



## **MARINE SAFETY ALERT**

Assistant Commandant for Marine Safety, Security and Stewardship

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Alert 3-08

### **Controllable Pitch Propeller Systems and Situational Awareness**

A marine casualty in March of 2008 involving a fishing vessel in the Bering Sea resulted in multiple fatalities and complete loss of the vessel. A Marine Board of Investigation is currently examining the various circumstances surrounding the casualty. Although the investigation is not complete, safety issues associated with casualty have been identified that merit immediate public dissemination.

Based on the survivors' testimony, the crew experienced difficulty with launching and entering the three liferafts because the vessel was making considerable sternway when the order to abandon ship was issued. Evidence indicates the main engines were still running and the vessel was backing with significant astern pitch. Consequently, two of the liferafts quickly traveled forward past the bow of the vessel when they were launched. Attempts to retrieve the liferafts using the painter lines were unsuccessful. As a result, the majority of the crew members were forced to jump into the 34°F water and attempt to swim to the liferafts. Ultimately, only 22 members of the vessel's crew made it into the liferafts. All of these crew members survived. Of the other 25 crew members who never made it into a liferaft, four died and one remains missing.

The Coast Guard ***strongly recommends*** that owners, operators, and masters of vessels with controllable pitch propellers understand the design and operation of the system. This includes the primary and emergency sources of power for both the control and main systems, the location and procedures for using alternate control stations, and the locations of the emergency shutdowns. While controllable pitch propeller systems are generally designed and constructed to fail in the "as is" position, in hydraulic CPP systems, the actual blade pitch may change. In this case the vessel was making considerable sternway. This was not a unique occurrence. The MS EXPLORER also experienced this problem before it sank in November of 2007. Vessel operators, masters and crew members must be prepared to respond accordingly.

In light of this incident, vessel owners, operators, masters and crew members should also be mindful of the following safety issues:

1. Vessel masters and officers must maintain situational awareness at all times and understand the effects of their actions and decisions on the safety of their crew, especially during emergency situations involving flooding. This includes understanding what impact the vessel's speed, heading, heel, and trim will have on the crew as it abandons ship.
2. The master or individual in charge must evaluate the particular circumstances of each emergency situation (weather, seas, experience of crew, condition of vessel, etc.) and adjust emergency procedures accordingly to provide for the safety of his crew, vessel, and the environment.

3. All crew members should understand that immersion suits will affect their dexterity, limit mobility, and may make it more difficult to launch survival craft, particularly when the survival craft are covered with snow or ice. Crew members responsible for launching the survival craft should practice and be able to do so with their immersion suits on. Lifesaving gear should be kept free of ice and snow whenever possible.

4. When abandoning ship, crewmembers should make every effort to enter directly into a liferaft or lifeboat before entering the water. If crewmembers must enter the water, they should stay together and attempt to enter a liferaft, climb onto floating debris, or use any other means available to get themselves out of the water as soon as possible.

5. Emergency Drills should not be limited to routine procedures such as donning immersion suits. Emergency drills should ensure all crew members, including bridge and engine room personnel, understand and practice what to do in various emergency situations under actual conditions.

Additional information regarding emergency procedures for Commercial Fishing Vessels can be found at: <http://www.fishsafe.info> .

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