

REMOTE MONITORING IDENTIFIES STRUCTURAL OR COUPLING WEAR ON CRITICAL COAL MILL FAN

AVT Reliability® provides condition-based maintenance support to this cement production site through daily remote vibration monitoring. Using Machine Sentry® fixed sensors, AVT's Remote Diagnostic Centre (RDC) identified early signs of structural looseness on a critical bag house exhaust fan.

“ Having remote monitoring in place meant we caught the issue before it impacted production. A simple scheduled repair saved us a costly breakdown. ”

— Remote Diagnostic Centre, AVT Reliability®

THE CHALLENGE

The coal mill bag house exhaust fan is a critical production asset with no standby redundancy. If it fails, production halts entirely.

Unplanned downtime would result in significant financial losses and disruption to plant operations.

OUR APPROACH

AVT Reliability®'s Remote Diagnostic Centre (RDC) collects vibration data daily from this fan motor using MSF sensors.

At the time of issue detection, vibration data was analysed monthly. Once abnormal trends were observed, analysis frequency was increased to twice per month for closer monitoring.

OUR FINDINGS

Beginning in October 2024, the RDC team observed a gradual increase in velocity readings from the motor, with smaller but notable increases on the fan drive end.

By March 2025, the velocity spectra showed signs consistent with looseness either in the support structure or the coupling. These elevated readings were cause for concern due to the asset's critical nature.

An action note was raised in Machine Sentry® and the customer was advised to inspect the coupling and structural supports for wear or looseness at the next available shutdown.

THE SOLUTION

During a scheduled routine shutdown, the customer replaced the coupling.

Post-repair vibration data confirmed that the velocity levels had returned to satisfactory thresholds, indicating successful resolution of the looseness issue.

FOLLOW UP

No further issues were observed. The monitoring frequency was returned to monthly, and all readings have remained stable.

Early detection and scheduled replacement prevented potential catastrophic failure and unplanned production loss.

AT A GLANCE

INDUSTRY: Cement Manufacturing

PROCESS: Cement milling

EQUIPMENT: Electric motor and gearbox drive system

PRODUCTS: Machine Sentry® Sensors

SERVICES: Remote condition monitoring and vibration diagnostics

Need help?

Contact our experts

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Fig 1: Velocity spectra before action – Y-axis range 9.0 mm/s



Fig 2: Velocity spectra after coupling replacement – Y-axis range 1.2 mm/s



Fig 3: Comparative view – before and after repair spectra

