

COAL MILLING - COAL MILL BAG HOUSE EXHAUST FAN

Remote Vibration Monitoring utilising MSF vibration sensors in place for an Electric Motor driving a Fan, analysis of the motor data revealed looseness in the support structure or coupling to the RDC Team.

THE PROBLEM

This is a critical asset to production and there is no redundancy therefore production stops if the equipment fails in service.

The AVT Remote Diagnostic Centre Team in Kirkcaldy noticed an increase in the velocity readings from the motor and smaller increases in the velocity trends on the fan DE.

The velocity spectra and trend had started to show an increase in levels in October 2024



and spectral data gave the RDC team cause for concern. The analysis of the data on the asset was increased and the levels started to show further increases in trending and spectral content towards the middle of March 2025.

Given the criticality of this equipment, and the possibility of a catastrophic failure whilst in operation, AVT raised an action note and contacted the customer to advise them to inspect the support structure and coupling for looseness or wear at the next opportunity.

In figure 1 we see the velocity spectra before the action note was raised, Y axis range is set to 9.0 mm/sec.

Figure 2 we see the velocity spectra after the coupling was replaced, Y axis range is set to 1.2 mm/sec Figure 3 we can see the 2 spectra from before and after the coupling was replaced.

OUR APPROACH

At the time of this issue being discovered on the asset, data was being collected once per day and analysed once per month, this was increased to being analysed twice per month so that any further increase in trending or spectral content could be monitored.

THE SOLUTION

A new coupling was fitted during a routine shutdown. After the motor was replaced the velocity levels reduced to satisfactory levels.

Need advice? Contact our experts

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MACHINE SENTRY FIXED (MSF2)

The MSF2 can be used on a wide range of equipment, including compressors, pumps and motors as part of a condition monitoring programme.

- Frequency range of 1Hz to 8.5kHz
- Internal memory large enough to store more than 5000 readings
- High-speed data transfer via Bluetooth®
- Programmable data acquisition
- Replaceable battery
- Up to 5 years battery life
- Gas zone 0 and dust zone 20 certified
- Sealed to IP 67



Fig. 1

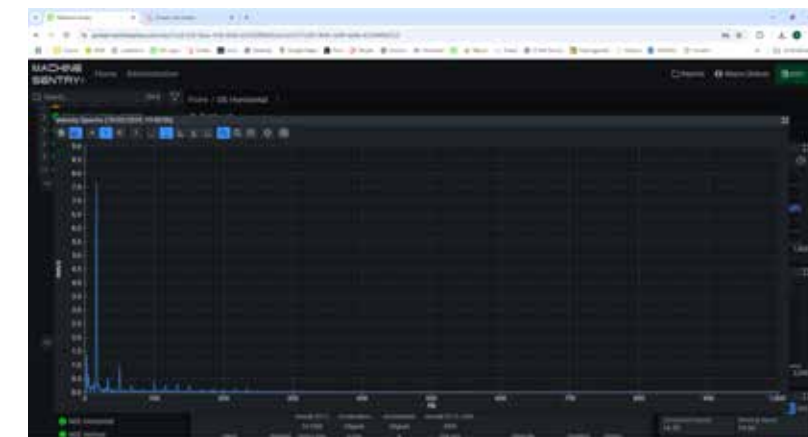


Fig. 2

