



Use of a closed circuit breaker for earthing continuity

WHAT HAPPENED?

At Stratford T6, it was identified during a Transpower audit on Electrix that a closed circuit breaker was used for earthing continuity rather than the application of portable earths. In addition, the closed CB was not fully electrically and mechanically disabled, locked and tagged. While some locks and tags were applied, they were not sufficient to completely satisfy the earthing and equipotential bonding requirements.



IMMEDIATE ACTION TAKEN

- Portable earths were applied able to provide sufficient earthing and equipotential bonding requirements.

ROOT CAUSE

- Misinterpretation of TPSS 07.24 Section 7 Earthing Practices (see below)
- Inadequate locking facilities for mechanical trip button cover

LEARNINGS

- Issuer and recipient temporary earthing should be provided by purpose designed earth switches, or portable earths as the first option.
- Where a portable earth cannot be applied as a safety measure, a closed CB can be used as earth continuity in conjunction with a procedure that guarantees the circuit breaker will remain closed whilst under control of the permit issuer;
 - Set the circuit breaker MSD selector to disable, lock and tag; and
 - Lock and tag the circuit breaker mechanical operating mechanism so continuity can be guaranteed.
- Where sufficient locking and tagging facilities are lacking to effectively electrically and mechanically disable a closed circuit breaker used for earthing continuity, locking facilities should be installed.