

M-85B

NATIONAL TRANSPORTATION SAFETY BOARD
WASHINGTON, D.C.

ISSUED: May 3, 1979

Forwarded to:
Captain Charles E. F. Arnoult
President
Crescent River Port Pilots Assoc.
2004 I.T.M. Building
New Orleans, Louisiana 70130

SAFETY RECOMMENDATION(S)
M-79-55

About 0927 c.s.t., on February 22, 1978, the USS L.Y. SPEAR (AS-36), upbound on the lower Mississippi River, collided with the upbound Liberian motor tankship ZEPHYROS at mile 19.2 above Head of Passes (AHP), Louisiana. Both vessels were moderately damaged and continued to their upriver destinations without further incident. No one on board the ZEPHYROS was injured; nine persons in the L.Y. SPEAR received minor injuries. 1/

The ZEPHYROS was proceeding at a speed of 11 mph over the ground on a steady course near and parallel to the right ascending bank of the river. The L.Y. SPEAR was proceeding at 19 mph near the middle of the river on a parallel course and was overtaking the ZEPHYROS. When the bow of the L.Y. SPEAR was about 500 to 600 feet abeam to the port quarter of the ZEPHYROS, the pilot ordered 10° right rudder and the L.Y. SPEAR turned to starboard toward the ZEPHYROS. The pilot of the ZEPHYROS, via VHF radio, and the Commanding Officer (CO) of the L.Y. SPEAR questioned the pilot about the maneuver about the time the bow of the L.Y. SPEAR was headed toward the midships section of the ZEPHYROS. Almost immediately, the pilot ordered left full rudder. Then, the L.Y. SPEAR began to turn to port as its stern swung to starboard, and the starboard quarter of the L.Y. SPEAR glanced off the port quarter of the ZEPHYROS. The heading of the L.Y. SPEAR was 10° to 15° to the left of the 294° heading of the ZEPHYROS at the time of the collision.

Both vessels were being navigated by Crescent River Port pilots. The respective pilots had reached agreement, by use of their portable VHF radios, for the overtaking maneuver. As the L.Y. SPEAR came up on the port quarter of the ZEPHYROS, the pilot of the ZEPHYROS reduced speed from full to one-half to assist the L.Y. SPEAR in completing the passing maneuver before both vessels entered St. Phillips Bend at about mile 19.5 AHP. Both pilots were aware that a tow of gas barges was

1/ For more detailed information, read "Marine Accident Report -- L.Y. SPEAR (AS-36) Collision with Liberian Motor Tankship ZEPHYROS Lower Mississippi River, February 22, 1978" (NTSB-MAR-79-6).

downbound and had just entered the bend upriver at Point Bolivar at about mile 22 AHP. They also knew that the overtaking maneuver should be completed before the vessels met the downbound tow in St. Phillips Bend.

The pilot of the L.Y. SPEAR ordered 10° rudder with the intent to change heading only slightly to starboard. Either the rudder was kept on too long, some other hydrodynamic force acted on the vessel, or both, which resulted in the L.Y. SPEAR's turning until it was headed toward the ZEPHYROS amidships. The Safety Board believes that the right rudder was the main force which affected the turn. Regardless of whether the pilot failed to issue further timely rudder orders or some other force caused the veer, there was little time available to recover from the heading excursion and to avoid the collision since the L.Y. SPEAR was moving at high speed and was less than one ship length from the ZEPHYROS.

It is possible that an eddy current, bottom effect, or some other hydrodynamic force acted on the L.Y. SPEAR and caused it to turn faster than usual in response to right rudder. There is no conclusive evidence to support the existence of such a force, however. On the other hand, there is evidence that right rudder was held until the vessel turned more than the pilot realized. The crowded conditions and distractions in the wheelhouse, and the limited view abaft the beam interfered with the pilot's perception of the developing situation. The pilot also may have underestimated the turning response to 10° rudder at the speed he was using in the L.Y. SPEAR. That amount of rudder in a vessel of the type he was more accustomed to piloting at a slower speed probably would have caused much less change in heading in a given length of time than it did to the heading of the L.Y. SPEAR under the conditions it was being operated.

Even if some force had caused the vessel to veer, it should not have surprised the pilot. Such an occurrence is not uncommon, especially in currents flowing around a bend; and the pilot should have been alert to that possibility and prepared to take prompt corrective actions, particularly in the prevailing circumstances of high speed, the bend in the river, and the proximity of the ZEPHYROS.

Since there is no evidence of steering failure or malfunction, the Safety Board concludes that the rudder was allowed to remain to the right longer than it should have and that a sudden veer could have been arrested and the collision avoided by timely steering orders. Also, the use of flank speed afforded too little time to recover from heading excursions which the pilot especially should have expected and been prepared to counteract.

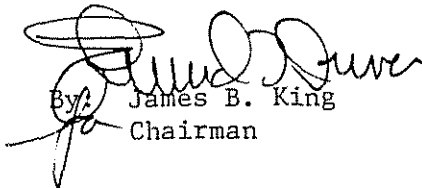
The L.Y. SPEAR could have been slowed and followed behind at a distance astern of the ZEPHYROS until both vessels had traversed the bends in the river and arrived at a suitable situation and straight reach above Point Bolivar. The reduction of speed to 11 mph astern of the ZEPHYROS for 4 miles would have taken only about 8 1/2 minutes more than transiting the same distance at 18 mph. Also, the L.Y. SPEAR probably would have been slowed to about 11 or 12 mph to lessen its wake as it met the downbound tow below Point Bolivar, so that less than 8 1/2 additional minutes would have been involved.

The dangers and risks involved in collisions with vessels carrying crude oil are well known, especially to the Crescent River Port Pilots Association. One of the member pilots of your Association did not survive a collision between a freighter and a tank barge laden with crude oil on the Mississippi River on April 6, 1969. ^{2/} In that case, the 503-foot freighter, carrying general cargo, burned and sank after it and a tank barge collided; and 25 of the 51 persons on board, including the pilot, perished. Since the 9,000 barrels of crude oil in one barge resulted in such devastating losses in that accident, it is not difficult to envision the potential catastrophic outcome if the L.Y. SPEAR had breached the cargo tanks of the ZEPHYROS and more than 1,100 persons had been exposed to almost 50 times more crude oil.

In view of the risks involved and other factors discussed in detail in our accident report, the Safety Board concludes that additional navigation safety efforts are needed on the Mississippi River. Therefore, the National Transportation Safety Board recommends that the Crescent River Port Pilots Association:

Reassess the practices of the Association and of member pilots to establish or reaffirm a policy that emphasizes the necessity for pilots to exercise extreme care and extraordinary caution, including the use of conservative moderate speeds, to preclude accidents involving vessels laden with crude oil or other hazardous bulk cargoes. (Class II, Priority Action) (M-79-55)

KING, Chairman, DRIVER, Vice Chairman, McADAMS and HOGUE, Members, concurred in this recommendation.


By: James B. King
Chairman

^{2/} "Marine Casualty Report--Collision Involving SS UNION FAITH and M/V WARREN J. DOUCET and Tow in Mississippi River on April 6, 1969," released December 22, 1970.