

# CASE STUDY

## GE LM2500 – Seal Failure

### Background

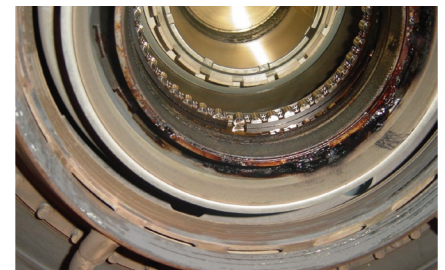
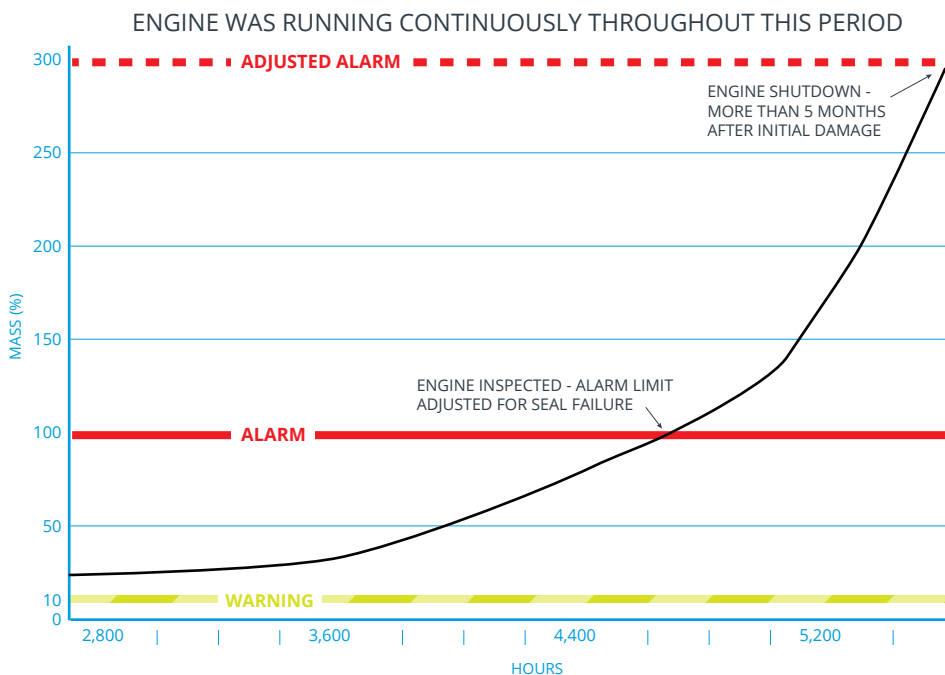
MetalSCAN was installed on a GE LM2500 Gas Turbine used for offshore gas production and ran for three months without incident.

### Event Description

MetalSCAN began to detect particle counts on the C-Sump sensor and crossed the Warning Limit. The Alarm Limit was crossed 73 days later and the count rate continued to increase at a slow rate, atypical of a bearing failure. The customer adjusted the alarm limits for an oil seal failure, and the engine continued to run for an additional 35 days before shutdown. The engine was inspected and the rotational and stationary oil seals on No. 5 bearing were found to be failing, there was no damage to the bearings.

There were no changes to any other engine readings; vibration levels, oil temperature, or filter differential pressure.

### Time History of Events



Damaged Oil Seal Face

### Benefits

- ✓ Only the last 120 days shown
- ✓ Slow accumulation indicated a different failure mode (not the typical bearing failure)
- ✓ Engine inspection showed damage to oil seals
- ✓ MetalSCAN alarm limit adjusted given the different failure mode
- ✓ Unscheduled outage avoided
- ✓ Secondary damage avoided

LONG LIVE EQUIPMENT



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