



MINE SAFETY

INVESTIGATION UNIT

**Electric shock – high voltage isolation
– 20 June 2005**



Electric shock incident

- Coal Preparation Plant Hunter Valley NSW
- Maintenance on a 11kV switch board
- Last minute changes to isolation plans
- Contract electrician opened shutters inside bus tie cubicle to wipe down bushings
- Hand contact made with live 11kV parts
- Burns to hands, thrown backwards, severe shock



The incident



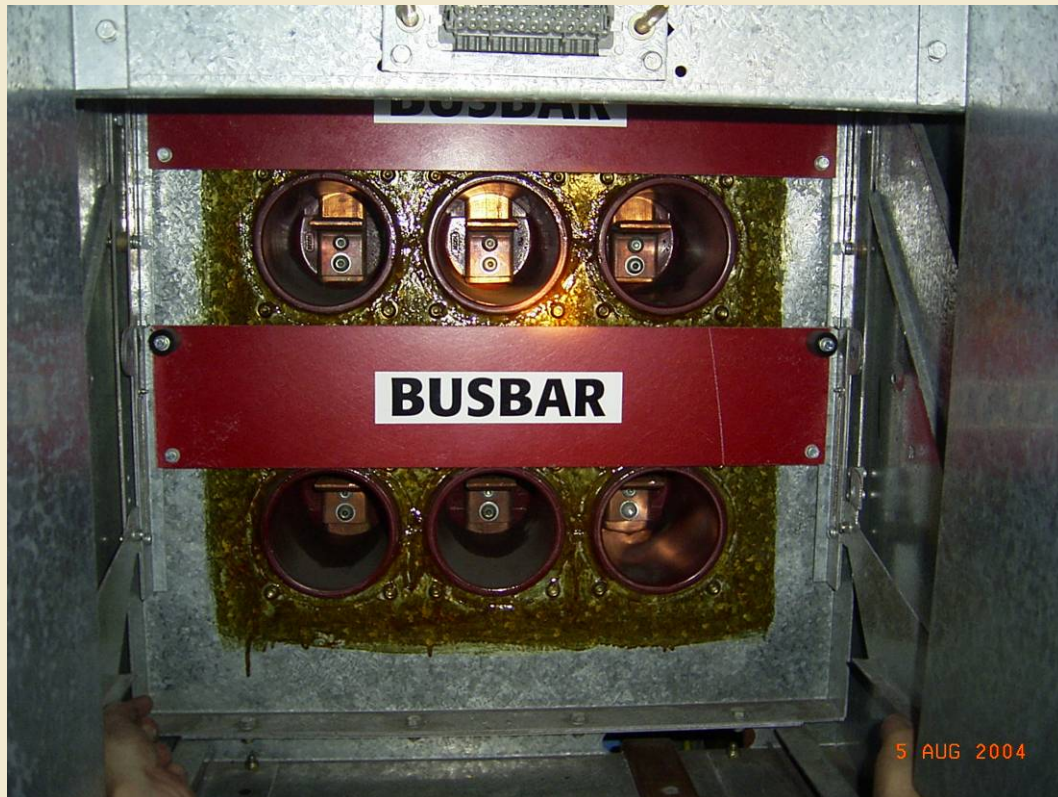
The distribution board.

Originally intended to be fully isolated for the job.

Late decision to only isolate half the board at the bus tie breaker.



The Incident



Contract electrician opened bus tie shutters to wipe down the spouts.

The top set was live at 11 kV.



Causal Factors

- Changes to the job plan were made after the risk assessment
- Isolation did not include locks or hard barriers
- Supervision did not include close monitoring of work
- Safe work procedure did not address risk of access to live areas



Best Practice

- High Voltage work to be regarded as specialised work for trained people
- High Voltage Safety Management Plans based on industry benchmarks
- High Voltage work needs particular job planning and risk assessment
- Changed conditions to cause stop and review of job plan



Related Published Resources

- A significant amount of guidance material can be found at www.dpi.nsw.gov.au/minerals/safety/resources/electrical-engineering/guidance-material
- Investigation report at www.dpi.nsw.gov.au/investigation-unit
- NSW DPI Safety Alert No SA05-11 <http://www.dpi.nsw.gov.au/minerals/safety/safety-alerts>