



HIGH SPEED 1 IT COMPENSATION, KENT

CLIENT – ABB
CONTRACTOR – Volker Fitzpatrick
CONTRACT VALUE – £4m
PROJECT DATE – 2011

The traction power utilised on High Speed 1 (HS1) is a 25kV A.C. Overhead Catenary System (OCS). There are a number of locations on the HS1 infrastructure where the A.C. railway interfaces with the D.C. electrified network, owned and operated by Network Rail. At these locations it is important to mitigate the flow of D.C. stray current into HS1 and the flow of A.C. stray current into Network Rail. This is achieved through the use of isolation transformers, which act as a buffer zone between the two railways.

It was identified that the isolation transformers fitted on the CTRL required compensation for their reactive power due to the large magnetising current interest in their designed function.

It was therefore necessary to install capacitive compensation to cancel out the reactive power. GGP were employed to undertake all of the civils design works to enable the 9 new power equipment compounds to be constructed in Kent.

Topographical surveys and ground investigations were undertaken prior to the design of all equipment foundations, plinths and buried service routes.

A number of equipment structures were also designed i.e. 25kV mast support structures.

Due to the nature of the equipment, it was necessary to shroud all of the equipment in 4.0m high, close pale, high security fencing compounds. Bespoke fencing designs were produced to also incorporate anti-burrow sills and retaining walls at uneven ground locations.