



**Balfour Beatty in a joint venture with Network Rail is undertaking a major investment project to upgrade the OHL Power Supply System on Thameslink / Midland Mainline. The project involved the installation of four new GIS substations and carry out the conversion of an existing South Wales Switchgear building.**

**Contract Details**

<i>Commenced</i>	July 2010
<i>Expected Completion</i>	May 2011
<i>Client</i>	Balfour Beatty / NWR JV

**Location**

<i>Midland Main Line</i>	Kentish Town SATS Grahame Pak FS Borehamwood FS
<i>City Thameslink</i>	Radlett TSC  Farringdon TSL

**Principal Works**

- Testing and Commissioning of all the equipment within the new modular buildings.
- Testing and Commissioning of Autotransformers
- Phasing out / section proving of HV cables

The Midland Mainline Autotransformer (AT) project is part of the Thameslink programme of works to reinforce the electrification infrastructure. It runs through central London and linking major transport hubs including Luton and Gatwick Airports, St Pancras International and London Bridge station.

The existing classic 25kV system is being upgraded with the increasingly more favoured autotransformer 25-0-25 kV power supply system between Kentish Town and Borehamwood.

This required three new modular substations to be installed replacing the old classic South Wales / GEC substations, one additional new building at Farringdon and modifications to Radlett TSC.

WJ Project Service with its proven track record for supporting and delivering the WCML AT system was engaged to deliver the buildings fully commissioned ready to be entered into service.

Test and commissioning plans were produced and each stage of testing was rigorously documented along with marking up of wiring drawing. Balfour Beatty and NWR representatives were actively encouraged to witness these stages of the work. On completion all the test result files were compiled ready to be included within the hand back package.

Testing and Commissioning of the new modular buildings included:

- Section Proving – Tester in Charge duties;
- SCADA end to end testing;
- Protection relay testing
- Setting up / testing of relay Communication system;
- Testing Autotransformers
- Function and Interlocking testing;
- HV Pressure testing cables;
- Ductor testing of Busbars
- CT / VT wiring / Polarity testing;
- LV wiring testing;
- RCBB testing.