



CONDITION MONITORING AND OIL ANALYSIS

MINIMIZING DOWNTIME FOR WIND TURBINES

One of the major concerns in investing in wind turbines and wind farms are related to the availability of the turbines, i.e., the risk of having less electricity production from the wind turbines due to stand still and repair period. Reliability of the structures and the wind turbines is therefore essential for the wind farm to perform successfully.

A minor failure in critical components of the wind turbine can cause unacceptable down time and loss. The operation and maintenance of wind turbines are costly. One of the approaches to reduce these costs is regular condition monitoring to detect failures of critical components as early as possible. With the increasing number of installed wind turbines and

major failures of critical components the necessity of condition monitoring can not be neglected. Some components, although designed for the turbine lifetime, fail earlier than expected and cause unscheduled down time which harm the overall success of the wind farm project.

RIGHT SERVICE GIVES MAXIMUM RETURN!

Regular monitoring of the chemical and physical changes in a lubricant taken from a wind turbine gearbox, generator or hydraulic system can provide an early warning of potential failures.

Testing of used lubricant is a preventative maintenance tool that operates as an early warning system. It enables you to both minimize repair and maintenance costs while maximising production through scheduling downtime.

YOUR LUBRICANT CAN SPEAK! BUT DO YOU LISTEN?

Viscosities, particle count, wear metals, additive content and presence of water.... Your lubricants carry all of this important information that the laboratory can extract. The system type and lubricant will determine the scope of the analysis.

As oil circulates around the gearbox it collects valuable information on the condition of the components within it; the analogy is in much the same way as blood circulates around the body, a blood test will pinpoint potential problems.

With increasing maintenance, repair and downtime costs and tighter



SGS analyses the current situation, such as the shape, size and numbers of the wear particles



deadlines, the need for effective maintenance program is essential.

THE USE OF PREDICTIVE MAINTENANCE

- Avoids costly breakdowns
- Detects problems before they become serious
- Plan maintenance activities
- Reduces equipment downtime
- Optimises the budget

Oil is in contact with all the component parts within the system; by analysing the oil the diagnostician can identify the degree of oil degradation, contamination and component wear that will have an impact over the operation and the service life of your equipment.

Oil analysis results are complex but reveal vital information about the condition of the lubricant and components in which the lubricant is used.

At SGS Wind Energy diagnosis is made by experts, using our data base, previous analysis results and also personal experience and knowledge to identify a potential problem with the lubricant or the component before it can become a major problem.

SGS can supply you with expertise in condition monitoring of the lubricant used in the wind turbine gearbox,

generator and hydraulic system and give you a detailed description of the current situation.

SGS IS ABLE TO PROVIDE

- Sampling of oil and lubricants using a customised sampling kit
- Sampling services by SGS inspectors
- An extensive range of laboratory tests to cover all requirements including analytical Ferrography
- Expert diagnosis of wind turbine components and lubricant conditions
- A range of modern reporting solutions – available in 12 languages
- Expert Technical Website

We are committed to providing a fully comprehensive programme of service, testing, analysis and response, designed to meet the specific requirements of your company. Our aim is to achieve 100% success in helping you meet your own availability targets.

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