

CONTACT WITH LIVE 415 VOLT CONDUCTORS



INCIDENT

During plant maintenance a contractor supervising electrician picked up a five-wire (3 phases, earth and neutral) double insulated cable lying loose in a wet oily cable tray. When wiping the cable with his bare hand, the loose tape around the exposed conductors at the cable end came off and he received a shock. The 415 Volt conductors shorted out and the power tripped off on short circuit.

INVESTIGATION

While the plant was operating, the following protection was **not** in service or was inadequate.

- **No** general 415 Volt **earth leakage** (mains supply).
- **No** cable **identification**.
- Redundant cable and apparatus were **not safely isolated**.
- **Inadequate protection** – where the schematic diagram indicated a 10A circuit breaker, the actual circuit breaker was 32A.
- **Inadequate available drawings** – where drawings indicated two motors in parallel, there were actually four.
- **Inadequate management** of contract personnel – the electrical contractor was not aware of the site Electrical Management Handbook.

PRELIMINARY RECOMMENDATIONS

- Mines should review their electrical systems and contractor control in line with "Guidelines for Safe Mining", the Mines Inspection Act and the General Rule.
- The review should immediately ensure that all earth leakage systems are in service and operational, and that all redundant cables and apparatus are safe.

For additional information contact Stan Maginnis, Inspector of Electrical Engineering, on (02) 6351 3052, email maginnis@minerals.nsw.gov.au.

A handwritten signature in black ink, appearing to read "N. Sneddon".

N. SNEDDON
ASSISTANT DIRECTOR SAFETY OPERATIONS