

SYNOPSIS



An explosion in the engine room of the 16.45m UK-registered fishing vessel *Fleur de Lys*, DH7, sank the vessel rapidly. The accident occurred during fine weather, on Sunday afternoon, 16 April 2000, 18 miles south-east of Portland Bill, en route to Weymouth from fishing grounds off the coast of Alderney.

Although the vessel sank within a few minutes of the explosion, the skipper was able to send a VHF radio "Mayday" call before abandoning ship. This was received by the coastguard at Portland, which dispatched a rescue helicopter to the scene. The helicopter arrived within 16 minutes of the "Mayday" call and picked up all four crewmen from the sea. All were wearing lifejackets.

The lifejackets had been stored in an accessible position: in a locker on the open deck. The radio batteries were positioned high up in the engine room, so withstood the initial stage of flooding. The location of both the lifejackets and radio batteries increased the fishermen's chances of survival significantly.

Fleur de Lys sank because her hull was damaged by violent rupture of the hot water storage cylinder of the unvented hot water system. The water in the cylinder had overheated and generated steam. This resulted in overpressure which, in turn, led to it rupturing. The cylinder overheated probably because its immersion heater thermostat failed to shut off the electrical supply to the heater. There were no safety devices fitted to prevent overheating and overpressure in case of thermostat failure.

The hot water system had a history of burst cylinder and pipes because of overheating due to thermostat failure. During the week before the accident, steam discharged from hot water taps. However, because the crew and owner had inadequate technical knowledge of the hot water storage system, they were unaware of the danger of overheating and the safety actions necessary to avoid an explosion.

The then Department of Environment, Transport and the Regions (DETR) provided regulation and guidance for United Kingdom land-based national standards of design, construction, and installation of hot water storage systems. These systems are equipped with safety devices designed to prevent incidents of storage cylinder overheating, overpressure and explosion such as occurred on board *Fleur de Lys*. No such regulation and guidance is provided to fishing vessels.

The Maritime and Coastguard Agency (MCA) is recommended to introduce suitable standards for the hot water systems on fishing vessels. It is also recommended to make known to the fishing industry the value of stowing lifejackets so they are accessible from the open deck.