

SYNOPSIS

At 0330 ship's time on 6 May 2006, the Cypriot registered cruise ship *The Calypso* suffered an engine room fire while on passage from Tilbury to St. Peter Port, Guernsey, with 708 passengers and crew on board. Initial action by the watchkeeping engineer officer was effective in eventually extinguishing the fire although the vessel lost all but emergency electrical power and was left drifting in the south-west lane of the Dover Straits Traffic Separation Scheme (TSS), 16 miles south of Beachy Head. The vessel's starboard main engine had been very seriously damaged and she was towed to the port of Southampton by the Maritime and Coastguard Agency's (MCA) emergency towing vessel *Anglian Monarch*.

The subsequent investigation discovered that the fire had been caused by a failed low pressure fuel pipe flange on the starboard Wartsila Vasa32 main engine. The lack of an effective guard allowed fuel to spray onto the adjacent turbocharger and/or exhaust piping causing spontaneous ignition. Metallurgical analysis has shown that the two 10mm socket headed flange bolts had failed probably due to fatigue. Similar incidents had occurred in the past and, over 10 years previously, Wartsila had become aware of the weakness in the flange design. Wartsila had issued a technical bulletin in 1995 which, among other things, recommended modifications to low pressure fuel pipe flanges. The bulletin was circulated to service engineers and owners of vessels fitted with Wartsila Vasa32 engines. Possibly due to frequent changes in the vessel's ownership, that bulletin and another updated one, which was circulated in 1999, were not effective in ensuring that the necessary modifications were carried out on *The Calypso*.

The fire was intense, and the subsequent fire-fighting response highlighted flaws in the knowledge, experience and training of some of the senior ship's officers. Those on board believed that the fire had been successfully extinguished by the quick use of the fixed CO₂ fire smothering system. The fire had, in fact, died down mainly as a result of fuel starvation due to the quick action of the watchkeeping engineer officer. Those in charge of the fire-fighting response did not appear to follow recognised good practice. The attempt to release CO₂ was made from the CO₂ room, and not from the appropriate remote operating station, from where mistakes were less likely to have occurred. The person tasked to release the CO₂ was not the person designated on the muster list. On a number of separate occasions soon after they thought CO₂ had been released, senior officers re-entered the engine room without the proper equipment or back-up and with the consequent risk of allowing air to feed the fire.

The officer, who had attempted to release the CO₂, had mistaken timer bottles for pilot cylinders and it subsequently transpired that, unbeknown to anyone on board, no CO₂ had been released in the immediate aftermath of the fire. The CO₂ system was not checked and made secure after the fire, and it had been left in a dangerous condition with distribution and other valves open and all the cylinders still full. During the investigation into the cause of the fire, after the vessel's arrival in Southampton, CO₂ from a bank of cylinders was accidentally released into the engine room. In the event, three crew were lucky to escape without loss of life or serious injury.

During the fire-fighting efforts, the passengers were kept well informed, were quickly accounted for and, wearing lifejackets, mustered on the Boat deck. The boats were brought to the Embarkation deck without incident. Despite most passengers being elderly, and the cold temperatures experienced out on deck at night, it is to the credit of the master and the crew that nobody suffered anything more than discomfort. They were eventually allowed back into the accommodation only when the master was sure that the fire was out and it was therefore safe.

Recommendations have been made to the Cyprus and UK maritime administrations to co-produce, and take to IMO, papers regarding the need for clear identification of the controls of fixed CO₂ installations, and on improving crew knowledge of how to carry out pre and post use inspection checks of the CO₂ system.

Additional action has been taken by the vessel operator, the engine manufacturer, MAIB, the Cyprus administration, MCA, the vessel Classification society and the independent fire investigating company to address other safety issues identified in this report.

Figure 1



The Calypso