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Vibration monitoring gives early warning of defect

Snapshot

Client

Biomass power plant, UK

Challenge

Our vibration assessment detected a bearing defect in a forced draught (FD) fan, critical to the newly commissioned plant.

Solution

We continued to monitor the fault, analyzed data and advised on appropriate maintenance and continued operation until remedial action was necessary.

Benefits

Our client was able to confidently operate the fan for almost 18 months while managing risk of secondary damage. Repairs were made during a planned site shutdown with no additional loss of availability, and repair costs were covered by their warranty.

Vibration analysis is a core element of our condition monitoring services, providing invaluable data for detecting and addressing machinery faults. We combine this with our operational experience to provide targeted recommendations, enabling our clients to avoid unplanned asset downtime.

Problem identified quickly

We detected the bearing fault in the FD fan during our first offline vibration assessment of rotating assets at our client's new 40 MW biomass power plant. We diagnosed the problem based on our experience of monitoring similar equipment and in accordance with relevant ISO standards.

We continued to monitor the degradation on a monthly and then bi-monthly basis, providing the client with appropriate risk management, which enabled the continued safe and reliable operation of the plant.

Repair during planned outage

Our client raised the defect in a warranty claim. Due to the early warning, they demonstrated appropriate operation and ongoing maintenance of the fan, so avoiding any counter claims from the original equipment manufacturer.

During the planned shutdown the fan bearing was found to be badly corroded and was replaced under warranty without the fan suffering any consequential damage or loss of plant availability.

The vibration analysis works Uniper offer are first class providing flexible services and expertise, aligned with individual site requirements.

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