Log M-375

National Transportation Safety Board

Washington, D. C. 20594

Safety Recommendation

Date: October 21, 1991

In Reply Refer To: M-91-26 through -28

Admiral J. William Kime
Commandant
U.S. Coast Guard
Washington D.C. 20593-0001

About 1440 on July 28, 1990, the 601-foot-long Greek tankship SHINOUSSA collided with a three-tank barge tow being pushed by U. S. towboat CHANDY N near Red Fish Island, Houston Ship Channel (HSC), in Galveston Bay, Texas. The tow's overall length was about 966 feet. The inbound CHANDY N had just been overtaken by the 820-foot-long Liberian tankship HELLESPONT FAITH and was meeting the outbound SHINOUSSA. The SHINOUSSA sustained damage to its bow. One barge, APEX 3417 sank, and the other two barges, APEX 3503 and APEX 3510, were damaged. The CHANDY N and the HELLESPONT FAITH were not damaged. Total estimated damage to vessels and cargo was $1,784,105. No one was injured. The Coast Guard estimated clean-up cost to the Federal Pollution Fund to be $2.1 million. Oil lost to the environment was estimated at 347,000 gallons.[1]

The Galveston-Houston area is one of the largest high-volume bulk oil and chemical loading and unloading areas in the United States. The HSC's current dimensions were planned in the 1950s to accommodate vessels up to 40,000 deadweight tons (DWT). By the mid-1980s, vessels more than twice as large as 40,000 DWT routinely navigated the HSC.

In a 1985 study on tidal hydraulics and related phenomena, the U.S. Army Corps of Engineers determined that for two-way traffic, minimum channel width should be five times the beam of the largest vessel. The beams of the SHINOUSSA and the HELLESPONT FAITH were 106 feet and 126 feet respectively; the HSC only measures 400 feet wide.

[1]For more detailed information, read Marine Accident Report--"Collision Between the Greek Tankship SHINOUSSA and the U.S. Towboat CHANDY N and Tow Near Red Fish Island, Galveston Bay, Texas, July 28, 1990" (NTSB/MAR-91/03).

Statistics show that in 1990, ships having an 80-foot or wider beam transited the HSC an average of 510 times monthly. Since 1980, six major marine accidents, including the one involving the SHINOUSSA, have occurred in the HSC between Bolivar Roads and Morgans Point. The Safety Board is concerned that the HSC confines require that large vessels execute passing maneuvers with little margin for error. The Safety Board considered two operational solutions to enhance safety in the HSC.

One solution would be to prohibit large deep-draft vessels greater than 80-foot beam from meeting or overtaking other large deep-draft vessels, except in designated widening areas in the Houston channel between Bolivar Roads and the Houston Turning Basin. The Coast Guard has broad regulatory powers and could establish such regulations. However, this solution would involve restricting the waterway to one-way traffic for periods of several hours each day. Restricting the traffic in the 400-foot wide section of the HSC from Bolivar Roads to the Houston Turning Basin would require that tugs be available in the designated widening areas and thus would quite likely necessitate expenditures for additional pilots, as well as operational time delays for the numerous large deep-draft vessels.

Under current Coast Guard authority, the Captain of the Port could require that pilots arrange large vessel passing in widening areas such as the Boggy Bayou Basin (near the Shell Oil Terminal), the Bayport Ship Channel intersection, and the area near the San Jacinto Monument. The Safety Board believes that the Coast Guard should conduct a study to identify procedures to improve navigation safety in the HSC, including procedures to prevent large vessels such as the HELLESPONT FAITH from meeting or overtaking other similar, large deep-draft vessels, except in designated widening areas in the Houston Ship Channel between Bolivar Roads and the Houston Turning Basin. This study should evaluate the effects of one-way traffic, including vessel time delays, tug requirements, and personnel requirements; it should also consider establishing vessel size limitations for the HSC.

The second solution to reduce the risk of collisions would be for the Coast Guard to establish a minimum in-line separation distance between meeting vessels and any vessel astern of the meeting vessels before large deep-draft vessels are permitted to execute a meeting maneuver. This requirement would enhance safety and have little impact on vessel operations. In this accident, the interval between the HELLESPONT FAITH and the CHANDY N at the time the SHINOUSSA met the HELLESPONT FAITH was not adequate to prevent the SHINOUSSA from striking the towboat when the tankship sheered out of control to port. If the separation distance had been larger, this collision probably would not have happened.

Vessel Traffic Service Assistance.--The Coast Guard established the Houston-Galveston VTS in 1975 to improve vessel transit safety by providing the vessels with advance information of other reported marine traffic and any additional information which may affect vessel traffic safety within the VTS area.

The VTS is a voluntary vessel movement system. The Vessel Traffic Center (VTC) commanding officer stated that the unit experiences a 99.9 percent vessel participation rate and prevents 40 to 50 accidents per year. Approximately 290 vessels, from towboats with a single barge to tankships with drafts of about 40 feet, participate in the VTS every day. Of these 290 vessels, about 17 are ships with an 80-foot or greater beam.

To develop a traffic summary, the traffic watchstanders enter the information received from a vessel into a computer, using either their closed circuit television (CCTV) or radar to verify the information. The radar and television displays are located at the VTC. The only radar site in the VTS is located at the Coast Guard Base Galveston on the northeast end of Galveston Island. The radar provides coverage of the area from the Galveston Bay entrance sea buoy north to just below Red Fish Bar. Eight CCTV towers are located along the HSC from Morgans Point to the Houston City Dock No. 29. Each tower has two television cameras, one facing up the channel and the other down the channel. However, VTS watchstanders can only view one direction at a time. The Morgans Point CCTV can only view as far south as the Bayport Ship Channel. The area between the Bayport Ship Channel and the Red Fish Bar does not have radar or CCTV coverage. The commanding officer stated that radar coverage in this area would be helpful in locating vessels, especially for breakaway barges.

In this accident, VTS watchstanders were aware that the HELLESPONT FAITH, SHINOUSSA, and CHANDY N were in the vicinity of Red Fish Island, but they were unable to monitor the vessels on a radar scope or CCTV screen because they lacked electronic monitoring devices for that area. Without such equipment, the watchstanders have no way of verifying how accurate a pilot's report is or how long such information remains valid. The Safety Board believes that the VTS should have surveillance equipment for the area from the Bayport Ship Channel to the Red Fish Bar so that it can continuously monitor vessels from the seabuoy to the Houston Turning Basin.

The pilots on the SHINOUSSA and HELLESPONT FAITH failed to provide speed information required by VTS guidelines to the VTS watchstander, thus hampering his ability to predict accurately the vessel meeting location. The Safety Board believes that the Coast Guard should instruct VTS watchstanders to encourage pilots to provide speed information and assist pilots in planning meetings and overtakings so that they take place in the widening areas.

As a result of its investigation of the collision between the Swedish auto carrier FIGARO and the French tankship CAMARGUE at the Galveston Bay Entrance, Texas, on November 10, 1988,[2] the Safety Board made the following recommendation to the U.S. Coast Guard:

> M-89-155
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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.

In response, Coast Guard officials said they would develop regulations to implement this recommendation. The Oil Pollution Act of 1990 made VTS participation mandatory for all vessels subject to the Bridge-to-Bridge Radiotelephone Act. The Coast Guard NPRM concerning VTS regulations was

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

published on August 1, 1991, and the regulations are expected to become effective in early 1992. Therefore, the Safety Board will continue to hold Safety Recommendation M-89-155 in an "Open--Acceptable Response" status until the Coast Guard finalizes regulations for mandatory VTS participation.

Federal Oversight of Pilots.--The pilots of both the SHINOUSSA and HELLESPONT FAITH were operating under the authority of their State Commission, rather than their Federal license, and their State licenses were not subject to Coast Guard review. The CHANDY N operator was the only person-in-charge working under the authority of his Federal license. The Safety Board concludes that State-licenced pilot's lack of accountability under Federal statutes is an impediment to maintaining safety standards on Federal waterways.

As a result of its investigation of the collision between the Hong Kong bulk carrier PETERSFIELD and the U.S. towboat BAYOU BOEUF and tow in the Mississippi River, near New Orleans, Louisiana, on October 26, 1986,[3] the Safety Board made the following recommendation to the U.S. Coast Guard:

> M-88-1
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> Seek legislation to require all pilots of commercial vessels on the navigable waters of the United States to have a Federal pilot's license which would be legally superior to all State-issued documents, licenses, or commissions that a State may continue to employ to accredit those pilots that it desires to pilot vessels engaged in foreign commerce.

The Coast Guard replied on July 13, 1988:

> The Coast Guard concurs with the intent of this recommendation, and recognizes the need for establishing better disciplinary control over some State-licensed pilots. However, past Coast Guard efforts to obtain the recommended authority have not been successful in Congress. Therefore, to enhance the possibility of gaining Congressional support, we intend to conduct a study of marine casualties over the past several years to determine the extent of pilot-related accidents and their impact on marine safety. This initial step is critical to justify the need for additional legislative authority.

The Safety Board reiterated this recommendation as a result of its investigation of the grounding of the U.S. tankship EXXON VALDEZ[4] on Bligh Reef, Prince William Sound, near Valdez, Alaska, on March 24, 1989. The Safety Board has been advised that the Coast Guard expects to release its marine casualties study by the end of

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[3]For more detailed information, read Marine Accident Report--"Collision between the Hong Kong Flag Bulk Carrier PETERSFIELD and the U.S. Towboat BAYOU BOEUF and tow near New Orleans, Louisiana on October 28, 1986." (NTSB/MAR-88/01)

[4]For more detailed information, read Marine Accident Report-- "Grounding of the U.S. Tankship EXXON VALDEZ on Bligh Reef, Prince William Sound near Valdez, Alaska, March 24, 1989" (NTSB/MAR-90/04)

calendar year 1991. The Safety Board has classified Safety Recommendation M-88-1 as "Open--Acceptable Action."

As this accident demonstrates, lack of adequate accountability can easily lead to sloppy practices and complacency by a pilot. The SHINOUSSA and HELLESPONT FAITH pilots demonstrated their complacency or lack of competence (or both) when they failed to prepare adequately for their overtaking and meeting maneuvers. Despite the fact that the consequences of a major marine disaster -- particularly one with a significant potential for catastrophic environmental damage -- cannot be considered local in effect, under existing regulatory arrangements, the sole authority to prevent or punish such professional malfeasance resides with local authorities. In the case of the SHINOUSSA accident, the local regulatory authority has taken no action at all against the involved parties as of the date of this report. For this reason, the Safety Board continues to be concerned about the lack of adequate, consistent accountability of state pilots, and urges the Coast Guard to enact legislation requiring all pilots of commercial vessels on U.S. waters to operate under Coast Guard authority. Thus, the Safety Board reiterates Safety Recommendation M-88-1 to the U.S. Coast Guard.

Master/Pilot Communications.--The SHINOUSSA's pilot testified that he and the master did not have an exchange-of-information conference and that he generally did not do so on any vessel. The HELLESPONT FAITH's pilot testified that he and the master held a Master/Pilot Conference and that he usually did so on every vessel that he piloted. This case, like others investigated by the Safety Board, demonstrates that some pilots routinely hold a conference with the master, but that others do not. The Safety Board has addressed the need for sharing information about the vessel and the waterway by holding a master/pilot conference in several other accident reports[5]. 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 on November 10, 1977, recommended that the Coast Guard:

> M-77-33
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> Amend 33 CFR 164 (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 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

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[5]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-ST CORINTHOS: Collision at Marcus Hook, Pennsylvania on 31 January 1975 with Loss and 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).

> 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."

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

> Conduct a study to identify procedures to improve navigation safety in the Houston Ship Channel between Bolivar Roads and the Houston Turning Basin including the feasibility of procedures to prevent large, deep-draft vessels such as the HELLESPONT FAITH from meeting or overtaking other large deep-draft vessels in the 400-foot wide channel, except in designated widening areas. (Class II, Priority Action) (M-91-26)
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> Install radar and closed-circuit television for the area between the Bayport Channel and Red Fish Bar in order to complete surveillance coverage of the Houston Ship Channel. (Class II, Priority Action) (M-91-27).
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> Amend 33 CFR 164.11(k) to require that masters and pilots discuss and agree beforehand to the essential features and relevant checkpoints of maneuvers they expect to undertake. (Class II, Priority Action (M-91-28).

The Safety Board is also reiterating its recommendation that the U.S. Coast Guard:

> M-88-1
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> Seek legislation to require all pilots of commercial vessels on the navigable waters of the United States to have a Federal pilot's license which would be legally superior to all State-issued documents, licenses or commissions that a State may continue to employ to accredit those pilots that it desires to pilot vessels engaged in foreign commerce.

Also, the Safety Board issued Safety Recommendations M-91-29 and -30 to the Environmental Protection Agency. The Safety Board is also reiiterating Safety Recommendation M-90-47 to the U.S. Environmental Protection Agency.

KOLSTAD, Chairman, COUGHLIN, Vice Chairman, and LAUBER, HART and HAMMERSCHMIDT, Members, concurred in these recommendations.

By: James L. Kolstad
Chairman