

Case Study

Turbine Generator On-Line Vibration Monitoring Solution at Eggborough Power Station

Beran Instruments has been awarded a contract by Eggborough Power Limited to supply a Turbine Generator On-line Vibration Monitoring System for Eggborough Power Station. Located in East Yorkshire, UK, Eggborough is a Coal-fired Power Station, generating 2000MW of power, capable of supplying over 2 million homes.

The Requirement

Eggborough Power Limited selected Beran Instruments via a competitive tender process to supply and commission a cost-effective Turbine Generator On-line Vibration Monitoring System to monitor four Turbine Generators and Main Boiler Feed Pumps.

The Solution

The Beran PlantProtech Vibration Monitoring Systems installed at Eggborough Power Station, consist of 8 PlantProtech 766 Analysers and 4 PlantProtech 768 Analysers. They monitor over 60 vibration channels for each of the four Turbine Generator units, and 12 vibration channels on each of the four Main Boiler Feed Pumps. In addition, process data is provided by the Station Distributed Control System (DCS) using the OPC Interface, thus, the Beran PlantProtech Vibration Monitoring Systems could collectively monitor over 1200 vibration channels related to the Turbine Generation units alone.

Why Beran?

Ease-of-use is aided by the customised mimics, showing an overview of machine status at any given time. Furthermore, Beran's comprehensive PlantProtech Vision Software can be installed onto any PC on site and provides further detailed data for use by turbine engineers, generator engineers and efficiency / performance engineers, to assist with continued safe uninterrupted site operation.

To ensure that the full benefits of the Beran PlantProtech Vibration Monitoring Systems are fully exploited, Eggborough Power Station Site Engineers attended a 3-day Vibration Training Course delivered by Beran, alongside an on-site training day, providing both Vibration Theory and Beran System Operation training.

"Eggborough were impressed with the cost-effective, technically competent solution offered by Beran. The system installation was completed with zero disruption to the existing station protection system and both Eggborough staff and Beran have worked closely to ensure that the project was implemented safely, on-time, to quality and within budget. We are very satisfied with the results, especially as Beran's PlantProtech product range offers us the option of exploring the possibilities of expanding our entire plant condition monitoring capabilities in the future.



Proven Condition Monitoring Solutions



Knowing that any future upgrades to our existing plant PCM systems can be easily integrated into those already installed by Beran with minimal infrastructure modification is a real advantage. The interface software is very user friendly and is already providing vital data to improve plant performance."

Carl Tasker-Lynch, C&I Turbine Engineer at Eggborough Power Station

- On-line Vibration Monitoring Systems
- Energy Generation
- Cost-effective & Reliable Solutions
- Customised Mimic
- Ease-of-Use
- Comprehensive Support Options
- Future expansion options, including Balance-of-Plant

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“Beran were able to offer Eggborough a competitive technical solution to meet their needs for a cost-effective Turbine Generator On-Line Vibration Monitoring Solution. The Beran PlantProtech Vibration Monitoring Systems installed at Eggborough link seamlessly into their existing communication systems, providing site engineers with detailed data, to allow them to complete in-depth analysis and monitor the condition of their key plant items. “

Duncan Affleck, Global Sales Manager, Beran Instruments Ltd.

Continued Support

Recognising the implications of station downtime, Beran are committed to support Eggborough Power Station with an extensive long-term agreement to provide ongoing maintenance and support, as required, to contribute to the continued uninterrupted operation of the site.

Beran is also able to offer other related Site Services, such as On-Site Transducer Calibration, to support Eggborough Power Station’s site-wide operations.



Turbine Hall



Beran PlantProtech 766 Analyser



Eggborough Mimic, providing Visual Identification of Machine Condition



Bode Plot, showing overall vibration level, order 1 vibration and phase information

Expansion Opportunities

Going forward, the Beran PlantProtech capabilities can also be expanded across Eggborough Power Station using the Beran PlantProtech 720 Advanced Plant Monitor to acquire information from Balance-of-Plant Machinery, such as Primary Air (PA), Induced Draft (ID), Forced Draft (FD) Fans, Start/Standby Boiler Feed Pumps, Turbine Oil Pumps and Feed System Water Pumps.



This document is not contractual. Beran maintains a policy of continuous product development and improvement. This specification may change without notice.

Beran Instruments is registered to BS EN ISO 9001:2008 / AS9100

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