National Transportation Safety Board

Washington, D.C. 20594

Safety Recommendation

Date: October 22, 1990

In reply refer to: M-90-76 and -77

Admiral J. William Kime
Commandant
U.S. Coast Guard
Washington, D.C. 20593

On June 14, 1989, the U.S. tug BARCONA was under way from Long Beach, California, in San Pedro Channel with two empty deck barges in tandem tow astern, bound for Santa Catalina Island. The U.S. Navy nuclear attack submarine USS HOUSTON was operating submerged in the same area. At 0430, the HOUSTON prepared to come to periscope depth in order to obtain a navigation fix from a navigation satellite. The operating crew of the submarine did not detect the presence of the BARCONA's tow prior to reaching periscope depth. The submarine came to periscope depth close to the BARCONA and its tow, and an antenna that had been raised to obtain the navigational fix snagged the BARCONA's towline. When the submarine crew realized that they were perilously close to surface vessels, they executed an emergency dive at full power. The force of the diving submarine pulled the stern of the tug down and caused the tug to flood through open exterior main deck doors, and the tug sank. Two of the three crewmen were able to escape from the sinking tug and were later rescued. One crewman, however, remains missing and is presumed dead.[1]

The BARCONA sank so rapidly that the master did not have time to transmit a distress message. Thus, no one ashore, other than the Navy, and no one on any vessel nearby knew for about 2 hours (the "emergency deep" order was issued at 0440, and the MY WAY radioed the Coast Guard to report the accident at 0652) that the accident had happened. If the BARCONA had been fitted with an EPIRB, mounted so that it would float free in the event that the vessel sank, search and rescue authorities ashore would have been alerted quickly to the BARCONA's distress and would have been able to launch search and rescue units to the scene shortly after the EPIRB transmission was received. The earlier notice of the distress situation may not have materially altered the outcome of this accident, since the survivors were

[1] For more detailed information, read Marine Accident Report--"Sinking of the U.S. Tug BARCONA by the U.S. Navy Nuclear Attack Submarine USS HOUSTON (SSN 713), San Pedro Channel, Near Santa Catalina Island, California," June 14, 1989 (NTSB/MAR-90/05).

able to swim to and board the barges after the BARCONA sank. However, had the survivors not been able to reach the barges, their survival in the 63° F water was by no means assured. Survival time, according to tabulated information contained in 33 CFR Part 181.705, can be as little as 2 hours owing to the effects of hypothermia[2] in 60 to 70°F water.

Current Federal regulations applicable to uninspected vessels do not require that tugs such as the BARCONA carry an EPIRB. The Coast Guard, however, has recently published a notice of proposed rule making, contained in Coast Guard Docket CGD 87-016a, that would require all uninspected commercial vessels operating on the "high seas"[3] to carry an EPIRB. The Safety Board first recommended the use of EPIRBs on uninspected commercial vessels in 1980 in its report on the sinking of the fishing vessel LOBSTA-1[4] and has continued to make the same recommendation in subsequent accident reports, including those on the sinking of the PRIDE OF BALTIMORE and on the disappearance of the fishing vessel NORDFJORD.[5] The Safety Board fully supports the adoption of the proposed rules in Coast Guard Docket CGD 87-016a.

When the BARCONA's towline was snagged by the HOUSTON, only the immediate release of the tow could have saved the tug. The BARCONA had an after steering station located on its upper deck aft of the pilothouse, and the towline could have been released from this station. However, the after steering station was already under water when the master looked aft from the pilothouse less than a minute after he had awakened in his room. Thus, he had very little time in which to make a decision and to take action to release the towline. Had he decided to release the tow, he would have had to leave the pilothouse and proceed to the after steering station. And he did not have sufficient time to reach the after steering station before it became submerged. If the BARCONA had been outfitted with an emergency towline release mechanism operable from the pilothouse, the operator of the BARCONA could have released the tow when the tug's stern first began to be submerged, and the sinking of the BARCONA might have been averted.

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[2]The loss of body heat to the water. After an individual has succumbed to hypothermia, he will lose consciousness and then drown.

[3]The term high seas, as used in the notice of proposed rule making, refers generally to those waters adjacent to the U.S. coast that lie beyond the 3-mile limit.

[4]For more detailed information, read Marine Accident Report--"Fishing Vessel M/V LOBSTA-1, Capsizing and Sinking in the Atlantic Ocean, Point Judith, Rhode Island, September 23, 1978" (NTSB/MAR-80/6).

[5]For more information, read Marine Accident Reports--"Capsizing and Sinking of the U.S. Sailing Vessel PRIDE OF BALTIMORE in the Atlantic Ocean, May 14, 1986" (NTSB/MAR-87/01) and "Disappearance of the U.S. Fishing Vessel NORDFJORD in the Gulf of Alaska, September 19, 1987" (NTSB/MAR-88/07).

The Safety Board has addressed the need for emergency towline release mechanisms in previous accident reports. In the Board's report on the capsizing and sinking of the U.S. oceangoing tug EAGLE,[6] the Board described the Canadian Government's requirement that all oceangoing towing vessels have an independent system for quickly releasing the brake on a towing winch from the pilothouse, each conning station, and the winch control station. The U.S. has no similar requirement. As a result of its investigation of the sinking of the EAGLE, the Safety Board recommended that the U.S. Coast Guard:

> M-84-41
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> In conjunction with the American Bureau of Shipping, develop standards for towing systems on all ocean towing vessels, including the means used to lead and restrain the towing hawser over the stern of the vessel and the means for releasing the brake on towing winches remotely from the pilothouse and each steering station. Publish these standards as voluntary guidelines for uninspected ocean towing vessels and as regulations for inspected ocean towing vessels.

In an April 1987 response to this recommendation, the Coast Guard Commandant stated:

> The Coast Guard concurs with the intent of this recommendation. The American Bureau of Shipping (ABS) is developing standards with direct input from the Coast Guard and the Towing Safety Advisory Committee (TSAC). The Coast Guard will evaluate the need for additional regulations when the standards are finished in late 1987.

Despite the Coast Guard's stated concurrence with the intent of this recommendation, it has not taken any action to publish standards or regulations concerning emergency towline release mechanisms operable from the pilothouse of ocean towing vessels.

The Safety Board believes that the sinking of the BARCONA demonstrates the need for an emergency towline release capability requirement not only on inspected ocean towing vessels, but also on uninspected ocean towing vessels. The Safety Board now believes the Coast Guard should take action to incorporate the standards contained in the ABS rules into regulations governing ocean towing vessels. Therefore, the Safety Board has issued a new recommendation on this safety issue and has reclassified M-84-41 as "Closed--Unacceptable Action/Superseded."

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[6] For more information, read Marine Accident Report--"Capsizing and Sinking of the U.S. Ocean Towing Vessel M/V EAGLE in the Gulf of Alaska, October 27, 1983" (NTSB/MAR-84/07).

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

> Require all uninspected seagoing tugs to carry a category 1, 406 MHz emergency position indicating radio beacon. (Class II, Priority Action) (M-90-76)
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> Require (after seeking legislative authority, if necessary) that all ocean towing vessels be equipped with an emergency towline release mechanism operable from the pilothouse and each steering station. (Class II, Priority Action) (M-90-77)

Also, the Safety Board issued Safety Recommendations M-90-67 through -69 to the U.S. Navy; M-90-70 through -72 to the Connolly Pacific Company; and M-90-73 through -75 to the American Waterways Operators.

KOLSTAD, Chairman, COUGHLIN, Vice Chairman, and LAUBER, BURNETT, and HART, Members, concurred in these recommendations.

By: James L. Kolstad
Chairman