



ABB Nitran LV Fuse Cabinet Flashover

A flashover occurred within a fully shielded LV fuse cabinet of a unit substation at Pollockshaws Road when the fuse cabinet door was closing. Fortunately the jointer in attendance did not sustain any injuries. The jointer had entered the substation to check the substation LV fuses in response to no supply calls.

Initial inspection identified that the red phase small wiring connecting the test socket was dislodged by vibration and shorted to earth due to a tight fitting door. Note the insulated test sockets are unfused and are fed directly from the incoming side of the transformer disconnector. The ABB Nitran LV Fuse Cabinets have an operational restriction [OPSAF-16-215](#); insulated voltage test sockets must not be used for live testing. While further investigation is ongoing, it is suspected that the test sockets have since deteriorated further due to a combination of condition and ageing.

Recommendations and actions

- Prior to access check if an SOP is applicable, contact Control to interrogate for SOP 215 and risk assess, considering second person to render assistance.
- PowerOn Screen should be fully expanded to ensure multiple SOPs aren't masked as one on the screen.
- Wear full Live Working PPE when accessing the ABB Nitran LV Fuse Cabinet, using the cabinet door as a shield when opening and closing the door.
- Immediately following access, conduct a visual inspection of the test sockets, to check the phase coloured socket plastic surrounds are intact with no signs of cracking or distortion.
- If the test socket surrounds are significantly degraded withdraw from the cabinet and contact Control to request assistance.
- Safety stand down to communicate potential issue across all personnel at risk.
- Full Live Working PPE label to be affixed to the door of each ABB Nitran LV Fuse Cabinet fitted with the test sockets.
- SOP 215 will require an amendment to reflect this further development of the test sockets and include the following text in PowerOn: "ACCESS CABINET WITH FULL LIVE WORKING PPE"



ABB Nitran Fully Shielded
LV Fuse Cabinet –
Transformer Disconnector



Fuse Cabinet door opened –
Transformer Disconnector
Test Sockets