

Safety Alert

Site Mount Isa Mines
Division Copper Operations
Department Engineering Services and Projects
Location 23L U64 Substation
Date & Time 24/11/09 at 20:50
Incident Number 122950

Description of the Incident

On the 24th November 2009 Electricians had responded to a frame earth fault at the 23L U64 Substation and, in the process of rectifying this fault, an electrician was wiping inside the panel in proximity to a cable shutter protecting a live incoming cable spouts.

The 23L U64 Substation has had moisture and dust issues in the past due to its location. Over time, dust had settled inside the cable spouts. The dust, with the available moisture in the air, had enabled electricity to track inside the live cable spout and spark across to the shutter when the shutter was being wiped by the electrician. The spark across to the shutter instigated an ionisation arc flash inside the panel. This arc flash resulted in the employee suffering burns to his right hand, thigh and face.



Panel 5, Shutter damage from arc flash



Actions to Prevent Recurrence

| Actions |
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| <i>Communicate to personnel that electricians shall not enter panels that are not remotely isolated unless wearing designated HV PPE.</i> |
| Review the Utilities and Underground Maintenance Organisational Structures, to ensure that they address all operations, maintenance, safety and technical support requirements. |
| Analyse and Risk Assess tasks associated with HV Activities conducted by Utilities personnel to develop procedures and training material. |

Conduct audit of the Substations room to create a Substation Standard that captures all operational conditions in both Copper and Zinc businesses. Consider measures to maintain air-conditioning to Switchboard during power outages.

Communicate the Substation audit outcomes to Profit Centres and develop an action plan to implement findings.

Review the Maintenance Schedules for HV equipment taking into account the local substation environmental conditions.

Investigate and include in the Switchboard Standard, remote switching devices, locking mechanisms, PPE or barriers to protect personnel from arc flash in order to reduce exposure to the danger zone when conducting electrical work.

Investigate available flame retardant clothing for electricians and communicate findings in order to record into procedure.
King-gee Cool Shirts are not acceptable clothing to be worn by electricians.

Internal Contact

If further information is required, please contact

- Stephen Budd (Mob 0407 620 736, 14486) or
- Mitch Crawford (Mob 0434 363 452, 15795)