

Electric power generation industry

Teesside power station

SKF Microlog Analyser series



## Proactive maintenance solution at Teesside Power Station

SKF's Microlog condition monitoring unit has enabled maintenance engineers at Teesside Power Station to take a proactive approach to maintenance, virtually eliminating the need for unplanned downtime.

With eight gas turbines, two steam turbines and a black start engine on site at Teesside Power Station, there is an enormous amount of moving machinery present, much of it essential to the electricity generating process. In order to keep unscheduled downtime to a minimum, an effective condition monitoring programme is crucial, so that the relevant equipment and components can be repaired or replaced immediately should problems occur.

For this reason, the team of engineers from Enron Power Operations Ltd, responsible for maintenance at the power station, has been using the latest condition monitoring systems from SKF, which encompasses all ancillary devices, such as fans, pumps, motors and gearboxes. Even air compressors and firefighting equipment are checked with the SKF system.

The SKF condition monitoring system incorporates the Microlog Analyser, a portable data collection unit that is used to collect information on equipment throughout the Teesside plant. The data is then analysed on a PC that runs SKF condition monitoring software to create trending, historical and

diagnostics charts and graphs, offering an accurate picture of the status of equipment throughout the power station and enabling engineers to take a proactive approach to maintenance.

For example, the interstage shaft of a three stage gearbox and main bearing on one of the plant's cooling tower fans repeatedly needed to be replaced. Using the SKF system, it was discovered that it was specifically the shaft that was breaking down, only causing bearing failure as a consequence. Now, the condition of the shaft can be closely monitored using the SKF equipment to predict the time for routine maintenance so that the fans can be kept running continuously.

The SKF Microlog has proved itself to be particularly useful for collecting real-time data. For instance, when a large fan is being run up, the Microlog can be used to check for imbalances, gearbox problems and so forth.



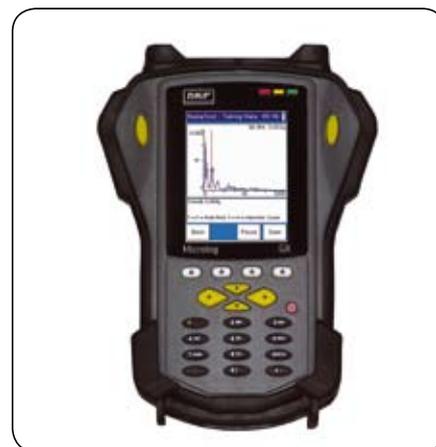
Measurements in this case are taken from the gearbox and the motor shaft, and compared with a baseline (model) indicating any fault conditions being displayed. This information is invaluable in predicting problems before they occur.

In addition, the SKF equipment is being used to verify data being collected by a second condition monitoring system at the plant. By connecting the Microlog to the second system, the readings can be checked for accuracy and interpreted. For example, when plant operators occasionally detect external vibrations that, while accepted by the second system, are perceived by them to be abnormal, the SKF Microlog is used to clarify if the vibration levels are acceptable.

Enron's Mechanical Technician at the Teesside Power Station, Jim Shadforth, said, *'The SKF Microlog system has transformed the way in which we approach maintenance at the plant, allowing us to locate accurately where and when problems are likely to occur. In addition to this, the support that we've received from them has been excellent, with expert advice always. Unplanned maintenance is a thing of the past at Teesside.'*



SKF Microlog Analyser GX series



SKF Microlog Analyser Mx series

**SKF (U.K.) Limited**

T: 01582 490049

marketing.uk@skf.com

www.skf.co.uk

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