

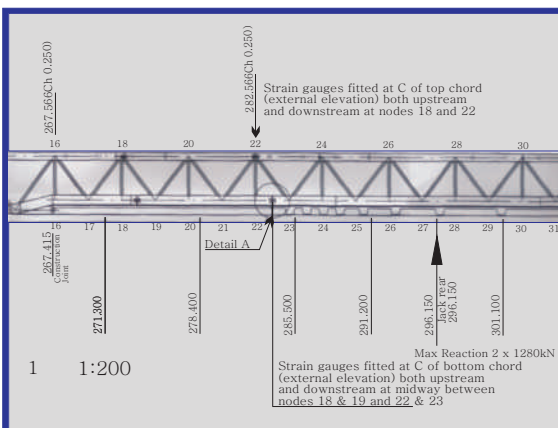


Project: Costain Norwest Holst - Launch Truss Stress Monitoring

Strainstall were contacted by the Costain Norwest Holst joint venture to provide stress monitoring on the leading launch trusses during construction of the Hungerford footbridge decks. The deck construction method used the incremental launch technique and monitoring of main truss members was required to confirm the design model stress calculations.

Strainstall installed weldable strain gauges and a battery powered data logging system which linked via a 300 metre cable to host PC, so monitoring could continue uninterrupted as the decks travelled from South bank to North.

Each extension of the upstream bridge deck was monitored during the 6 month period. All results showed stresses within the designed limits.



Strainstall UK have been actively supporting the Civil and Construction industries for more for nearly 40 years. We can provide instrumentation systems to monitor the performance of all types of structures, whether steel, concrete or composite construction. Strainstall can provide a range of portable and turnkey monitoring systems for short term, high

sample rate and long term monitoring, including real time statistical data processing and analysis.

We provide an installation, testing and analysis service to plant operators, suppliers and designers of power plant equipment. Clients use the services of Strainstall to investigate structural integrity/performance, duty and fatigue life of their plant. Our load monitoring and stress analysis services provide fast, accurate and reliable data to enable understanding of the operational stresses and event based structural performance. We have a team of experienced field engineers qualified for nuclear in vessel work, rope access and confined space areas.

- Special Inspections
- Long Term Performance
- Health Monitoring Systems
- Strain Displacement Tilt Acceleration Settlement Crack Load
- Dynamic and Static Systems
- Design and Manufacture of Systems
- Site Installation and Commissioning
- Data Analysis

Strainstall UK Ltd
9-10 Mariners Way
Cowes
Isle of Wight
PO31 8PD

Tel: +44 (0)1983 203600
Fax: +44 (0)1983 291335
Email: sales@strainstall.co.uk
Website: www.strainstall.com

Project: Primary Containment Structural Overpressure Test



The reactor building Containment dome at Sizewell B is not just the focal point of the site. As the structure houses the reactor pressure vessel and steam generator plant it performs a vital safety function.

The Containment is a steel-lined prestressed concrete structure, which is designed to withstand any accidental release of reactor coolant pressure.

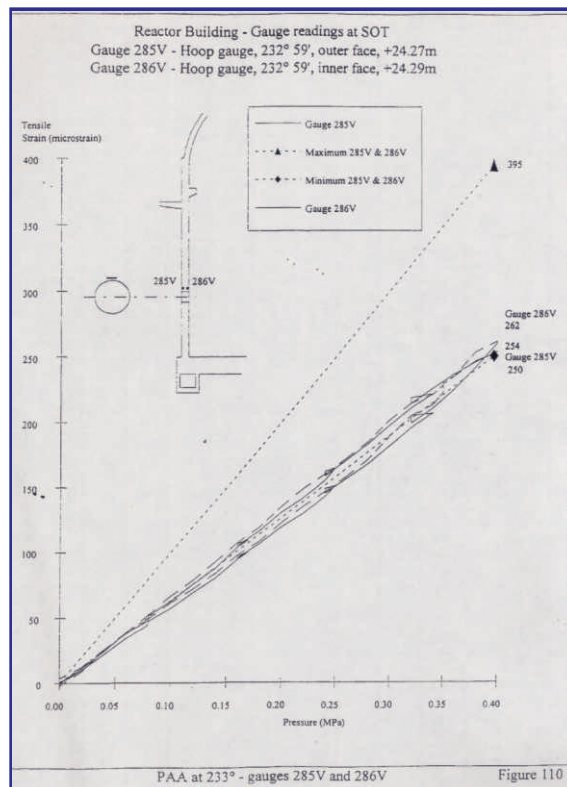
In the build up to generation before Nuclear Electric had obtained a license to begin loading fuel, the Containment under went a 0.4 Mpa internal Structural Overpressure Test (SOT) to verify its design.

To check and record the elastic behaviour during the SOT, a comprehensive deformation monitoring system was set-up on the reactor building primary Containment. Full responsibility for the supply installation and monitoring of the complete deformation monitoring system was entrusted to Strainstall.

330 permanent sensors were embedded within the Containment to measure strain and temperature in the concrete, combined with 120 temporary sensors fixed to the internal and external surfaces measuring displacement, tilt, level and pressure.

Strainstalls hardware solution to this large data acquisition project depended upon the use of a daisy-chain of 19 Dataloggers networked to a PC via a RS485 communications link. To process and display the data a tailor-made software package was written and developed by SESL.

The final phase of Strainstall's contract involved setting-up the permanent structural monitoring system which continues to monitor all the embedded sensors throughout the life of the power station.



Tel: +44 (0)1983 203600
 Fax: +44 (0)1983 291335
 Email: sales@strainstall.co.uk
 Website: www.strainstall.com



FM 12408

Application Note: FO108