

The World of Load Measurement and Stress Analysis

- Structural Testing
- Load Monitoring
- Experimental Stress Analysis
- Instrumentation and Data Acquisition Systems
- Project Trials Management
- System Design & Manufacture
- Site Installation
- Data Collection
- Load Cells
- Process Control
- Hydro-electric Structures and Plant Monitoring Systems
- Wind Turbines
- Extreme Environment Strain Gauges
- Strain Gauge Installation

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FM 12408

Application Note: FO105



Strainstall have assisted NEG Micon Rotors with development and testing of their newest blade concept, the NM82/1500. These blades, for NEG Micon's 1.5MW turbine, are specifically developed for low wind conditions, and they use new wood epoxy technology with carbon fibre reinforcement.



Strainstall have provided design, technical support and specialist strain gauging expertise. We have also supplied load cells and strain gauged fasteners which NEG Micon will use for fatigue analysis and strength testing of these new blades.

Strainstall have actively been supporting the power generation and supply industries for more than 30 years. In the renewable, fossil and nuclear sectors, from construction to decommissioning, we can provide turnkey instrumentation systems.

Strainstall design and build load cells for all industrial applications using the latest design and manufacturing technology. We combine our knowledge and experience to create load cells that set new standards for all challenging and hazardous environments.

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 operation 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.

Strainstall's team of experienced engineers operate from offices in Cowes, Bath and Aberdeen (UK), Norway, Belgium, USA and Dubai.



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Strainstall has a long history of involvement in the UK's power industry. Here are just a few examples of key projects:

At Dungeness 'A' BNFL Magnox are enhancing the fuel handling machines which load and unload the fuel elements from their Magnox reactor. Under a sub-contract to Strachan and Henshaw, Strainstall have supplied important weighing equipment that provides over/under load monitoring of the service hoists. The sensing device is a displacement transducer that operates at up to 200°C.



Sizewell B Power Station uses Strainstall weighing and safety overload protection systems. The complexity ranges from simple winch overhead gantry crane load measurement to sophisticated overload protection control systems. Load measuring pins are also in wide use due to their versatility. They are usually designed to replace an existing axle or pin and require the minimum of modifications to the existing machinery.



At Torness, East Lothian, Strainstall have installed embedment vibrating wire strain gauges, thermocouples and stress gauges. These sensors will monitor the stations two concrete pressure vessels throughout their working life to ensure levels of pre-stress are maintained. Strainstall have supplied data acquisition systems which monitor these important sensors to Sizewell B, Hinkley B, Oldbury and Hunterston B power stations.



Decommissioning work at Sellafeld is another area of involvement. We have been involved with structural integrity monitoring of containment structures and development of load monitoring techniques for use during decommissioning. Strainstall have a number of safe load monitoring systems fitted to cranes and fuel handling equipment at sites throughout the UK.

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