

LONDON UNDERGROUND - SUB SURFACE RAIL UPGRADE (SSR2)



BACKGROUND

This contract relates to the upgrade of traction power supplies on the Metropolitan, Circle, Hammersmith and City, and District Line London Underground infrastructure.



SCOPE

To upgrade 16 existing traction substation locations with feeder and fibre-optic cabling at 11 locations.

Our works included substation refurbishment; renewal of traction substations' major plant and equipment; the removal of redundant cables and equipment; and the installation of new HV, DC and fibre-optic cables. We also provided the following main plant as part of our civil works to substations and cable containment systems including but not limited to:

- 11kV HV switchgear
- Transformer rectifier units
- LVAC switchgear
- 11kV/433V auxiliary transformers
- 750V DC switchgear
- Protection equipment
- 11kV cables
- SCADA field equipment

CHALLENGES

Many of the existing cable routes within the tunnels themselves had either reached, or were very close to reaching capacity. Meticulous design and planning ensured all cables were installed correctly and serious gauging issues prevented to avoid the possibility of passing trains making contact with the cabling route.

The size and the weight of the upgraded equipment presented a significant challenge. At each substation the existing 1.5MVA transformers were upgraded to physically larger 2.5MVA. In the constricted working areas of the London Underground this required careful planning and lateral thinking.

ACHIEVEMENTS

Our greatest project achievement was at a location that can't be disclosed. Here the site was exceptionally constricted. It was also constantly busy with pedestrians and surrounded by Grade II listed buildings.

KEY STATS



16 traction substation upgrades



feeder and fibre-optic cabling at 11 locations



year project worth £63 million

CONTACT

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