

NATIONAL TRANSPORTATION SAFETY BOARD
WASHINGTON, D.C.

ISSUED: June 15, 1977

Forwarded to:

Honorable Robert J. Blackwell
Assistant Secretary for Maritime Affairs
Department of Commerce
Washington, D.C. 20230

SAFETY RECOMMENDATION(S)

M-77-7

On January 18, 1974, the inbound Norwegian bulk carrier SS BAUNE collided with the outbound U.S. tankship SS KEYTRADER on the lower Mississippi River. The bow of the BAUNE penetrated about 20 feet into the two forward cargo tanks on the starboard side of the KEYTRADER. Gasoline spilled from the ruptured tanks onto the main decks of both vessels and onto the surrounding water and ignited; the flames were not extinguished for 53 hours. The collision and fire damaged both vessels extensively, killed 6 persons, and injured 3 others; 10 persons are missing.^{1/}

The pilot of the KEYTRADER failed to correctly interpret the movements of the BAUNE which led him to make a port turn to position his ship for an improper starboard-to-starboard passing with the BAUNE. The BAUNE's pilot and master were not aware of the KEYTRADER's approach until the collision was unavoidable. Earlier detection of the KEYTRADER would have given the BAUNE pilot more time to attempt radiotelephone contact with the KEYTRADER. Even without voice communication between the vessels, however, an accurate evaluation by the KEYTRADER pilot of the radar data on the BAUNE's movements would have indicated that the BAUNE was moving upriver along the river's east bank, not out of an anchorage area, and that there was no reason to deviate from the required port-to-port passing.

The two vessels were closing each other at a speed of about 17.5 knots and both were operating their radars on the 2-mile range scale. Under these conditions, each vessel would have traversed the forward sector of the other vessel's radarscope in less than 7 minutes. The KEYTRADER pilot did not notice the BAUNE until 2 minutes after it appeared at the edge of his radarscope. The use of manual processing

^{1/} For more information, read "Marine Casualty Report: SS KEYTRADER-SS BAUNE, Collision and Fire with Loss of Life, Lower Mississippi River, January 18, 1974" (USCG/NTSB-MAR-77-1)

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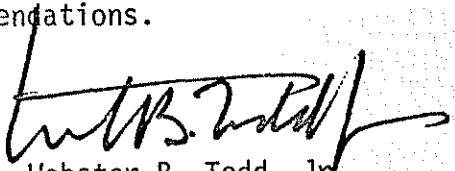
techniques for the radar data left insufficient time for either vessel to detect and evaluate the other vessel's movements and to exchange a passing agreement.

Manual plotting is a slow process which does not always allow sufficient time to process radar data and to work out a passing agreement. When the number of vessels becomes too large or when vessels are changing courses or speeds, manual plotting is an inadequate navigation aid for two-way traffic movement in restricted visibility. Pilots and masters of vessels need to employ more effective aids for processing radar data under such circumstances. Collision Avoidance Systems (CAS) and Marine Radar Interrogation Transponders (MRIT) which are being evaluated by the U.S. Maritime Administration could be effective in eliminating the navigational shortcomings that led to the KEYTRADER-BAUNE collision. In this casualty, either CAS or MRIT would have significantly increased the probability of the KEYTRADER and the BAUNE detecting each other and would have indicated that the BAUNE was moving upriver and not out of an anchorage area. The Safety Board believes that there is no apparent reason to delay further a definite policy regarding the use of these systems in marine navigation. The Maritime Administration, the U.S. Coast Guard, the Radio Technical Commission for Marine Service, and industry have served the interest of maritime safety well in their efforts to provide a reliable automated aid for those responsible for vessel navigation.

Therefore, the National Transportation Safety Board recommends that the Maritime Administration:

Establish guidelines to provide for the use, at the earliest possible date, of Marine Radar Interrogation Transponders (MRIT) and Collision Avoidance Systems (CAS) by vessels that are navigating by radar on inland waters. (Class II, Priority Followup) (M-77-7)

TODD, Chairman, BAILEY, Vice Chairman, McADAMS, HOGUE, and HALEY, Members, concurred in the above recommendations.


By: Webster B. Todd, Jr.
Chairman