

M-338B



National Transportation Safety Board

Washington, D. C. 20594

Safety Recommendation

Date: April 26, 1988

In reply refer to: M-88-27 and -28

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About 0112 on May 3, 1987, the 607-foot-long Polish bulk carrier ZIEMIA BIALOSTOCKA rammed the Sidney Lanier highway bridge in Brunswick, Georgia. At the time of the accident, the outbound vessel was under the control of a Georgia State pilot; the master was in the wheelhouse. There were no injuries or deaths. As a result of the accident, the ZIEMIA BIALOSTOCKA sustained minor damage. Damage to the Sidney Lanier Bridge has been estimated at \$1.4 million. The highway bridge did not reopen for vehicular traffic until September 6, 1987, at an estimated cost to the public of \$7.9 million. ^{1/}

The pilot of the ZIEMIA BIALOSTOCKA stated that the ZIEMIA BIALOSTOCKA was "handling to me like any other ship" until the port turn from the East River to the Turtle River approach channel to the Sidney Lanier Bridge when the vessel did not respond as he had expected. However, based on the maneuvering information on board the vessel and the 1981 U.S. Coast Guard report comparing the tactical diameters of over 600 vessels, ^{2/} the Safety Board determined that the ZIEMIA BIALOSTOCKA had a turning track significantly larger than the turning track of most other vessels of similar size. The pilot stated that he did not read or request maneuvering information regarding turning tracks and stopping distances from the master because he could determine the maneuvering characteristics of a vessel by handling the vessel "in just a matter of a few minutes."

If the pilot of the ZIEMIA BIALOSTOCKA had read the maneuvering information on the vessels he previously had piloted and compared the maneuvering information with their actual turning tracks in shallow water, he may have been able to determine from the maneuvering information on board the ZIEMIA BIALOSTOCKA that the vessel had a larger turning track than most vessels and that some special precautions were needed in making the approach to the Sidney Lanier Bridge. However, even if he had not done so, he should have been able to determine

^{1/} For more detailed information, read Marine Accident Report--"Ramming of the Sidney Lanier Bridge by the Polish Bulk Carrier ZIEMIA BIALOSTOCKA, Brunswick, Georgia, May 3, 1987" (NTSB/MAR-88/03).

^{2/} U.S. Coast Guard Report No. CG-M-8-81, "Technical Basis for Maneuvering Performance Standards," December 1981.

from the vessel maneuvering information that the ZIEMIA BIALOSTOCKA's turning track was greater than the distance he normally allowed for the turn from the East River to the Turtle River.

The pilot's testimony indicated that he did not have knowledge of the technical parameters affecting the maneuvering characteristics of a vessel and that his practical knowledge of some vessel maneuvering characteristics was incorrect. The pilot was not familiar with standard marine terminology of "advance" and "transfer" for describing a vessel turning track. He stated that the vessel's 11-foot stern trim versus a normal stern trim of about 6 feet would decrease the ZIEMIA BIALOSTOCKA turning track; the increased stern trim actually would have increased the vessel turning track. He also stated that the ZIEMIA BIALOSTOCKA was not in shallow water during the port turn, when, in fact, there was about 40 feet of water in the channels and the vessel mean draft was about 27 feet 7 inches, or a ratio of water depth to draft of about 1.4. Coast Guard regulations define shallow water as a ratio of less than 2 for assessing maneuvering characteristics. Recent studies show that the turning tracks of a vessel can be increased from 50 to 100 percent in shallow water. Thus, although the pilot was experienced and was aware of the effects of shallow water on the turning track of a vessel, he apparently was unaware at what water depth these effects occur.

At the time the pilot obtained his Federal and State pilot licenses, he was not required to pass an examination on the technical parameters affecting vessel maneuvering or the use of maneuvering information posted on the bridges of vessels. Although the Coast Guard required pilots to pass an examination on shiphandling, these examinations were not standardized throughout the country and normally did not require a pilot to have knowledge of the technical parameters affecting vessel maneuvering or the use of various systems of measurement, such as the metric system. Since the pilot was licensed before the enactment of the Coast Guard regulations regarding maneuvering information, the pilot has never had to prove knowledge of these Coast Guard regulations. The Saint Simons and Saint Andrews Bars Board of Commissioners only required the pilot to pass the Coast Guard examination.

New Coast Guard licensing regulations, which were effective on December 1, 1987, will require all pilots to pass an examination on certain ship maneuvering and handling subjects but will not require the pilots to have knowledge of the technical parameters affecting vessel maneuvering or the use of the maneuvering information currently required aboard vessels. The new regulations will require masters and mates, but not pilots, to prove knowledge of these subjects. The Safety Board believes that these subjects are just as important for pilots as masters and mates. To effectively use the maneuvering information required on vessels over 1,600 gross tons in U.S. waters, pilots must understand the parameters that affect the maneuverability of a vessel and how to interpret and use the posted maneuvering information. Pilots also need a working knowledge of various systems of measurement, including the international metric system, to interpret maneuvering information on vessels. Foreign vessels normally show maneuvering information in the metric system, and most vessels entering U.S. ports are foreign vessels. The pilot stated that 99 percent of the large vessels entering Brunswick Harbor are foreign vessels. The Safety Board believes that the maneuvering information required on large U.S. and foreign vessels can be an effective tool in preventing accidents in harbors if pilots use the information. Therefore, the Safety Board believes the American Pilot Association should encourage State pilots to have knowledge of these technical parameters and to use the maneuvering information.

The master of the ZIEMIA BIALOSTOCKA was familiar with the maneuvering characteristics of his vessel, the maneuvering information posted in the navigation bridge, and the technical parameters affecting maneuverability; however, he had never navigated in Brunswick Harbor. For the outbound voyage, the master relied on the pilot's previous experience of maneuvering vessels in Brunswick Harbor, the pilot's knowledge of the waterway, and his observation of the ability of the pilot during the inbound voyage. Because it was his first voyage to Brunswick and because he was not familiar with the locations of aids to navigation in the harbor or the exact configuration of the channel, the master relied on the pilot and National Oceanic and Atmospheric Administration navigation chart No. 11506, which did not show the East River channel widener nor identify the two lights marking the western edge of the widener as range lights.

Since the pilot had not discussed the widener or his intended maneuvers with the master and since he had not expressed any concern to the master that the vessel was not turning properly, the master did not realize that the ZIEMIA BIALOSTOCKA was off the pilot's intended course until the pilot ordered full astern. The Safety Board believes that it was reasonable for the master to rely on the pilot to safely navigate the vessel through the bridge because of the pilot's experience and the master's limited knowledge of Brunswick Harbor; however, the master should have informed the pilot of all the maneuvering information posted in the wheelhouse of the ZIEMIA BIALOSTOCKA as required by Coast Guard regulations (33 CFR 164.11(k)). If the master and pilot had discussed the ZIEMIA BIALOSTOCKA's turning track, the pilot may have realized that the vessel turning track was larger than the distance that he normally allowed for the turn from the East River into the Turtle River, and it may have prompted the pilot to maneuver the vessel differently. Also, the pilot should have informed the master of the channel widener, the purpose of the widener, and his intended maneuvers using the widener. Such a discussion may have prompted the master to inform the pilot of the vessel's turning track and may have caused the pilot to maneuver the vessel differently during the turn from the East River to the Turtle River.

The Safety Board has addressed the need for the master and pilot to share pertinent information about the vessel and the waterway in several other accident reports.^{3/} 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 on November 10, 1977, 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.

^{3/} Marine 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 Report--"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-80-4).

On September 4, 1980, the Coast Guard 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.

On July 10, 1981, the Safety Board classified Safety Recommendation M-77-33 as "Closed--Unacceptable Action." 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 has urged the Coast Guard to reconsider its position. Meanwhile, the Safety Board believes that the American Pilots Association should encourage member pilots to discuss and agree beforehand with masters to essential features and relevant checkpoints of maneuvers expected to be undertaken.

Therefore, as a result of its investigation, the National Transportation Safety Board recommends that the American Pilots Association:

Recommend to member associations that all State pilots and applicants for State pilot licenses have knowledge of the technical parameters affecting vessel maneuvering and that pilots use the maneuvering information currently required aboard U.S. vessels and foreign vessels over 1,600 tons entering U.S. ports. (Class II, Priority Action) (M-88-27)

Recommend to member associations that pilots discuss and agree beforehand with masters to the essential features and relevant checkpoints of maneuvers expected to be undertaken. (Class II, Priority Action) (M-88-28)

Also, the Safety Board issued Safety Recommendations M-88-18 through -23 to the U.S. Coast Guard; M-88-24 through -26 to the State of Georgia; and M-88-29 to the National Oceanic and Atmospheric Administration.

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


By: Jim Burnett
Chairman