

LP BULLETIN

Friday 23 November 2007

Bulletin 554 - 11/07 - Main engine failure incident - Worldwide

The Australian Transport Safety Bureau (ATSB) has found that an undetected flaw, and the subsequent failure of a critical main engine component, led to a bulk carrier being disabled and drifting for nearly three days.

This bulletin details the safety recommendations made by the ATSB with the aim of preventing further incidents of this type. The full report can be downloaded from the ATSB website.

The incident

The ATSB investigation has found that a microscopic flaw led to the failure of a main engine gudgeon pin. The investigation also found that the engine manufacturer did not provide sufficient guidance for monitoring the fatigue life of gudgeon pins and that the planning and execution of maintenance on critical items of equipment was inadequate.

The incident began when the main engine low lubricating oil pressure alarm sounded, indicating that the main engines lubricating oil filter was choked. While the duty engineer was changing over to the spare lubricating oil filter, oil pressure was lost, causing the engine to stop. The engine was restarted and the voyage was resumed.

Later that day the alarm sounded again and the engineers stopped the engine. After inspections had been undertaken, the chief engineer advised the master that there was probably damage to the engines bearings and that the ship would need to be towed to the nearest port for repairs. The ship was towed to port where it was discovered that one gudgeon pin had failed.

ATSB safety recommendations

- The engine manufacturer did not provide sufficient guidance for monitoring the fatigue life of the gudgeon pin or for inspecting the gudgeon pin for early signs of impending failure. The ATSB made a recommendation to the manufacturer and its licensees to take action to address this safety issue.
- The maintenance for a critical piece of equipment, the main lubricating oil pump, was not planned according to the manufacturers recommendation, despite the fact that a previous failure had occurred. The ATSB made a recommendation to the ship managers that action be taken to address this safety issue.
- The shipboard procedures and practices for operating, maintaining and monitoring the K8E lubricating oil filter were inadequate. The standby filter was not checked to ensure that it was ready for use and the in-service K8E filters condition was not adequately monitored. The ATSB made a recommendation to the ship managers that action be taken to address this safety issue.

Source of information: Australian Transport Safety Bureau (ATSB)
www.atsb.gov.au