



With the life expired OX36 GEC switchgear failing in service, the ABB FSKII SMOS was chosen as a replacement. The project involved installation, Test & Commissioning activities along with the refurbishment of two existing AEE buildings.

Contract Details

<i>Commenced</i>	January 2009
<i>Completion</i>	April 2010
<i>Client</i>	Babcock Rail

Location

<i>Channel Tunnel East Anglia</i>	Dollands Moor TSL Kings Lynn FS Denver ITSL Littleport MPSL West River ITSL Springfield FS West Ham FS Shoeburyness TSL Fenchurch St TSL
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Principal Works

- Removal of existing OX36 GEC life expired SMOS equipment
- Installation Test & Commissioning of new ABB FSKII SMOS equipment.
- Refurbishment. of AEE buildings
- All Isolation, Earthing and HV Switching supporting works
- Protection Settings changes
- Modification to SCADA control, indication and alarms at Romford and Paddock Wood Electrical Control Rooms

As part of Network Rails Electrification and Plant renewals programme there was a requirement to carry out the replacement of life expired OX36 GEC SMOS switchgear on the East Anglia and Channel Tunnel routes. ABB FSK II SMOS Circuit Breakers were used to replace the old switchgear.

The FSK II SMOS outdoor Circuit Breakers were mainly employed as track feeder circuit breakers but in addition to this they were used as bus couplers taking advantage of their greater insulation properties over the OX36 GEC model.

At Shoeburyness and Fenchurch Street Stations WJ Project Services had the task of removing the control and protection equipment from the existing AEE buildings. The buildings were replaced and the original equipment was installed into the new AEE building. All ancillary, protection and SCADA equipment was then fully re-commissioned.

The installation and commissioning strategy was carefully considered to minimise disruption to the operational railway at each location. Alternate feed protection setting were applied and tested at adjacent sites to compensate for the bypassing of equipment.

Complete test and commissioning works was carried out on the SMOS / AEE buildings which involved the following:

- HV Pressure testing
- Design of a trip circuit monitoring system
- Secondary Injection Testing of the GEC YTG / Optimho protection relays
- Manual / Electrical Function and Interlocking testing
- Contact resistance testing
- SCADA testing to the relevant Electrical Control Rooms.
- Section proving of OHL / SMOS breakers

The project was completed on time and to budget.