DEPARTMENT OF MINES
WESTERN AUSTRALIA

SIGNIFICANT INCIDENT REPORT NO. 14

ELECTRIC SHOCK INVOLVING P & H SHOVEL

INCIDENT

Whilst tracing a grease line inside the carbody structure of a P & H shovel, a mechanical trades assistant received a severe electric shock and burns when he attempted to climb into a 'live' 3300v slip-ring compartment. After he contacted the 'live' parts, the earth-leakage protection circuit automatically cut off the electricity supply and he managed to extricate himself. Access into the carbody was gained via an unrestricted opening in the machine's baseplate, and proximity to the slip-rings was reached after negotiating various sections. The casualty was hospitalised overnight.

CAUSE

The accident was caused by the failure to provide and maintain effective barriers capable of preventing the person involved from inadvertently contacting the live slip-rings.

COMMENTS AND PREVENTATIVE ACTION

The circumstances of this accident highlight three very basic electrical safety rules provided for in Australian Standard AS3000 to minimise such occurrences:

- Electrical installations shall be so arranged that unauthorised persons can not inadvertently contact 'live' parts. (Clause 1.18.1)

- Removal of covers provided to prevent contact with 'live' parts shall require the use of a special key or tools. (Clause 2.23.2.2)

- Removable covers providing access to high voltage 'live' parts shall be fitted with a suitable notice containing the words 'DANGER HIGH VOLTAGE' (Clause 8.10.2)

All owners of P & H shovels and similar machinery need to isolate and check their equipment to ensure compliance with the above requirements and that this type of accident is not repeated. Attention is also drawn to the provisions of Australian Standard AS2865 which details the requirements for:

"SAFE WORKING IN A CONFINED SPACE"

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SAFETY AWARENESS SAVES LIVES