

CASE STUDY

IMPRESSED VOLTAGE STUDY

PROJECT BRIEF

Earthing Risk Management was approached by ABB to carry out an impressed voltage survey to ensure safety during a planned Super Grid Transformer (SGT4) replacement at National Grid Padiham 400kV Substation.



CHALLENGES

The unique nature of each impressed voltage study requires a large variety of approaches and recommendations in order to calculate and mitigate hazards. Numerous techniques are used which entail a variety of challenges including the following:

- Gathering information on a wide range of work activities.
- Gaining a holistic understanding of the electrical environment and the possible sources of impressed voltage.
- Simplifying the environment to determine worst case sources and carrying our calculations to quantify the hazards.
- Compiling practical, innovative engineering solutions to reduce impressed voltage hazards.

OUR APPROACH

ERM acquired a comprehensive understanding of the works and activities that would take place in the substation and assessed these to identify possible impressed voltage hazards.

ERM provides a detailed and thorough approach, analysing all aspects of the work with the aim of identifying and where possible eliminating risks from impressed voltage within the work area.

PROJECT OUTCOME / DELIVERABLES

The complex substation electrical environment was analysed by ERM and sources of impressed voltage were analysed and the risks quantified. A report and drawing were provided, which thoroughly described the hazards with guidance on methods of work or ways to reduce / eliminate the hazards where possible.

The report was provided in the agreed time period, which enabled the works to be mobilised with no delays.