National Transportation Safety Board

Washington, D.C. 20594

Safety Recommendation Rg M-358

Date: January 5, 1990

In reply refer to: M-89-153 through -155

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Commandant
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On Thursday, November 10, 1988, at 0715 central standard time, the 650-foot-long Swedish auto carrier FIGARO collided with the 921-foot-long French tank vessel CAMARGUE while both vessels were inbound in the entrance channel to Galveston Bay, Texas. The CAMARGUE was partially loaded with crude oil and was bound for Texas City. The FIGARO, partially loaded with various types of vehicles, was bound for the Barbours Cut container terminal, located at the head of Galveston Bay.[1]

After the Houston pilot boarded the FIGARO at 0700 to pilot the vessel into Galveston Bay and the Houston Ship Channel, he again observed the larger inbound vessel approximately 1/2 mile ahead. He ordered full ahead on the engine and selected a course of 300°--a course that would keep the FIGARO outside the northern edge of the Galveston Bay Entrance Channel as the vessel approached the No. 4 buoy. Two minutes after boarding the FIGARO (0702), the pilot radioed the tankship CAMARGUE and requested permission to overtake the CAMARGUE on one whistle (its starboard side). At that time, he informed the CAMARGUE that the FIGARO would enter the channel at the No. 4 buoy. Since there was sufficient depth for the FIGARO to remain outside the channel, the pilot believed that he could overtake and pass the CAMARGUE and enter the channel southeast of buoy No. 4. The pilot of the FIGARO told the master that he had routinely overtaken and passed larger vessels in the channel and that the "faster ships always go ahead." The pilot did not consider remaining astern of the CAMARGUE even though he knew that the tankship was bound for Texas City and would soon exit the Houston channel. By remaining astern of the CAMARGUE until that vessel exited the Houston Channel, the FIGARO would only have been delayed about 20 minutes. Furthermore, the pilot did not inquire about the time the vessel was scheduled for work at the terminal. The FIGARO was not scheduled for work at the terminal until 1300;

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[1] For more detailed information, read Marine Accident Report--"Collision Between the Swedish Auto Carrier FIGARO and the French Tankship CAMARGUE Galveston Bay Entrance, November 10, 1988" (NTSB/MAR-89/07).

consequently, there was more than sufficient time for the FIGARO to reach its terminal without overtaking vessels in the channel. The actions of the pilot during the first few minutes aboard the FIGARO suggest that he was determined to overtake the CAMARGUE and did not consider other factors in his decision.

At approximately 0708, the FIGARO was abeam of the seabuoy and the speed of the auto carrier had increased to about 15 knots. The course recorder trace of the FIGARO indicates that at approximately the same time, or shortly before 0708, the pilot altered the vessel's course slowly to port in 2^{o} increments until 0710 at which time the vessel was steadied on a heading of 294^{o}; this heading was maintained for the next 1 1/2 minutes until 0711:30, or 3.5 minutes before impact. The pilot's decision to alter the FIGARO's course slowly to port is consistent with his intent to pass the CAMARGUE and enter the channel before reaching the No. 4 buoy. Furthermore, the pilot's decision to alter the course to port and pass between the buoy and the tankship indicates that he still had no concern about the overtaking maneuver.

The master and the pilot of the FIGARO, both with many years of shiphandling experience, had probably experienced the effects of hydrodynamic forces such as bank suction, slope bottom, interaction, and nonuniform current flow at various times during their careers. Furthermore, most pilots and shipmasters, as a consequence of many years of experience, are aware, to a greater or lesser extent, of these effects in maneuvering vessels, particularly in an overtaking situation. However, the onset and magnitude of these forces depends on many parameters including ship sizes and shapes; separation distances; vessel speeds; water depths and bottom contours; and current direction, speed, and gradient. Therefore, it is very difficult to predict the onset and magnitude of these forces, particularly in the confines of a channel such as the Galveston Bay Entrance Channel.

By restricting the movement of large vessels (120,000 dwt or over) to daylight hours with two pilots aboard, the Galveston-Texas City pilots acknowledged that the larger vessels pose an additional risk when transiting the area. Despite the restriction by the Galveston-Texas City pilots on the movement of these larger vessels in the channels, the Houston pilot onboard the FIGARO continued to overtake and pass large vessels on a routine basis. The Safety Board believes that shiphandlers should not attempt to overtake large draft vessels in the entrance channels to Galveston Bay because it is difficult to predict the onset of the various hydrodynamic forces. Accordingly, the Safety Board urges the Coast Guard to prohibit vessels over 120,000 dwt to overtake, or be overtaken by, other deep draft oceangoing vessels in the entrance channels to Galveston Bay.

Most vessels in U.S. waters contact the Coast Guard in an emergency over VHF-FM radio via Channel 16 (168.8 Mhz), the calling and distress frequency. The Coast Guard routinely responds with and immediate requests the vessels to "switch and answer on Channel 22A," their dedicated working frequency. More often than not, according to the pilots, foreign vessels do not have Channel 22A installed in their VHF-FM radios and are unable to comply with the Coast Guard's request. The process of reestablishing communications between the foreign vessel and the Coast Guard Group over Channel 16 causes unnecessary delay. During the investigation of the collision between the FIGARO and the CAMARGUE, both pilots used their hand-held radios (also without Channel 22A

capabilities) and communicated with the Houston VTS on Channel 12 to report the accident and relay the information to the Marine Safety Office in Galveston. The Safety Board believes that the Coast Guard should make another VHF-FM radio warning frequency available that would be compatible with a frequency more commonly found aboard foreign vessels so that a more direct communication link can be established in an emergency.

Although the FIGARO had not entered the VTS system before the collision, VTS was aware of it as an unreported vessel which was in the process of overtaking the CAMARGUE. The VTS watchstander recognized it as a routine overtaking maneuver and did not identify it as a potential collision because the radar images of overtaking vessels often merge. Although the Safety Board believes that the FIGARO should have entered the VTS system, that action would have not precluded the FIGARO from the overtaking maneuver nor would it have altered the watchstander's interpretation of the radar presentation. Nevertheless, The Safety Board believes that the VTS provides an important safety function and, as such, participation in the system should be mandatory for commercial vessels that are required to have bridge-to-bridge radios under the Vessel Bridge-to-Bridge Radiotelephone Act.

Therefore, the National Transportation Safety Board recommends that the U.S. Coast Guard:

> Prohibit vessels over 120,000 dwt to overtake, or be overtaken by, other deep draft oceangoing vessels in the entrance channels to Galveston Bay. (Class II, Priority Action) (M-89-153)
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> Seek authority to establish another VHF-FM radio working frequency for the Coast Guard Group radio stations that would be compatible with a frequency more commonly found aboard foreign vessels that transit the coastal waters of the United States. (Class II, Priority Action) (M-89-154)
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> Require participation in the Houston/Galveston Vessel Traffic Service (VTS) by those commercial vessels subject to the Vessel Bridge-to-Bridge Radiotelephone Act, when transiting the Houston/ Galveston VTS area. (Class II, Priority Action) (M-89-155)

Also, the Safety Board issued Safety Recommendation M-89-156 to the State of Texas; M-89-157 to the Port of Houston Authority Pilot Board; M-89-158 and -159 to the Houston Pilots; and M-89-160 and -161 to the Galveston-Texas City Pilots.

KOLSTAD, Acting Chairman, and BURNETT, LAUBER, NALL and DICKINSON, Members, concurred in these recommendations.

By: James L. Kolstad
Acting Chairman