

SHIPOWNERS

SECURITY FOR SMALL & SPECIALIST VESSELS

► CASE STUDY

Fatal accident to crewman while operating a petrol engine-driven pump in a fishing vessel's fish hold

Category: Operations

Vessel type: Fishing

Issue date: 21/06/2012

Case number: 12/2012

Please note that this case study has been extracted from UK MAIB's Accident Investigation Report no. 12/2012

Background

One crewman died and two more crewmen required evacuation to hospital by helicopter for medical treatment when they were poisoned by carbon monoxide on board a 23m fishing vessel, which was acting as a guard vessel, more than 100 nautical miles from land.

Two crewmen took a petrol engine-driven salvage pump (Figure 1) into the fish hold to pump oily water from the bow thruster space overboard. One of the crewmen started the engine, but the pump would not prime; he persevered for over an hour to get the pump to work, and the engine was running for most of this time.

The fish hold had no forced ventilation system and the hatches, except for a small access hatch, were closed. The pump was labelled 'The engine emits toxic carbon monoxide. Do not use in an enclosed space' (Figure 2).

Analysis

The petrol engine produced poisonous carbon monoxide that built up to fatal levels in the unventilated fish hold. The first crewman continued to work in the fish hold space, close to the engine for enough time for him to be overcome by the poisonous gas.

As the fishing vessel did not have a gas monitor on board, the crew were not able to check whether the fish hold was safe to enter, and they had no breathing apparatus to allow them to enter the toxic atmosphere safely. Consequently, the three remaining crewmen risked their lives in their attempt to rescue the collapsed crewman.

Safety lesson

Before using petrol or diesel-driven portable pumps, owners, skippers and crewmen working on fishing vessels should ensure that:

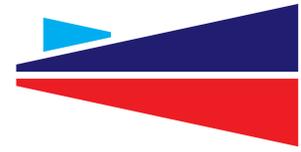
- The pumps are not used in enclosed spaces, such as fish holds, unless the engine exhaust is vented to fresh air outside the space.
- They fully understand the risks of carbon monoxide poisoning.
- They think about the risks involved and ensure that the potential hazards are removed or any adverse effects are reduced.
- They consider how to rescue safely a crewman who has collapsed in the toxic atmosphere of an enclosed space.

The Training ideas listed below are recommended by the Club to raise awareness of the issues related to this case study and to potentially be used as part of the Member's own training programme. These are in addition to the original case study extracted from UK MAIB's Accident Investigation Report no. 12/2012.

Training ideas

As highlighted the cause of this case was the build up of carbon monoxide gas and the crewman's failure to recognise the associated hazards. It is therefore suggested that:

- Crew should be trained on the procedures and on the importance of carrying out a proper Risk Assessment.



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- Ships' crews to be suitably trained in on board procedures and reminded of the importance of following those, especially the ones concerning operations in enclosed spaces or spaces, where the atmosphere has the potential of turning hazardous.
- Crew should be familiar with the dangers associated with portable equipment such as portable pumps etc. by carrying out regular training sessions. Such training should not only include equipment that has been summarised in the Crew Training Manual but also various other equipment that may be called upon in an emergency.
- Regular drills and training to be carried out concentrating on rescue from enclosed or hazardous spaces. Drills to be conducted whilst evaluating various scenarios, their associated risks and preventive procedures. Scenarios should be ship specific taking into account the vessel's type, trading pattern, crew manning and competency amongst others.