



CLIENT – McNicholas

PROJECT VALUE –
>£1M

DATE – Sept 2015 to
ongoing



PROGRAMME DESCRIPTION:

As part of Network Rail Sussex and Kent Region requirements to rectify non-compliances, Poise was commissioned by McNicholas (now Kier) to undertake several phases of work, comprising in excess of 500No. Location Cases (LOCs). Deliverables included provision of; site specific designs for all disciplines, Strategic advice, Generic Form A/B Electrical and Civil designs as well as 20No. Typical Signalling designs for the installation of Class II 650V equipment within the existing Location Cases or Standalone FSP cabinets. We also delivered the Signalling Testing & Commissioning packs for each site, As-Builts for Signalling, E&P and Civil for each site and the Signalling GIC's. Poise provided Electrical, Civil and Signalling CRE's to the project.

Further variation to undertake an additional 60No. sites for earthing bonding remedial design works of Location Cases, which included 2No. Typical Signalling Designs, production of Testing and Commissioning packs at each site, Signalling As-Builts and GIC's per site.

PROJECT DESCRIPTION:

NR were notified to comply with an instruction from the ORR to physically verify that the LOCs are connected to Earth via an Earthing rod/mat/ another source and ensure that any exposed live parts are mitigated against. Subsequently, the integrity of the Earth connection and resistance to Earth of the rod/mat/another source have to be verified for compliance against NR/L2/SIGELP/27418 & NR/L3/SIGELP/27420.

An existing FSP containing 650V connection is deemed compliant if it is determined that it meets the following conditions:

- A. Suitability connected to an Earth mat/rod of sufficient cross-section to meet calculated
- B. The resistance to Earth of the Earth rod/mat is compliant to NR/L2/SIGELP/27418 and NR/L3/SIGELP/27420;
- C. There are no live 650V exposed components
- D. The existing equipment in the LOC is Class II rated

McNicholas originally approached Poise to provide 70No. site specific Electrical and Signalling designs (140No. deliverables) for the first stage of the programme. This included the update of the Source Records post commissioning. That stage was behind programme and we were tasked to complete the design stage within 7No. weeks was successfully achieved (all design CAT 1 and Goods Inwards Check process completed efficiently).

Subsequently, we worked with Network Rail to develop the most cost-effective method of assessing and potentially upgrading the remaining LOCs in the Kent and Sussex region.

An analytical approach was undertaken to develop an accurate and cost-effective GRIP 1-4 Delivery Strategy. This involved the following approach:

- Conduct surveys across a sample (of 650V) sites from the total of 1387 sites identified
- Produce a survey report and a series of drawings which provide a detailed assessment of the asset and site
- Analyse the information gained from the site surveys to undertake an extensive analysis on the full list of 1387 sites
- Produce generic electrical design (Form A level) solutions that can be developed and used at a later stage when the surveys of all sites are completed

The scope of works followed this process of efficient delivery by narrowing down to the minimum number of generic E&P and Civil designs as well as typical Signalling Solutions. Each site was then allocated the relevant combinations of generic and typical designs for installation and Poise supported in the production of Testing and Commissioning Packs as well as As-Built drawing updates and Chairing Good Inwards Check meetings.

As a result, we have implemented delivery strategy and design works to support over five hundred Location Cases as part of this safety critical programme of works.

Poise has subsequently been commissioned to undertake:

- Outline designs and detailed designs for a further 41No. sites. These sites are a mixture of Relay Rooms and Power Pillars
- An additional 60No. sites of earthing bonding remedial design works of Location Cases

These packages are both in the process of completing.

VALUE ADDED

- Work undertaken to very tight deadlines
- Strategic guidance to provide a cost effective and efficient design delivery strategy
- Design process streamlined
- Unit rate of designs significantly reduced
- CAT 1 designs throughout
- Flexible service delivery approach meant that we were able to support earlier than planned installation and commissioning activities.