



DEPARTMENT OF MINES
WESTERN AUSTRALIA

SIGNIFICANT INCIDENT REPORT NO. 25

BURIED ELECTRIC CABLE – FATAL ACCIDENT

INCIDENT

While excavating to repair a leaking water main, a trades assistant was electrocuted when a crowbar he was using struck and penetrated a buried 415 volt cable. On discovering the accident, a supervisor received a minor electric shock from contact with the victim while attempting to provide assistance. The power source considered responsible was isolated and resuscitation efforts proved unsuccessful.

COMMENTS

Although formal 'Excavation Permit' procedures had not been adopted, an underground services plan was consulted prior to commencing work. The plan used was "out of date" and failed to indicate the presence of cables. The current plan clearly warned of danger.

Further excavation of the accident site revealed the cable to be buried directly in the ground adjacent to two water pipes and a gas main. Orange danger warning tape and mechanical protection normally provided to safeguard electric cables was found installed above the gas main, leaving the cable unprotected.

RECOMMENDATIONS

To prevent this type of accident reoccurring, persons responsible are enjoined to consider adopting the following measures in addition to AS 3000 requirements when burying cables.

- Cables shall be of wire-armoured construction, or equivalent.
- Circuits shall be afforded earth-leakage protection.
- All cables shall be installed with orange danger tape.
- Cables shall be installed not less than, 750mm deep for high-voltage systems, 600mm deep for other wiring, and 100mm below mechanical services in the same trench.
- The location and direction of all cables shall be, accurately recorded on plans and clearly indicated by permanent route markers on the surface of the ground.
- Written 'Excavation Permit' procedures shall be established, practised, and provide for work authorisation, review of current plans, confirmation and inspection of the worksite, and issue of necessary precautions.

These matters will be further detailed in a 'Safety Bulletin' issue to be released, and be the subject of Regulatory Amendments.

Remember! When the cause of an accident is not obvious, always suspect electric shock and ensure your own safety. Casualties rely on your well-being and effective response.

J M Torlach
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SECWA

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