

Battersea Power Station , London, UK



PROJECT SUMMARY

PROJECT NAME: Battersea Power Station – Tie Rod Monitoring

PROJECT DATE: August 2017

CONTRACTOR : Balfour Beatty Ground Engineering



OVERVIEW

The iconic Grade II* listed building and surrounding area is being brought back to life as one of the most exciting and innovative mixed-use neighbourhoods in the world – a place for locals, tourists and residents to enjoy a unique blend of restaurants, shops, parks and cultural spaces.

Geosense offered on-site technical services during installation to ensure support for the unusual installation.

On-site training was also provided for the Geologger G8 and remote smart muxes.

The client was happy with the supplied solution. Thanks to their vast expertise and experience on site, welding and installation was tidy and clean.

Time constraints of such a fast-paced project meant leadtimes needed to be short to meet client requirements.

The G8 system and remote Smart Muxes allowed multiple cable runs to be reduced to one single four core cable. Data was accessed remotely by multiple users.

MONITORING

Sheet pile walls had been installed to allow excavation of the basements.

The front wall of the box was tied back using waling beams and ground anchors, however there was a requirement to anchor the side walls before excavation. Due to the complex anchoring of the front wall, traditional anchors could not be installed.

Balfour Beatty decided that waling beams tied together with tension bars across the front face were required. Monitoring of the tie rods was required to ensure they were not over stressed during the removal of material.

Geosense had provided VW load cells and on-site support to earlier parts of this project and were consulted about the best method of monitoring.

Surface mount strain gauges were welded across special mounts which were then welded to the tie rods before tensioning. Gauges were wired back to remote smart muxes which were then logged by a central Geologger G8-Plus, which was solar powered and accessed remotely due to GPRS connection.

PRODUCTS USED

VW Surface Mount Strain gauge

Welded in place for the long-term monitoring of tie rods to ensure they do not become over stretched.

Geologger G8-Plus

Built around the easy-to-use G8 control module, which has been purpose-designed for geotechnical applications, It offered reliable remote monitoring under these demanding geotechnical conditions.

Remote Smart Mux

A modular multiplexer that allows the management of multiple sensors as part of a remote or automatic data acquisition system. It is an easy-to-use digital alternative to the traditional vibrating wire rotary switch terminal box.