entrapment procedure (conserving oxygen with the oxygen valve cylinder turned off and not turned back on until the breathing bag is almost empty) is part of the rescue team's normal training. The accident occurred using the entrapment procedure as in the Queensland Mine Rescue Service Manual. Four men were in the team, the training was carried out with the men separated from each other, in fresh air, in the dark and inside a large smoke tunnel at the rescue station. The team captain who was also the training officer at the station heard the employee gasping for fresh air and found him unconscious, still wearing his full-face mask and with an empty BG4 breathing bag.

Investigation

The entrapment procedure as practiced by mines rescue personnel, presents the danger of a person allowing the oxygen levels in the blood to decrease to levels, which in some people, can result in loss of consciousness before any major discomfort is noticed. The procedure is outside the manufacturer's guidelines for using this equipment and a full risk assessment must be conducted before

practicing this procedure including the following recommendations.

Recommendations

- The procedure is only practiced where there has been an identified risk of entrapment.
- The BG4 set will not be removed from the wearer's back.
- The team captain ensures each team member is sitting down in a comfortable position.
- The team captain if wearing a set leaves the oxygen supply turned on at all times.
- All cylinder pressures are recorded.
- Each team member has the set's breathing bag three quarters filled before turning the oxygen cylinder off. This is achieved by another brigade member visually observing the bag with the set cover off.
- At all times the team captain and team members will observe and monitor each other's status.
- At ten minute intervals the cylinder valves will be opened and the breathing bags will again be three quarters filled before turning the cylinder valve off again.
- Members are informed of the hazards of hypoxia.
- No other rescue procedures are carried out at the same time.