

M-85

NATIONAL TRANSPORTATION SAFETY BOARD
WASHINGTON, D.C.

ISSUED: May 3, 1979

Forwarded to:

Admiral John B. Hayes
Commandant
U.S. Coast Guard
Washington, D.C. 20590

SAFETY RECOMMENDATION(S)

M-79-52 and -53

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 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.

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 vessel to veer, there was little time available to recover

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

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.

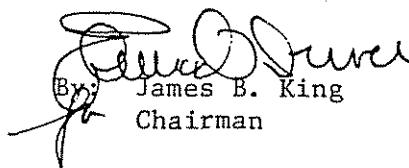
In view of the circumstances discussed in detail in our report, the Safety Board believes that this accident demonstrates a need for additional navigation safety efforts on restricted waterways. It may be appropriate to establish maximum speed limits and to restrict overtaking maneuvers under some conditions in certain locations for the safety of navigation. We do not suggest that a precisely safe speed can be calculated for all circumstances or that any particular speed is safe or unsafe. However, speed often is a critical component in navigation decisions because speed directly affects the time available for decisionmaking and maneuvering. We propose that analytical techniques should be used in studies of appropriate restricted harbors and waterways in an effort to determine the maximum speeds that can be used to allow navigators enough time to make proper maneuvering decisions and for the maneuvers to be effected with the desired result. Such studies should consider the limitations of human abilities, the information provided to navigators by the aids to navigation system and other sources, and the particular characteristics of the vessels, waterways, and traffic in the locale being studied.

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

Include in its ongoing study of aids to navigation systems an analytical determination of maximum safe speeds which can be accommodated by such systems when equated with the reasonable time required for navigators to perform their functions safely.
(Class III, Longer Term Action) (M-79-52)

Undertake further research studies in coordination with the Maritime Administration of the U.S. Department of Commerce to determine analytically if speed limits and other controls are necessary in additional restricted or congested waterways and circumstances, and prescribe appropriate measures indicated by such studies. (Class III, Longer Term Action) (M-79-53)

KING, Chairman, DRIVER, Vice Chairman, McADAMS and HOGUE, Members, concurred in these recommendations.


By: James B. King
Chairman