

PANEL OF INQUIRY

ScottishPower Express

Reference no.: EXP-14-084

Incident: SP-POI- INC-1016349

Date: 31/05/2016



LV Flashover at MFI Bidston S/S

On Tuesday 3rd May 2016, an SPM cable jointer undertook live working procedure WL-1.17 to terminate a new cable onto the LV board at MFI Bidston substation, Wirral.

The jointer was using an **uninsulated** spanner to tighten the 'shear-off' bolt that connects the cable to the LV fuseway.

Suddenly, there was an intense flash and multiple bangs, in close succession. The jointer stumbled backwards away from the board, with his hands in front of his face. The team hastily exited the substation and the jointer asked the mate to get water for his hand, and to check his face for burns.



The jointer received severe burns to his right hand

IMMEDIATE CAUSE:

Upon shear-off, the jointer lost control of the tool, which made contact between one of the phase busbars and the earthed metal work of the enclosure. The 24MVA flashover caused severe burns to the jointer, who remained in hospital for three nights and is now undergoing physiotherapy.

Under normal operating conditions, 'shielded-pattern' LV boards ensure that live conductors are shrouded. However, when fuseway covers are removed, live conductors can be exposed.

Live working procedure WL-1.17 requires that, where present, these conductors shall be made 'not live' or shrouded.

At the time of this incident, the jointer was not using insulated tools, approved rubber gloves or light eye protection, and the insulating rubber mats were not in place.



Uninsulated ratchet spanner made contact between the live L3 busbar and the enclosure



Recommendations and action points

Where live work is justified and a risk assessment identifies that it is appropriate:

- Always ensure full understanding and strict adherence to the live working procedures
- Always wear appropriate PPE & use appropriate approved insulated tools in accordance with PSSI 12 (13.3)
- If in doubt, stop work and contact your Team Leader immediately
- When undertaking any work on 'shielded-pattern' LV boards, always inspect thoroughly for the presence of exposed live conductors at each stage of the procedure
- When working under procedure WL-1.17 and exposed live conductors are identified, either make 'not live' or apply approved shrouding

Be aware that the term 'shielded-pattern' only applies under **normal operating conditions**. Once fuseway covers are removed, there is a distinct possibility of exposing live conductors.