

Replacing Manchester's Stalybridge substation



The new 275 kV substation at Stalybridge

When National Grid wanted up to upgrade its Stalybridge substation in 2006, it took the decision to trial a new approach to project delivery and appointed ABB to work in a £44 million partnership contract to replace the south east Manchester substation in a fore-runner of what became its Joint Activity Solution way of working.

The need

Stalybridge's substation was originally completed in 1961 and by 2006 was in significant need of refurbishment. Both electrical and civil engineering elements were at the end of their design life. National Grid's objective was to completely replace the 275 kV air insulated switchgear (AIS) substation, which had 11-bays of air insulated switchgear and it selected ABB to provide compact state-of-the-art indoor gas insulated switchgear (GIS).

ABB appointed as first Joint Activity Solution (JAS) partner to National Grid

National Grid took the step of planning the project as its first major project to be carried out on the alliance working model as a test case on the benefits of alliance working: long-term visibility of workloads, sharing of risk and reward and working as a single team.

After the success of the trial with ABB at Stalybridge, National Grid went ahead with five-year partnership contracts worth up to £2.8 billion to deliver investment to upgrade and develop England and Wales' electricity transmission network.



01 Switchgear connections | 02 Gas Insulated Switchgear

Project details

Working together with National Grid, ABB delivered a full replacement of the Stalybridge 275 kV AIS substation with ABB's compact GIS equipment, with the new substation being built off-line to avoid power outages due to construction. GIS was chosen for its compact size and ability to fit onto the small site of the new substation. The project also included difficult removal of towers and overhead lines and an extension to an adjacent 400 kV AIS substation.

Another element to the project saw Stalybridge being ABB's first new-build substation to incorporate substation automation and protection as a bay solution based on NICAP (National scheme for Integrated Control and Protection) standards. NICAP is a National Grid philosophy that uses standardised control and protection equipment, which reduces size, on-site work and delivery times.

Fully operational by November 2008 and with all work completed by February 2009, ABB's partnership with National Grid set the foundations for the success of the client's future alliance working practices.

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