

DBP
Level 6,
12-14 The Esplanade
Perth WA 6000

Telephone: (08) 9223 4300
Facsimile: (08) 9223 4301



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Load Bank Control Panel door locking mechanism caught on a 240VAC cable



Brief description of event:

Late in the afternoon of September 30 at CS03 a safety event occurred that involved an electrical load-bank; the Load bank Control Panel for the GEA's.

A new load bank was being commissioned, following testing the commissioning engineer then switched all the right hand column MCBs ON and proceeded to secure the Escutcheon plate by closing the latches with an insulated screw driver. He closed the bottom latch without incident, but when he closed the middle latch there was a flash and all the right hand column MCBs tripped.

A preliminary investigation revealed that there was insufficient clearance between the middle recessed door locking mechanism and the blue phase wiring on one MCB. This led to the insulation on a 240VAC cable being caught and cut through causing a phase-to-earth short circuit via the Escutcheon plate. The earthing of the Load bank Control Panel caused the circuit breaker to trip and automatically remove power from the Load bank Control Panel.

Extent of injury/damage:

No-one was injured, but the incident is significant and is being investigated.

Contributing Factors:

Insufficient clearance between the locking mechanism and the cables within the Load Bank Control Panel.
The securing locking mechanism appears to be poorly designed allowing it to rotate past 90 degrees
The blue 240VAC cable may have been too long

Local action taken:

Immediate actions taken;

- the subject Load bank Control Panel was immediately isolated and danger tags were installed per normal isolation procedures.
- the cause and mitigations were identified.
- the problem was corrected; recessing the cable that was initially caught by the door mechanism.
- the board was then re-energised.

All 5B Load banks at CS2, CS6 and CS7 will be isolated immediately. The load bank control panels will then be investigated to ensure that this problem will not recur; ie that the door latches have the clearance not to foul on the internal wiring loops

ZERO HARM Learning's:

Supplier of Load Banks is to be involved in investigation to ensure that learning's are able to be addressed at design and manufacture phase.

Design and Manufacture changes are to be communicated within industry via industry bodies.

FURTHER INFORMATION -: Warren Row - Snr. Electrical, Instrumentation &Control Systems Engineer (0400 537 327)
Alyson Vinciguerra - Manager - HSE
(08 9223 4907)