

PROBABLE CAUSE

The National Transportation Safety Board determines that the probable cause of the casualty was: (1) the failure of the master of the CAROLYN to inform the MADRONA or the WARRENGAS of the existence of a quick-release anchor on the barge and (2) the incorrect decision made by the commanding officer of the MADRONA not to take the CAROLYN in tow as a last resort. Contributing to the failure was the fatigued state of the master of the CAROLYN; contributing to the incorrect decision was a statement by the master of the CAROLYN to the commanding officer of the MADRONA that the tug was sinking.

Contributing to the collision were the absence of standards or guidelines for safe procedures in towing operations and the absence of a Federal regulation to require that unmanned barges have an expeditiously controlled anchoring capability.

RECOMMENDATIONS

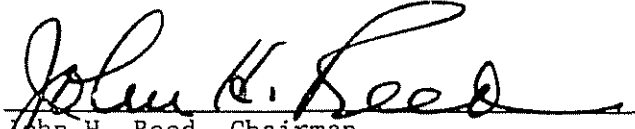
The National Transportation Safety Board recommends that the U.S. Coast Guard:

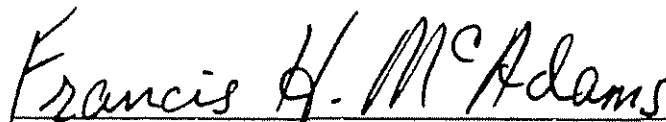
1. Expedite the promulgation of regulations regarding vessel control in the vicinity of the Chesapeake Bay Bridge and Tunnel. (Recommendation No. M-74-1)
2. Determine the effects of fatigue on personnel error as a cause of marine casualties, with particular reference to the sizes of crews carried on towing vessels. (Recommendation No. M-74-2)
3. Publish and make available to towboat operators guidelines for safe operating procedures for towing operations. These guidelines should include methods of preplanning a voyage, the proper use of towing hawsers, and actions to be taken in various emergency situations. (Recommendation No. M-74-3)
4. Determine the need for anchors on unmanned barges and practical methods of controlling such anchors in order to prevent damage to any vessel, bridge, or other structure, or other loss to bystanders on the navigable waters of the United States. (Recommendation No. M-74-4)
5. Place additional emphasis in its search and rescue procedures on protecting bridges from vessel impacts. (Recommendation No. M-74-5)


MAR-74-2

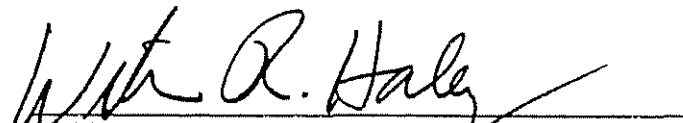
BY THE NATIONAL TRANSPORTATION SAFETY BOARD:

Adopted this 4th day of January 1974:

  
John H. Reed, Chairman

  
Francis H. McAdams, Member

  
Isabel A. Burgess, Member

  
William R. Haley, Member

Louis M. Thayer, Member, was absent and did not participate in the adoption of this report.