



Earth switch contact fell to ground during switching

WHAT HAPPENED?

An operational near miss happened when an earth switch contact fell to the ground during switching at Stratford (SFD) on the 17th of November 2015 at 9:30am. The switcher was operating SFD-ES-529 when the yellow phase fixed contact broke and fell to the ground. Fortunately the switcher was standing underneath the red phase. If the red phase contact had dropped, he could have been severely hurt.

The bottom image to the right shows another earth switch at Invercargill (INV) where a similar contact has failed but has not yet broken off completely.



IMMEDIATE ACTION TAKEN

- All 20 sites having the Hapam AM 245 type earth switch have been identified.
- Instructions have been issued for Warning Signs labelled “**Do Not Operate**” to be put up on temporary hazard boards at all sites that have this Hapam AM 245 type of earth switch.
- Visual inspection should be reinforced prior to operation of disconnectors that are mounted with these earth switches.
- Transpower is working with the manufacturer to seek additional information and support.

ROOT CAUSE

- The cause of the failure is believed to be defects in the manufacture of the support casting holding the earth switch fixed contact.

LEARNINGS

- Previous similar failures in our network have not been adequately reported.
- There have been failures of similar fixed contacts of Hapam earth switches in National Grid UK.
- The UK Electricity Network based defect reporting system can provide advance warning of safety hazards.