



National Transportation Safety Board

Washington, D. C. 20594

Safety Recommendation

Log M-344

Date: July 27, 1988

In reply refer to : M-88-44

Admiral Paul A. Yost, Jr.
Commandant
U.S. Coast Guard
Washington, D.C. 20593

At 0914 on July 9, 1987, two passenger/car ferries collided near Orient Point, Long Island, New York, during dense fog. The M/V NORTH STAR, a 158-foot ferry, was southbound with 21 passengers on board; the M/V CAPE HENLOPEN, a 308-foot ferry, was northbound with approximately 250 passengers on board. Each ferry was being conned by its master who identified the other vessel on radar and established a meeting agreement by radiotelephone. The masters estimated that when the two ferries came in sight of each other approximately 40 to 100 feet apart, the NORTH STAR was traveling at a speed of about 11 knots, and the CAPE HENLOPEN was traveling at a speed of about 6 to 8 knots. Before the master of the CAPE HENLOPEN sighted the NORTH STAR, he put the ferry's engines full astern and its bow thruster on full thrust to the starboard in an attempt to avoid a collision. The master of the NORTH STAR put his ferry's engines full astern immediately after sighting the CAPE HENLOPEN. Although the masters had already applied right rudder to both ferries before they were in sight of one another, the port bow of the CAPE HENLOPEN collided with the port bow of the NORTH STAR. 1/

Although the National Transportation Safety Board found deficiencies in the performance of the masters of both the NORTH STAR and the CAPE HENLOPEN for the manner in which they conned their vessels and arranged their passing agreement with one another, it was unable to establish the role that fatigue played in the performance of either master on the morning of the collision.

In the interest of public safety, there is an upper daily work time limit for operators in all modes of transportation. The limit for duty hours for members of a train or engine crew is 12 hours, after which 10 consecutive hours off duty is required. The limit for commercial drivers of trucks and buses is 10 operating hours after an 8-consecutive-hour rest period. Drivers' on-duty hours may be extended to 15 hours, but the actual driving time remains limited to 10 hours. Exceptions to drivers' consecutive off-duty hours are granted for trucks equipped with sleeper

1/ For more detailed information, read Marine Accident Report--"Collision Between U.S. Passenger/Car Ferries M/V NORTH STAR and M/V CAPE HENLOPEN on Long Island Sound, Orient Point, New York, July 9, 1987" (NTSB/MAR-88/06).

berths where a minimum of 2 hours of uninterrupted off-duty time within the 8-hour off-duty period is permitted. The standards for air carriers are significantly more restrictive than for the surface modes. Off-duty time for flight deck crewmembers is required to be double the length of on-duty time, and domestic flying time is generally limited to 8 hours.

Cross Sound Ferry Services, Inc. (CSF) permits the masters and other crewmembers of its vessels to work in excess of a two-round trip, 8- to 9-hour day, as a matter of choice and may require these employees to work in excess of such hours when relief personnel cannot be located or scheduled. The master of the NORTH STAR normally worked a two-round trip day, while the master of the CAPE HENLOPEN, by personal preference, regularly worked a four-round trip work day, which resulted in his being on duty 16 or 17 hours per day, but "on watch" time was not more than 12 hours per day. Despite this succession of long workdays and resultant limited opportunity for adequate overnight sleep, the master of the CAPE HENLOPEN said that he was not tired at the time of the accident. The mate, who worked with the master on the CAPE HENLOPEN, said that the master did not appear to be fatigued on the morning of the accident.

The Safety Board remains concerned about existing and proposed CSF crewmember work schedules that involve prolonged duty days and extend over 5-day work weeks. Although individuals have different reactions to prolonged work hours, it is reasonable to expect that this work schedule would not facilitate maximum watchstanding vigilance or optimum operating skills. The Safety Board believes that because of the lack of worktime standards, similar practices may well exist elsewhere in the ferry industry. The Safety Board believes that such regimens are conducive to chronic fatigue and an associated risk of performance degradation that could jeopardize the safety of these ferries, other vessels, and the persons and property transported on them.

The Safety Board believes that although the U.S. Coast Guard-specified staffing requirement may facilitate (although not ensure) appropriate worktime limits for passenger-carrying vessels that operate on extended voyages, this minimum staffing requirement will not necessarily influence worktimes for the short-duration, multiple-trip nature of ferry operations.

Notwithstanding the opportunity for short rest breaks between trips, the Safety Board has found no behavioral research evidence to indicate that such breaks are sufficient to maintain or restore performance to rested levels or that they will sustain crewmember performance throughout the duration of multiple transits that make up a total work day well in excess of 12 duty hours over several successive days.

A precedent for setting a maximum on the number of hours that crewmembers may work exists elsewhere in the marine industry. Specifically, Federal regulations governing towing vessel operations state that an individual licensed to operate a towing vessel may not work more than 12 hours in a consecutive 24-hour period. The Safety Board notes that many more people are likely to be at risk in ferry operations than in most towing operations.

Accordingly, the Safety Board concludes that to reduce the likelihood of chronic fatigue and an associated risk of performance degradation among crewmembers of ferry vessel operations, the Coast Guard should establish standards that specify the

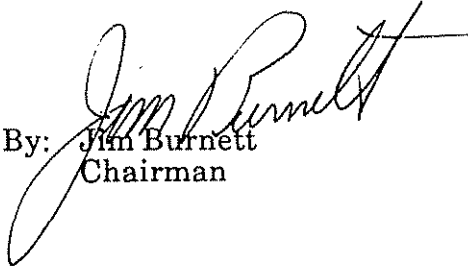
maximum allowable worktime for crewmembers on board CSF ferries and other similar ferry vessel operations.

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

Establish watch and duty time limitations for crewmembers on board ferries and other inspected passenger vessels. (Class II, Priority Action)
(M-88-44)

Also as a result of its investigation, the Safety Board issued Safety Recommendation M-88-45 and -46 to the Cross Sound Ferry Services, Inc.

BURNETT, Chairman, KOLSTAD, Vice Chairman, and LAUBER, NALL, and DICKINSON, Members, concurred in this recommendation.


By: Jim Burnett
Chairman