



National Transportation Safety Board

Washington, D.C. 20594

Safety Recommendation

Date: August 4, 2006

In reply refer to: M-06-15

Admiral Thad W. Allen
Commandant
U.S. Coast Guard
Washington, D.C. 20593

On the afternoon of October 2, 2005, the New York State-certificated public vessel *Ethan Allen*, with a State-licensed operator and 47 passengers on board, departed the marina at Lake George, New York, for a narrated cruise of the lake. About 20 minutes into the cruise, as the operator was maneuvering around Cramer's Point, a wave or waves generated by one or more vessels impacted the *Ethan Allen* on its starboard side. The *Ethan Allen* rolled to port and overturned within a few seconds. Operators of recreational vessels nearby observed the accident, proceeded immediately to the site, and began rescuing survivors. Twenty passengers died, three passengers received serious injuries, and six passengers received minor injuries in the accident. The vessel operator and 18 passengers survived without injury.

The National Transportation Safety Board determined that the probable cause of the capsizing of the *Ethan Allen* was the vessel's insufficient stability to resist the combined forces of a passing wave or waves, a sharp turn, and the resulting involuntary shift of passengers to the port side of the vessel. The vessel's stability was insufficient because it carried 48 persons where postaccident stability calculations demonstrated that it should have been permitted to carry only 14 persons. Contributing to the cause of the accident was the failure to reassess the vessel's stability after it had been modified because there was no clear requirement to do so.¹ The Board's accident investigation found that the stability characteristics of the *Ethan Allen* had been changed by the addition and modification of various canopy structures throughout its history, and that because the vessel did not undergo a stability assessment after the addition or modification of each canopy, it was certificated to carry too many passengers.

The *Ethan Allen* was built in 1964 by Anchorage Shipyard of Warren, Rhode Island, for Whaling City Dredge & Dock Corporation (Whaling) of Groton, Connecticut. At that time, it was named the *Double Dolphin*. Because of the vessel's intended operation as a small passenger vessel on U.S. navigable waters, it was subject to Coast Guard inspection. The Coast Guard Officer in Charge, Marine Inspection (OCMI), Providence (Rhode Island),

¹ For additional information, read National Transportation Safety Board, *Capsizing of New York State-Certificated Public Vessel Ethan Allen, Lake George, New York, October 2, 2005*, Marine Accident Report NTSB/MAR-06/03 (Washington, D.C., 2006).

approved the initial construction plans for the vessel. Anchorage Shipyard did not do the finish work on the 38-foot excursion boat, but delivered it to Groton for Whaling to complete.

Whaling subsequently contracted with Anchorage Shipyard for two additional vessels, requesting that they be similar in construction, appearance, finish, and quality to the *Double Dolphin*, which did not have a canopy when it was delivered to Whaling. The OCMI, Providence approved the submitted plans and recognized the *Double Dolphin* as the original sister vessel. In a March 1, 1966, letter to the shipyard, the OCMI, Providence indicated that the *Double Dolphin* would be given a simplified stability test (SST) in the near future. The Safety Board was unable to locate a copy of an SST; however, a May 1976 certificate of inspection (COI) references a stability letter dated May 28, 1966. The 1976 COI permitted the *Double Dolphin* to carry up to 48 passengers and required a master and second crewmember.

Photographs show that sometime between 1966 and 1979, the *Double Dolphin* was fitted with a metal truss frame that was covered by a canvas canopy. Coast Guard rules at 46 *Code of Federal Regulations* (CFR) 176.700 stipulate, in part, that modifications to a vessel that might affect its safety must not be made without the approval of the OCMI. At this time, Subchapter T of 46 CFR did not require a passenger vessel that was shorter than 65 feet and that carried fewer than 50 passengers to undergo a stability test unless the OCMI considered it necessary that the vessel's stability be demonstrated. There is no evidence to indicate that a stability test was done after the canopy was installed.

In spring 1979, Shoreline Cruise, based in Lake George Village, New York, purchased the *Double Dolphin* and its two sister vessels. Because Shoreline Cruises intended to operate the three excursion boats solely on State waters, the vessels no longer fell under Coast Guard jurisdiction but were under New York jurisdiction. Officials for the New York State Office of Parks, Recreation and Historic Preservation indicated that when Shoreline Cruises applied for State certification of the *Ethan Allen* (formerly the *Double Dolphin*), State officials based their certification of the vessel, in part, on the Coast Guard's May 1976 COI, and did not require the boat to undergo a stability assessment.

Shoreline Cruises altered the sister vessels by adding metal canopies and then later changed the material used in the canopies from metal to wood for all three vessels. At the time of these modifications, New York State did not have regulations requiring vessel owners to notify the State in the event of a major vessel modification. A New York State study guide for public vessel operators contained vague language indicating that vessel owners should report to a State inspector when a major structural alteration was to be accomplished so that the inspector could judge whether an examination of the vessel was necessary. State officials indicated that if they were informed of a modification that warranted a stability assessment, they would use the Coast Guard stability criteria. No evidence indicates that the *Ethan Allen* or its sister vessels underwent a stability assessment following the addition or modification of their canopies in New York.

The Safety Board stability study, which used the current regulatory weight standard of 140 pounds per passenger, determined that the maximum number of persons that should have been allowed on the *Ethan Allen* was 14, or a total passenger capacity of about 2,000 pounds. On the day of the accident, however, the vessel carried 48 persons (1 crewmember and 47 passengers) averaging about 177.5 pounds each, or more than 8,000 pounds total weight. The

Board concluded that the combination of too many passengers, as permitted by the *Ethan Allen's* inappropriate COI, and the use of an out-of-date average weight standard for passengers on public vessels resulted in the *Ethan Allen* carrying a load that significantly reduced its stability, which made it more susceptible to capsizing on the day of the accident.

The Safety Board is aware that the Coast Guard has been working to address the out-of-date weight standard and other stability issues since the capsizing of the pontoon-style small passenger vessel *Lady D* in Baltimore Harbor on March 6, 2004. After evaluating various weight studies, the Coast Guard published voluntary interim measures for domestic passenger vessels in the *Federal Register* on April 26, 2006, which advised boat owners and operators that they should use 185 pounds as the weight standard when evaluating a vessel's stability. The notice also reminded owners and operators that they are required by regulation to submit plans or specifications for any vessel changes to the cognizant OCMI. The Safety Board expressed its support of the Coast Guard's voluntary interim measures and their adoption into regulations.

The Safety Board was also encouraged by the Coast Guard's stated objective to establish an outreach program to advise vessel owners and operators of this notice and to seek the marine industry's support of the published voluntary safety measures. This is a proactive approach that could facilitate the adoption of final rules. The Coast Guard's efforts would benefit by enlisting the support of the state agencies that regulate commercial passenger vessels. As this accident demonstrated, New York had guidance and policies that were intended to provide the same measure of vessel safety as Coast Guard regulations; however, the language in some of the guidance was vague and did not provide clear instructions to vessel owners and operators about stability requirements. As the Federal authority responsible for small passenger vessel regulatory safety standards, the Coast Guard can best assist the states in understanding the Coast Guard's stability standards.

The Safety Board therefore makes the following safety recommendation to the Coast Guard:

Provide guidance to the states on U.S. Coast Guard standards for and assessment of stability of small passenger vessels. (M-06-15)

We urge you to take action on the safety recommendation in this letter. The Safety Board would appreciate a response from you within 90 days addressing the actions you have taken or intend to take to implement our recommendation. Please refer to Safety Recommendation M-06-15 in your reply. If you need additional information, you may call (202) 314-6174.

Acting Chairman ROSENKER and Members HERSMAN and HIGGINS concurred with this recommendation.

[Original Signed]

By: Mark V. Rosenker
Acting Chairman