# M100_May_Report

2026-06-09

# Description

Motor-pump unit MP-204, located in the lubrication system of Compressor Train 2. The unit consists of a 22 kW induction motor directly coupled to a gear pump, operating at 2960 RPM under nominal conditions. It supplies lubricating oil to the main compressor bearings at a nominal pressure of 4.5 bar. The unit runs continuously and is considered critical for compressor protection.

# Diagnostic

Vibration levels on the motor drive end (DE) bearing have exceeded the alert threshold over the past 72 hours, with RMS velocity reaching 6.2 mm/s (alert threshold: 5.5 mm/s). Spectral analysis shows an elevated 1× component along with sidebands around the gear mesh frequency, which may indicate early-stage gear wear or insufficient lubrication at the pump gear stage. A gradual upward trend has been observed over the last 3 weeks (+22% in overall RMS). No impacting or high-frequency content associated with advanced bearing damage has been detected. Oil pressure and temperature readings remain within normal limits.

# Recommendation

Plan a maintenance inspection within the next 2–3 weeks. Recommended actions:

1. Check lubricating oil level and condition — take an oil sample for analysis if possible.
2. Inspect the motor-pump coupling for wear or misalignment.
3. Verify gear pump internal clearances during the next available maintenance window.
4. Review oil filter condition; a clogged filter could be contributing to marginal lubrication at the gear stage.
5. Increase capture frequency to every 4 hours to monitor trend evolution.

If vibration exceeds 9.0 mm/s or a sudden change in oil pressure is detected, escalate to urgent intervention.