



Case Study:

Vessel: FPSO

Engine: MAN 12V32/40

Location: North Sea

Assessment provides assurance to client following failure

Problem:

Our client encountered a failure on the B bank turbocharger of their MAN 12V32/40 port engine, onboard their Floating, Production, Storage and Offloading (FPSO) vessel. This required replacing immediately and raised concerns about the condition of the A bank turbocharger and the charge air cooler; and ultimately, our client sought assurance regarding the overall health of the engine for continued safe operation.

Solution:

Royston engineers removed both turbochargers and replaced them with overhauled cartridge units from ship's spare inventory. Simultaneously, the charge air cooler was removed, and underwent a thorough inspection, cleaning and reinstallation. To comprehensively assess the engine's condition, an engine health check was conducted. The assessment included inspections of various components, including pistons and connecting rods, cylinder liners, engine mounting bolts, flexible coupling, fuel system and linkages as well as fuel pump camshaft lobes and tappet rollers. Additional examinations were performed on the inlet manifold, exhaust manifold, cylinder drop down tests, deflections and oil and coolant checks.

Result:

Once all findings were rectified and the collection of oil samples for analysis, an engine load test was conducted. All relevant parameters were monitored, and the test confirmed the engine was operating satisfactorily. To further bolster confidence in the system, the same health assessment was conducted on the starboard engine, with the load test confirming its satisfactory performance.

The two turbochargers that were removed were transported to Royston's turbocharger workshop for overhaul and balancing before being returned to the vessel as spare units.