

Log M-393A

NATIONAL TRANSPORTATION SAFETY BOARD

Washington, D.C. 20594



Safety Recommendation

Date: September 14, 1994

In Reply Refer To: M-94-27 through -29

Captain George Glas, Executive Director
National Partyboat Owners Alliance, Inc.
181 Thames Street
Groton, Connecticut 06340

Mr. Eric Scharf, Executive Director
Passenger Vessel Association
808 Seventeenth Street, NW Suite 200
Washington, DC 20006

Mr. Jeffrey Smith, Executive Director
National Association of Charterboat Operators
655 Fifteenth Street, NW Suite 310
Washington, DC 20005

Mr. Joe Rupp, Executive Director
Maryland Charterboat Association
Box 484
Chesapeake Beach, Maryland 20732

About 1430 on December 5, 1993, the 32-year-old wooden-hulled U.S. small passenger vessel EL TORO II foundered in rough seas while returning to St. Jerome Creek in Ridge, Maryland, from a fishing excursion in the Chesapeake Bay. U.S. Coast Guard and U.S. Navy rescue personnel retrieved the 20 passengers, 2 crewmembers, and the owner of the vessel from the water. As a result of the sinking, two passengers and the deckhand died from the effects of hypothermia.¹ The National Transportation Safety Board determined that the probable cause of the EL TORO II sinking was catastrophic flooding resulting from severely corroded hull fasteners that had remained undetected and uncorrected because of the lack of effective policies

¹For more detailed information, read Marine Accident Report--*Sinking of U.S. Small Passenger Vessel EL TORO II near Point Lookout, Maryland, Chesapeake Bay, December 5, 1993* (NTSB/MAR-94/03).

and procedures for inspecting, maintaining, and/or supplementing the structural integrity of wooden-hulled vessels.

Small passenger vessel owner associations throughout the United States serve the concerns of owners and operators in the small passenger vessel industry. Association members remain informed of issues through periodic meetings and newsletters and publications that address a variety of vessel owner concerns, including general on-board safety and crew training. Some of the small passenger vessel owner associations discussed the EL TORO II accident in their newsletters and informed members that more demanding U.S. Coast Guard inspections would likely occur as a result of the incident.

Maintaining the safety of vessels and passengers is the shared responsibility of the Coast Guard, the vessel owners and operators, and the maritime industry. The Coast Guard responsibility includes verifying, by periodic inspection, that a vessel complies with Coast Guard safety standards and regulations to ensure a safe vessel is provided for public transportation. The owner of the EL TORO II was responsible for maintaining the safety of the vessel and for ensuring that it was operated in a manner consistent with Coast Guard safety regulations. No evidence was found that indicated the owner was deficient in maintaining the structural integrity of his vessel, and his level of maintenance expertise was comparable to the maintenance standards used throughout the industry. However, the small passenger vessel owner associations that represent the wooden vessel industry do not generally provide specific guidance for maintaining the structural integrity of wooden hulls, especially fasteners.

The Safety Board emphasizes that immediate action is needed to improve the safety of older wooden-hulled small passenger vessels. The Coast Guard held a meeting, which Safety Board representatives also attended, with an industry working group on July 14 and 15, 1994, to discuss improving Coast Guard inspection policies and procedures for wooden-hulled vessels and developing policy for inspecting hull fasteners. The working group consisted of industry experts in surveying wooden hulls and reflected a broad range of wooden boat inspection practices and expertise throughout the United States. Small passenger vessel owner associations could have a major role in the more specialized and technical area of maintaining wooden-hull fasteners by supporting the efforts of the joint Coast Guard and industry working group on wooden-hulled vessels.

The sinking of the EL TORO II demonstrates that invisible defects can seriously compromise the structural integrity of a vessel and highlights the need to develop a method to detect such defects. Nondestructive inspection (NDI) techniques, such as thermal or x-ray inspections, could provide a reliable method, without the potential of wood plank destruction, for evaluating the condition of fasteners that lie embedded within the wood, especially when signs of fastener deterioration are not evident on the wood surface. NDI techniques would allow an overall survey of vessel fasteners as compared with pulling fasteners in a few preselected locations. NDI technology needs to be developed for the inspection of fasteners on wooden-hulled vessels; however, other measures, such as renailing older hulls or using screw-type fasteners or fasteners made of corrosion-resistant material, such as monel, should be considered

during the NDI research and development period. These alternative methods use existing technology and are reliable ways of ensuring the structural integrity of wooden-hulled vessels.

Also, a critical vessel maintenance history, such as the condition of fasteners and hull construction materials, would provide reliable data that could be used for formulating well-founded inspection procedures and for improving future procedures as more information is gained through systematic recordkeeping. Neither the vessel owner nor the Coast Guard possessed long-term inspection records for the 32-year-old EL TORO II to indicate fastener materials or whether fasteners had ever been pulled or replaced. Coast Guard inspectors testified that such information would have been helpful in deciding whether to pull fasteners for the EL TORO II inspection. A fastener history would ensure that fasteners were not pulled from the same area at successive inspections unless a reason was indicated. Records on fasteners and hull materials are important to maintain and should be readily available.

The small passenger vessel owner associations throughout the United States contribute to public safety by making industry personnel aware of the safety problems that confront the industry and by providing training for and guidance to owners and operators to resolve these problems. The associations also provide an interface between individual small family-owned businesses and the Coast Guard as well as disseminate safety information to vessel owners about current Coast Guard inspection and safety policy changes. Besides these general measures to improve the overall safety of wooden small passenger vessels, the Safety Board believes that the National Partyboat Owners Alliance, Inc.; the National Association of Charterboat Operators; the Passenger Vessel Association; and the Maryland Charterboat Association should develop maintenance standards for wooden vessels, particularly for hull fasteners, and disseminate these standards to their members. Also, these associations should recommend to their members that pending the development of NDI techniques, vessel owners initiate alternate measures to ensure the structural integrity of wooden vessels, particularly hull fasteners. Finally, the associations should recommend to their members that vessel owners maintain the critical vessel maintenance history, such as the condition of hull fasteners and hull construction materials, of their wooden-hulled vessels.

Therefore, the National Transportation Safety Board recommends that the National Partyboat Owners Alliance, Inc.; the National Association of Charterboat Operators; the Passenger Vessel Association; and the Maryland Charterboat Association:

Develop maintenance standards for wooden vessels, particularly for hull fasteners, and disseminate these standards to your members. (Class II, Priority Action) (M-94-27)


Recommend to your members that pending the development of nondestructive inspection techniques, vessel owners initiate alternate measures to ensure the structural integrity of wooden vessels, particularly hull fasteners. (Class II, Priority Action) (M-94-28)

Recommend to your members that vessel owners maintain the critical vessel maintenance history, such as the condition of hull fasteners and hull construction materials, of their wooden-hulled vessels. (Class II, Priority Action) (M-94-29)

Also, the Safety Board issued Safety Recommendations M-94-21 through -26 to the U.S. Coast Guard.

The National Transportation Safety Board is an independent Federal agency with the statutory responsibility "to promote transportation safety by conducting independent accident investigations and by formulating safety improvement recommendations" (Public Law 93-633). The Safety Board is vitally interested in any action taken as a result of its safety recommendations. Therefore, it would appreciate a response from you regarding action taken or contemplated with respect to the recommendations in this letter. Please refer to Safety Recommendations M-94-27 through -29 in your reply. If you need additional information, you may call (202) 382-6860.

Acting Chairman HALL and Members LAUBER, HAMMERSCHMIDT, and VOGT concurred in these recommendations.


By: Jim Hall
Acting Chairman