DEPARTMENT OF MINERALS AND ENERGY
WESTERN AUSTRALIA

SIGNIFICANT INCIDENT REPORT NO. 37

LEAD-ACID BATTERY EXPLODES

INCIDENT

A serious eye injury was sustained by a serviceman undertaking the removal and replacement of a defective lead-acid battery terminal. A hacksaw being used to effect the repair contacted both terminals of the battery causing it to explode. The casing of the battery ruptured violently and an ejected fragment penetrated the injured person's left eye.

CAUSE

An accumulation of hydrogen gas within and around the battery was ignited by sparking produced when the battery terminals became short-circuited.

COMMENTS AND PREVENTATIVE ACTION

The presence of hydrogen gas within and around lead-acid batteries is a normal characteristic and results from the processes of charging and discharging.

Prior to commencing similar work on batteries of this type, the following safeguards require consideration:

- Remove filler caps and force ventilate the volume inside and around each cell.
- Ensure sparking, flames and other ignition sources are kept a safe distance away.
- Wear safety goggles and a full face shield.
- Ensure work is undertaken by competent persons familiar with the task, and that due care is exercised in the use of appropriate tools.

Skin burns caused by battery acid should be treated by removing contaminated clothing, flushing with water for twenty minutes, covering with a sterile non-stick dressing and referral to medical attention.

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