

NATIONAL TRANSPORTATION SAFETY BOARD
WASHINGTON, D.C.

ISSUED: June 15, 1977

Forwarded to:

Admiral Owen W. Siler
Commandant
U.S. Coast Guard
Washington, D.C. 20590

SAFETY RECOMMENDATION(S)

M-77-1 through -6

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.

This accident demonstrates that the pilots and masters of vessels need more effective aids for processing radar data. Collision Avoidance Systems (CAS) and Marine Radar Interrogation Transponders (MRIT),

^{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)

which are being evaluated by the U.S. Maritime Administration (MARAD), could be effective in eliminating the navigational shortcomings that led to this accident. The Safety Board has recommended that MARAD establish guidelines for the use of CAS and MRIT by vessels navigating by radar in restricted waterways.

Also, as demonstrated by this accident, the failure to hear whistle signals is not uncommon in marine casualties. Many of these failures may be caused by environmental conditions which distort sound propagation. Since sound signals are required and continue to be primary means for vessels to communicate their navigational intentions, mariners should be aware of the limitations of sound propagation, and the effectiveness of bridge-to-bridge radiotelephone communication should be improved. Also, in areas of high-density traffic, the unreliability of sound signals increases the need for vessel traffic service.

With regard to the fire which followed the collision of the KEYTRADER and the BAUNE, the Safety Board believes that, unless tank boundaries are designed to remain intact when not directly involved in a collision, tankship fires will continue to be difficult to extinguish and will cause more damage. This accident demonstrates that fire-consumable gaskets and metals that have low melting points are unsafe for tankcover use.

Also, when fighting the fire, Coast Guard personnel did not have adequate foam or protective clothing for an efficient firefighting effort. The Board understands that the Coast Guard's firefighting assistance policy is to maintain a firefighting capability adequate enough to protect Coast Guard facilities only and to make contingency agreements to augment the firefighting forces of local jurisdictions. Where contingency agreements with local jurisdictions exist, the combined firefighting resources of the Coast Guard and of the local jurisdictions are generally adequate to extinguish marine fires. However, in remote areas that are outside the jurisdiction of a municipality, and where no contingency agreements exist, Coast Guard firefighting equipment alone is not adequate to fight major marine fires.

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

Establish guidelines to determine the maximum safe speeds for vessels that are navigating with radar in limited visibility on inland waters and require vessel operators to set the vessel's speed at, or less than, the maximum safe speed.

The guidelines should insure adequate time for processing radar data, for evaluating the movement of approaching radar contacts, and for establishing a timely passing agreement. The guidelines should recognize the reduction in processing time achieved by electronic and computer aids. (Class II, Priority Followup) (M-77-1)

Determine the maximum strength of a current which leads to the mandating of one-way traffic for vessels that are navigating by radar in limited visibility on inland waters, and require the Vessel Traffic Service to mandate one-way traffic when the strength of the current exceeds the maximum strength. (Class II, Priority Followup) (M-77-2)

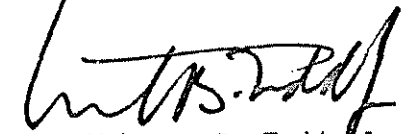
Establish minimum standards for manually processing radar data that will assist in evaluating the movements of approaching radar contacts on inland waters, and require vessel operators to insure that radar data is processed in accordance with the standards unless a Collision Avoidance System is in use. (Class II, Priority Followup) (M-77-3)

Develop and publicize information about deficiencies in the use of sound signals between vessels including the effect of environmental conditions on sound propagation. (Class II, Priority Followup) (M-77-4)

Prohibit the use of metals with low melting points and of fire-consumable gaskets in both tankcovers and deck piping systems on tankships. (Class II, Priority Followup) (M-77-5)

Study the adequacy of its capability to fight major marine fires on remote waterways where the local firefighting capability is inadequate, and establish an adequate firefighting capability for such areas. (Class II, Priority Followup) (M-77-6)

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


By: Webster B. Todd, Jr.
Chairman