

SAFETY! ALERT!

17/09/2021



Project Civil Works Affects Substation Earth Grid Integrity

WHAT HAPPENED?

Following a major project at Naseby substation, routine earth grid maintenance testing found that multiple temporary earthing points were no longer bonded to the main station earth grid and were effectively “floating”.



Typical temporary earth tail clamp connection.

Temporary earth tail clamp connection points that had high resistivity to the rest of the substation earth grid.



IMMEDIATE ACTION TAKEN

- Informed SDM of failed test results.
- Tagged temporary earth points as ‘Do Not Use’ and updated the Temporary Hazard Board.
- Extended testing to the whole substation to identify any further breaks in the earth grid.
- Broken earth grid connections located and repaired.

ROOT CAUSE

Due to Covid-19 the demolition and removal of the old transformer foundations was carried out some time after the rest of the project was completed. An approved Permit to Dig was in place for the work.

The civil sub contractor completed the demolition and switchyard remediation unsupervised by the main electrical contractor (the civil contractor had the required competencies to work unsupervised).

The demolition works unknowingly broke some of the earth grid connections between the 220kV and 33kV sections of the switchyard.

LEARNINGS

- High risk electrical civil works, needs Electrical Supervision to install, remove, cut or alter electrical services, cables and equipment. This should be part of a project plan for the work being performed.
- The project should have retested the earth grid after the demolition works.

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