



National Transportation Safety Board

Washington, D.C. 20594

Safety Recommendation

Log M-353A

Date: August 8, 1989

In reply refer to: M-89-41 and -42

Admiral Paul A. Yost, Jr.
Commandant
U.S. Coast Guard
Washington, D.C. 20593

At 1945, on September 2, 1988, the Bahamian tankship ESSO PUERTO RICO departed the Exxon facility in Baton Rouge, Louisiana with a cargo of carbon black feedstock oil bound for Rotterdam, Netherlands. The vessel's downriver transit was without incident until the vessel approached Kenner Bend and the pilot sighted the Philippine bulk carrier LONGEVITY ahead which was at anchor and lying crosswise in the river. The deep water channel was to the stern of the anchored LONGEVITY, but the pilot did not believe that there was sufficient room astern of the LONGEVITY for the ESSO PUERTO RICO to pass safely. Therefore, he piloted the ESSO PUERTO RICO past the bow of the LONGEVITY. In so doing, the vessel left the confines of the deep water channel, entered an area of shallow water, and returned to the deep water channel downstream from the LONGEVITY. Shortly thereafter, the ESSO PUERTO RICO developed a port list which continued to worsen until it reached 8 degrees. The master ordered the cargo tanks sounded, and it was discovered that approximately 6 meters of cargo had been lost from the No. 1 starboard cargo tank. The ESSO PUERTO RICO then proceeded to anchorage. A diver examined the hull and found a 32-foot-long gash in the bottom of the No. 1 starboard cargo tank. The 4,003.6 metric tons of carbon black oil that had been contained in the No. 1 starboard cargo tank leaked into the Mississippi River.¹

The master of the ESSO PUERTO RICO was in the pilothouse when the pilot change was executed near Convent, Louisiana. The master stated that he had spoken briefly with the second pilot who navigated the ESSO PUERTO RICO past the LONGEVITY. He told the pilot about the ship's characteristics and informed him that the ship's main engine was operating on pilothouse control. The master remained in the pilothouse for only about 5 minutes after the pilot arrived. The master said that he had confidence in the competence of this pilot before he left the pilothouse. However, the master also stated that it was his first round trip in the Mississippi River, and that he would never relieve a pilot or countermand an order issued by a pilot in the Mississippi River.

¹For more detailed information, read Marine Accident Report--"Striking of a Submerged Object by the Bahamian Tankship ESSO PUERTO RICO, Mississippi River, Kenner, Louisiana, September 3, 1988" (NTSB/MAR-89/02).

The Safety Board believes that this boarding process was typical for a foreign ship by a pilot in U.S. waters, and it characterizes the reliance that foreign ship masters place on the judgement and skill of U.S. pilots. The master of the ESSO PUERTO RICO gave the pilot minimal information concerning the ship, and the pilot gave no information to the master concerning his intentions during the pilotage. The Safety Board realizes that when the intended pilotage covers a long distance, as it did in this case, a pilot cannot be expected to describe ahead of time each action that he will take throughout his tenure as pilot on the vessel. However, it would be reasonable to expect that a pilot could point out areas where navigation would be expected to be more difficult and explain any unusual conditions that exist in the waterway. The Safety Board believes that the relationship between the pilot and the master (and in the absence of the master, the deck watch officer) ought to be one of cooperation. Good communication is essential in achieving a meaningful level of cooperation. The pilot and the master must communicate with each other, and this communication must begin as soon as possible after the pilot arrives on board the vessel. The need for pilot/master discussions is an issue the Safety Board has addressed in a number of past accident reports.² Unfortunately, the Safety Board has had little success in convincing the Coast Guard that there is a need to require such discussions. As a result of its investigation of the ramming of the Sidney Lanier Bridge in Brunswick, Georgia, by the SS AFRICAN NEPTUNE on November 7, 1972, the Safety Board recommended that the Coast Guard:

M-74-15

Require that every master of an oceangoing vessel inform himself of the pilot's plan to maneuver his ship in or out of a harbor and that the master determine, with the pilot's assistance, the critical aspects of the maneuver, including the pilot's plan for emergencies. The master should then be required to instruct his crew to insure that high-risk tasks receive priority.

Following the issuance of Safety Recommendation M-74-15, the Coast Guard published a notice of proposed rulemaking (NPRM) in the Federal Register on May 6, 1976. This rulemaking action requested comments on a proposed new part to Title 33 of the Code of Federal Regulations. The proposed new Part 164 contained the following relative to Safety Recommendation M-74-15:

²Marine Casualty Reports--"SS AFRICAN NEPTUNE: Collision with the Sidney Lanier Bridge at Brunswick, Georgia, on 7 November 1972 with Loss of Life" (USCG/NTSB-74/4); and "SS EDGAR M. QUEENY-S/T CORINTHOS: Collision at Marcus Hook, Pennsylvania on 31 January 1975 with Loss of Life" (USCG/NTSB-77-2); and Marine Accident Reports--"Collision of Greek bulk Carrier M/V IRENE S. LEMOS and Panamanian Bulk Carrier M/V MARITIME JUSTICE, Lower Mississippi River, near New Orleans, Louisiana, November 9, 1978" (NTSB/MAR-80/04); and "Ramming of the Sidney Lanier Bridge by the Polish Bulk Carrier ZIEMIA BIALOSTOCKA, Brunswick, Georgia, May 3, 1987" (NTSB/MAR-88/03).

The pilot-master conference required in proposed 164.11(m) would minimize misunderstandings. Although the pilot is of course qualified, every vessel has its own peculiarities which frequently are known only to the crew and which often vary with draft, speed, trim, and sea state. Similarly, every channel and harbor is unique. A short explanation by the pilot of unusual navigation or maneuvering techniques necessary for safe navigation in the waterway will help to ensure the close cooperation required by the pilot and master in maneuvering the vessel, particularly if emergency action becomes necessary.

Section 164.11 The owner, master, or person in charge of each vessel underway shall ensure that:

(m) If a pilot other than a member of the vessel's crew is employed--

(1) The pilot is informed of the maneuvering characteristics and peculiarities of the vessel and of any abnormal circumstances on the vessel that may affect its safe navigation; and

(2) The master or person in charge of the vessel is informed by the pilot of abnormal characteristics of the area to be transited that may affect the vessel's safe navigation and of non-routine maneuvers before the pilot makes them.

When the final rule was published in the Federal Register on January 31, 1977, it did not contain 164.11(m)(2). The reason for its omission was stated in the preamble as:

Paragraph (m)(2) in the proposal, which would have required the pilot to inform the master of abnormal characteristics of the area, is not included in this final rule. It may be the subject of a separate rulemaking at another time.

Because paragraph (m)(2) was never made the subject of any subsequent separate rulemaking, Safety Recommendation M-74-15 was classified "Closed--Unacceptable Action."

As a result of its investigation of the collision between the U.S. tankship EDGAR M. QUEENY and the Liberian tankship CORINTHOS at Marcus Hook, Pennsylvania, on January 31, 1975, the Safety Board recommended that the Coast Guard:

M-77-33

Amend 33 CFR 164.11(k) to require that masters and pilots discuss beforehand and agree to the essential features and relevant checkpoints of maneuvers expected to be undertaken.

On September 4, 1980, the Coast Guard Commandant responded:

In our previous response to this safety recommendation dated 13 April 1978, we stated that requirements for a master/pilot conference were being drafted for publication as a Notice of Proposed Rulemaking (NPRM). As a preliminary step in this project, similar casualties were reviewed to determine the need for regulation. As a result of the review, and in keeping with the Administration's goal of reducing Federal regulations, the Coast Guard finds that it cannot justify, at present, further regulation of the master/pilot working relationship.

The ship's master is currently required to inform the pilot of various characteristics of the vessel. A pilot will ordinarily report to the master anything pertinent that is not obvious from charts and publications. However, the pilot cannot be expected to establish a "game plan" with the master when so many aspects of a passage cannot be predetermined. The Coast Guard believes there are sufficient Federal regulations and customary practices which apply in master/pilot relationships.

As a result of the Coast Guard's response to this recommendation, the Safety Board classified Safety Recommendation M-77-33 "Closed--Unacceptable Action" on July 10, 1981. Although the Safety Board continued to believe that there was a need for mandatory discussions between pilots and masters, the issue remained dormant until it was highlighted again in the Safety Board's report of the ramming of the Sidney Lanier Bridge near Brunswick, Georgia, by the Polish bulk carrier ZIEMIA BIALOSTOCKA on May 3, 1987. In this report, the Board stated, "The Safety Board continues to believe that a formal, required master/pilot conference is the most effective way to bring about a sharing of information between master and pilot and urges the Coast Guard to reconsider its position." As a result, the Safety Board reissued Safety Recommendation M-77-33 as a new Safety Recommendation M-88-20.

In a response, dated October 27, 1988, to Safety Recommendation M-88-20, the Coast Guard Commandant stated:

I concur with the intent of this recommendation.... Although the Coast Guard agrees that the master and pilot need to share pertinent information about the vessel and the waterway, we believe that sharing of information between master and pilot is a part of prudent seamanship,

and that the language of 33 CFR 164.11(k)³ is sufficient to require them to communicate. The Coast Guard does not believe that more regulations are warranted and plans no further action on this safety recommendation.

Based on this response, the Safety Board classified Safety Recommendation M-88-20 "Closed--Unacceptable Action." The Safety Board believes that the requirements of 33 CFR 164.11(k) are not sufficient to require the master and pilot to communicate. Communication is a two-way transfer of information, and this regulation requires only that information pass in one direction--from the master to the pilot. The regulation places no burden on the pilot to communicate pertinent information to the master. The Board believes that a pilot should inform the ship's master about any unusual conditions that exist in the waterway, identify those locations that are particularly difficult to maneuver, explain the manner in which he intends to maneuver the ship in those locations, and ask the master if the ship is capable of performing the maneuver that the pilot envisions. The Safety Board concludes that the discussions between the master and the pilot of the ESSO PUERTO RICO were less than adequate to achieve a cooperative atmosphere. A more indepth discussion of his intended route would have forced the pilot to verbalize potential danger areas. Such a discussion might have led the master to recognize that potential problems were likely to develop near anchorages. If the master had come to such a realization, he may have requested the pilot to make a more cautious approach to known anchorage areas and the vessel might not have entered Kenner Bend at full speed.

This accident illustrates the need for ships' pilots to keep the ships' officers aware of abnormal characteristics of the waterway to be transited and of nonroutine maneuvers before such maneuvers are commenced. The chief mate on board the ESSO PUERTO RICO, who was on watch when the vessel left the deep water channel to pass around the bow of the LONGEVITY, did not know that anything was amiss until the ESSO PUERTO RICO developed a list on the down river side of the LONGEVITY. Until he noticed the list, he had no idea that an emergency situation had arisen during his watch because the pilot did not inform him of the situation as it developed. The Safety Board believes that the master (or the deck watch officer) should be kept aware of navigation situations that develop or the actions and intentions of the pilot. Regardless of the fact that a local pilot generally knows more about the local conditions in an area than the ship's officers, the ship's officers generally know more about their ship than the pilot and should be informed when any condition that poses increased risks to the vessel exists. The Safety Board, therefore, concludes that the pilot should have informed the watch officer beforehand that he was taking the vessel outside of the deep

³Title 33 CFR 164.11(m) was amended on June 1, 1977 and became 33 CFR 164.11(k), which now reads: "The owner, master, or person in charge of each vessel underway shall ensure that:

(k) If a pilot other than a member of the vessel's crew is employed, the pilot is informed of the draft, maneuvering characteristics, and peculiarities of the vessel and of any abnormal circumstances on the vessel that may affect its safe navigation."

water channel. This unilateral action by the pilot deprived the watch officer of his options to countermand the pilot's orders or to advise the master that an emergency situation had arisen.

Under normal conditions in the Mississippi River, the current in the river causes anchored ships to point upriver, parallel to the river banks. Under the conditions that prevailed in the Lower Mississippi River during the summer of 1988 and which continued to prevail at the time of this accident, the current was so weak that anchored ships were not necessarily held parallel to the banks, and the wind became an important factor in determining the heading of anchored ships. As a result, anchored ships could be expected to be lying at any angle to the river bank, even perpendicular. If a ship's length exceeded an anchorage's width or a ship were anchored close to the channelward boundary of an anchorage, then these anchored ships would extend out of the anchorage into the navigable portion of the river and would create hazards.

There are 30 established ship anchorages below Baton Rouge, Louisiana, and many of them are located near river bends where, even under ideal conditions, there is greater risk of accidents simply because the distance of visibility around a bend is limited, and a ship must maneuver to round a bend. In the Kenner Bend area where this accident took place, there were three established anchorage areas. The configuration of the river near Kenner Bend, especially from upriver near the right descending bank, prevents pilots from seeing around the bend and seeing the conditions of the ships in all of the anchorage areas until their vessels have approached fairly close to them. If, as in this case, a pilot suddenly realizes that an anchored vessel is lying across his intended track, he is faced with an immediate decision, the outcome of which could have dire consequences. The Coast Guard, which is responsible for the safety of navigation on the navigable water in the United States, did not recognize that the unusual river conditions presented special safety problems near anchorages. The Safety Board believes that there are many short term actions the Coast Guard could consider that would be effective in improving the safety of navigation near anchorages during such periods. Among the actions that could be considered are: increasing Coast Guard patrols of anchorages; establishing additional, special anchorage areas for use during the time that the unusual river conditions exist; requiring vessels to obtain permission from the COTP before anchoring in established anchorages; limiting the number of ships that may anchor within any particular anchorage; and establishing maximum vessel length limitations for anchorages based on the anchorages' available widths.

Federal regulations prohibit ships from anchoring outside of established anchorages, except in the case of an emergency. The Lower Kenner Bend Anchorage, where the LONGEVITY was supposed to be anchored, is located along the right descending river bank and is 700 feet wide. Obviously, the LONGEVITY, which was 781 feet long, could not remain entirely within the Lower Kenner Bend Anchorage if the ship were lying perpendicular to the river bank. Even if the bow of the ship were up against the river bank, its stern would extend 81 feet beyond the established limit of the anchorage. However, the LONGEVITY did not have the full width of the anchorage available in which to anchor. Other Federal regulations prohibit ships from anchoring over

CO₂ into the engineroom. However, when the staff engineer activated the automatic release from the remote control cabinet, the CO₂ did not release. Because the remote controls did not release the CO₂, it was necessary for the staff engineer to run up five decks to enter the CO₂ storage room on the Sun Deck. However, because the four local automatic releases at the end of each of the four rows also malfunctioned due to the limited travel allowed by the CO₂ operating cylinders, it was necessary for the staff engineer to climb on top of the rows and release each bottle manually. Valuable time was lost in the attempt to release the CO₂, and the malfunction of the remote automatic and the local automatic release mechanisms on the fixed CO₂ fire extinguishing system contributed to the duration of the fire and increased the danger to passengers and crewmembers.

The Safety Board is concerned that the primary system to fight an engineroom fire did not function as intended. The Safety Board is further concerned that the servicing and testing by a CO₂ service contractor in December 1987 detected no problems with the system and that the annual surveys conducted by the classification societies, Bureau Veritas and Lloyd's Register of Shipping, did not include a detailed inspection of the remote and manual automatic release mechanisms.

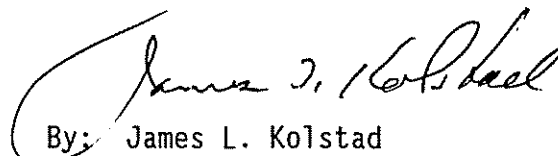
Therefore, the National Transportation Safety Board recommends that Bureau Veritas:

Amend survey procedures for the fixed CO₂ fire extinguishing systems on passenger vessels to include a more detailed inspection of the remote and local automatic release mechanisms to verify their operation and the operation of the entire system. (Class II, Priority Action) (M-89-68)

The National Transportation Safety Board is an independent Federal agency with the statutory responsibility "... to promote transportation safety by conducting independent accident investigations and by formulating safety improvement recommendations" (Public Law 93-633). The Safety Board is vitally interested in any action taken as a result of its safety recommendations. Therefore, it would appreciate a response from you regarding action taken or contemplated with respect to the recommendation in this letter. Please refer to Safety Recommendation M-89-68 in your reply.

Also, the Safety Board issued Safety Recommendations M-89-43 through -51 to the U.S. Coast Guard; M-89-52 through -65 to SeaEscape; and M-89-66 and -67 to Lloyd's Register of Shipping.

KOLSTAD, Acting Chairman, and BURNETT, LAUBER, NALL, and DICKINSON, Members, concurred in this recommendation.


By: James L. Kolstad
Acting Chairman