

REFRIGERANT LEAK RESULTS IN DEATHS

The Story

In September 1974 a crewboat underway in the Gulf of Mexico observed a shrimp boat drifting with its outriggers down. Thinking that the shrimper was in distress, the master slowed his vessel and circled the silent boat twice. When they received no response from the shrimp boat, a crewmember boarded the vessel to investigate.

He went directly to the shrimp hold and through an open hatch observed three dead bodies. The man tried to enter the wheelhouse and accommodation spaces but he couldn't get the door open. After the crewmember returned to his vessel, the master reported the situation to the Coast Guard and took the shrimp boat in tow for Port Aransas, TX. A Coast Guard patrol boat escorted the vessels to port, eventually taking over the tow after the crewboat's towline parted.

Investigators at Port Aransas noted the following information about the shrimp boat:

The main engine was in operation but out of gear. The auxiliary generator was in operation. The running lights and deck lights were on. The starboard trawl was on board; the port trawl was entangled in the propeller. The refrigeration unit for the shrimp hold was not in operation; low pressure in the system had triggered the automatic cutoff switch. The sight glass showed no refrigerant in the system. The only access to the hold was through an 18" by 18" hatch, which was open.

Further examination of the circumstances surrounding the casualty led the investigators to the culprit: a leaking refrigeration unit which cooled the shrimp boat's hold. The system held 15 pounds of refrigerant which, though it is nontoxic, displaces oxygen. The refrigeration system service manual cautions, "Never allow refrigerant to escape into the hold."

Tests of the unit following the tragedy revealed refrigerant leaking at 13 separate points in the system. Furthermore, it was discovered that the owner of the vessel was continually troubled by refrigerant leaks. Extra bottles of refrigerant were routinely carried to supplant the quickly used supply, and the last entry in the vessel's logbook noted, " freezer out one more time."

After finding no evidence of violence or trauma on the bodies, the coroner concluded that the cause of the deaths was asphyxiation. The three persons suffocated as the oxygen in the hold was displaced by the leaking refrigerant.

Lesson Learned

Remember: faulty equipment can be more than just a nuisance. It can also be a killer.

Prevention Through People



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