

M-177

NATIONAL TRANSPORTATION SAFETY BOARD  
WASHINGTON, D.C.

ISSUED: October 6, 1981

Forwarded to:  
Admiral John B. Hayes  
Commandant  
U.S. Coast Guard  
Washington, D.C. 20591

SAFETY RECOMMENDATION(S)

M-81-82 and -83

About 0716, on May 6, 1981, the Norwegian cargo vessel M/V HØEGH ORCHID collided with the New York City ferry AMERICAN LEGION in dense fog in upper New York Bay between buoys "KV" and "24." The M/V HØEGH ORCHID was inbound from sea to pier 9 in Brooklyn, New York. The ferry had departed Staten Island and was en route to Manhattan, New York, with about 2,400 passengers aboard. Of the 84 persons who were injured, 11 were hospitalized.

Shortly before the collision, the AMERICAN LEGION was entering the main ship channel near buoy "KV" on an easterly heading and the HØEGH ORCHID was proceeding north in the main channel to pass between buoys "KV" and "24." Dense fog limited the visibility to about 300 feet. The pilots of both vessels were observing their radar scopes and had made security calls on their radiotelephones over VHF-FM channel 13, the bridge-to-bridge frequency. When each pilot became aware of the other vessel's movements, only minutes before the collision, the evasive action each took was too late to avoid the collision but probably reduced the damage and injuries. The Safety Board has not determined yet why each pilot failed to evaluate the radar information properly or to hear the other vessel's broadcast security calls.

The M/V HØEGH ORCHID crushed the aluminum and glass superstructure of the AMERICAN LEGION to a depth of about 15 feet on its starboard side and penetrated a 4- by 6-foot area above the waterline of the ferry's steel hull.

The bow plating of the M/V HØEGH ORCHID was damaged about 6-feet above the waterline, and the forepeak tank was ruptured when the HØEGH ORCHID's hull struck the main deck of the AMERICAN LEGION.

The AMERICAN LEGION returned to the Staten Island ferry terminal and disembarked its passengers. The M/V HØEGH ORCHID proceeded to its assigned berth.

Fog conditions (defined as visibility less than one-half mile) are not uncommon in the New York Bay area and average about 37.25 days per year. At times, the fog is dense and lasts for days, and may restrict vessel movements. On the day of the accident, the visibility was extremely limited and some pilots had anchored their vessels, awaiting the fog to lift. Traffic in the upper New York Bay had not been otherwise restricted.

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To provide daily uninterrupted transportation for commuters between Staten Island and lower Manhattan, the Staten Island ferries seldom cease operation, even under the most severe weather conditions. During rush hour periods, a ferry may carry over 3,000 passengers per trip. Oceangoing vessels, such as the M/V HØEGH ORCHID, move into fog-bound harbors at the discretion of the master and pilot of the vessel. Because of the potential for large loss of life and injury, the Safety Board believes that collision avoidance aids, in addition to shipboard radar and bridge-to-bridge radiotelephone, are necessary to assure that ferry operators have information concerning other vessels moving in or near their routes.

In the August 1973 U.S. Coast Guard study, "Vessel Traffic Systems Analysis of Port Needs," New York was ranked as the first port in a priority composite for a fully operational Vessel Traffic Service (VTS) system. The study included VTS level recommendations for five sectors. Currently, the VTS for the Port of New York is not fully operational even though the system has two land-based radar sites; six low light level television sites for surveillance of the lower and upper bays in New York Harbor and critical points in Arthur Kill, Kill Van Kull, and the East River; a manned traffic center; and a VHF-FM communications system (multi-sectored with Channels 11, 12, and 14). Recent information indicates that a fully operational VTS for the Port of New York may not be realized until the mid 1980's or later.

The existing Vessel Traffic Center (VTC) has the capability to acquire pertinent information from vessels intending to navigate on the sectors which the ferry routes traverse during periods of severely reduced visibility, to monitor vessel movements, and to provide vessel movement information to ferry operators. The VTC radar can provide more accurate and reliable collision avoidance information than most shipboard radars because its shoreside location facilitates maintenance and servicing; its true motion display simplifies interpretation of vessel movements; and the greater height of its antenna reduces radar shadow effects. Vessels intending to transit the ferry route sectors could advise the VTC of their intended movements and progress. The VTC personnel could verify a vessel's reported position on radar and then monitor its movements while navigating through the sectors of concern. Ferry operators or their dispatchers could then request information about vessel movements near their route before the ferry departed its slip.

The Safety Board believes that the Coast Guard should evaluate how the existing VTC resources can be effectively utilized to insure the safety of ferry passengers in upper New York Bay. As a minimum, the VTC should be used to assist vessels navigating in the vicinity of the ferry routes when severe weather conditions, such as dense fog, exist. This would require some form of traffic management and advisory service as described in the "New York Vessel Traffic Service Operating Manual" dated September 1979. The Safety Board believes that the equipment and the staff currently available at the New York VTC could function effectively in this limited role.

Vessel movements during dense fog, except for ferries, are significantly reduced since many pilots and masters elect to anchor until visibility improves. The Safety Board believes that the existing VTC equipment can provide the essential collision avoidance functions to enhance the safety of ferries navigating in fog with only a slight, if any, increase in manning levels. Working together with the Captain of the Port, the movements of large vessels in the vicinity of the ferry route could be limited to a level within the VTC capability.

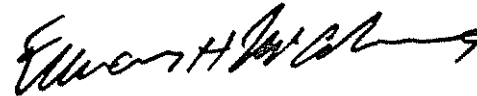
The Safety Board is aware of the excellent working relationship between the U.S. Coast Guard and the New York Harbor Vessel Traffic Service Advisory Committee, which represents operators who would be users of the system when it is activated by the Coast Guard. Since the Advisory Committee's formation in 1972, the Committee has consistently supported Coast Guard efforts to complete a fully operational VTS system. The Committee's advice would be equally useful in determining how the VTC can be used in the interim to improve the safety of ferry operations during periods of low visibility.

As a result of the on-going investigation of the accident, the National Transportation Safety Board recommends that the U.S. Coast Guard:

Assign a high budgetary and research priority to the establishment of a fully operational Vessel Traffic System in New York Harbor at the earliest time. (Class II, Priority Action) (M-81-82)

Pending activation of a fully operational Vessel Traffic Service system for New York Harbor, and with the advice of the New York Harbor Traffic Service Advisory Committee, develop and implement a plan of action for the Captain of the Port of New York and the New York Vessel Traffic Center to coordinate traffic movements in the vicinity of ferry routes between Manhattan and Staten Island during periods of severely reduced visibility due to fog or other serious inclement weather conditions. (Class II, Priority Action) (M-81-83)

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



By: James B. King  
Chairman

