

SYNOPSIS

On 30 January 2004, the twin rig trawler *Elegance* was fishing 30 miles north-west of Shetland. At about 1750 the skipper noticed smoke coming from the engine room exhaust ventilation terminal. On entering the engine room, the skipper saw a glow in the centreline area of the main engine, before being beaten back by the dense smoke. On leaving the space, the skipper operated the fuel system quick closing shut off valves. The main fuel supply valve failed to close, and both the main engine and generator continued to run. The main engine was later stopped from the wheelhouse. At 1755, the skipper transmitted a "Mayday" alerting the coastguard. Thirty minutes later, the skipper attempted to operate the fixed CO₂ system. Although the skipper was under the impression that the CO₂ system had been operated, the attempt had, in fact, failed because he did not fully understand how it worked and because the system was poorly maintained.

The skipper and engineer re-entered the engine room at 1840, without considering the dangers that the presence of CO₂ in the space might hold. They identified and isolated a leak on the main fuel filters that appeared to have caused the fire. The fire was reported out at 1856, and arrangements were made for the fv *Shamalah II* to provide a tow. The skipper cut away his trawl gear after connecting the towing hawser. *Elegance* initially berthed at Colla Firth at 0812 on 31 January and, subsequently, at Fraserburgh on 2 February for repairs.

Following extensive repairs, *Elegance* sailed at 1600 on 4 March 2004, in apparently good condition with the exception of a fuel oil purifier defect. At 2315, the skipper took the watch and, at 0135, he started to transfer fuel using the fuel transfer pump. About 10 minutes later the engine room fire alarm sounded in the wheelhouse.

The skipper entered the engine room, and saw a fire in the general vicinity of the main engine. The two crew were alerted, the ventilation flaps closed and main engine shut down. The CO₂ system was then activated. The fuel shut off valves were then closed while the skipper transmitted a "Pan Pan". The coastguard alerted a rescue helicopter, the Kirkwall lifeboat and despatched the ETV *Anglian Sovereign*.

The skipper attempted to enter the space, but was unable to do so because of the toxic effects of combustion and CO₂. A short while later, water was heard entering the engine room, and the vessel adopted a list to port. At 0333 on 5 March, a "Mayday" was transmitted. The Kirkwall lifeboat arrived at 0400 and connected a tow. The lifeboat's salvage pump was subsequently transferred to the fishing vessel by helicopter. The pump had little effect, and the water level in the engine room increased above the main engine. The stability worsened, resulting in *Elegance* being abandoned at 0614.

At 0800 the ETV picked up the lifeboat's towing line and headed towards Kirkwall. *Elegance* later developed a list of approximately 6-8° to port and the ETV transferred a salvage team, with pumps, to *Elegance*. They were unable to improve the situation

and, at 1420, while about 2 miles off Kirkwall, the list worsened to 15-20° and the salvage team left. The ETV towed the vessel to deeper water where she plunged by the stern, sinking in 36m of water, 8.5 miles west of Shapinsay.

Recommendations have been made with respect to:

- The improvement of maintenance, training, operating knowledge and safety precautions relating to the safe use of CO₂ fixed fire-fighting systems.
- The design of sea water systems for new fishing vessels.
- Critical pipework systems.
- On-board safety training on fishing vessels.
- The fitting of fire detection sensors with particular reference to the use of smoke detectors.
- Information exchange between the crews of fishing vessels and salvors during salvage operations.



fv Elegance