

Log# 325D



# National Transportation Safety Board

Washington, D.C. 20594

## Safety Recommendation

**Date:** February 18, 1987

**In reply refer to:** M-87-9 and -10

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On May 14, 1986, the U.S. sailing vessel PRIDE OF BALTIMORE capsized and sank in the Atlantic Ocean, about 250 nmi north of Puerto Rico while en route from St. John, U.S. Virgin Islands, to the Chesapeake Bay, Maryland. The vessel, a replica of a Baltimore clipper, was returning to Baltimore, Maryland, after an extended European good will tour promoting the port of Baltimore.

The PRIDE OF BALTIMORE left St. John about 1100 on May 11, 1986, and after clearing the harbor, set sails and proceeded out to sea. After experiencing some calm periods during the first night, the wind filled in during the nights of May 12 and 13 and by the morning of May 14, the wind had increased to about 25 to 28 knots. The sails were shortened accordingly and all hands, except for the cook, were on deck coiling lines, clearing away gear, and securing all but two of the sails.

Shortly after noon, a sudden gust of wind struck the PRIDE OF BALTIMORE heeling it to port until it was on its beam end with the masts and sails lying on the water. Crewmembers were thrown into the water and the cook managed to escape from below. Two inflatable liferafts deployed but did not remain inflated. One raft was damaged by the ship's rigging while the second raft deflated through the open topping-off valves. The PRIDE OF BALTIMORE, valued at \$1,080,000, flooded and sank in a matter of minutes.

After about 6 hours, the eight surviving crewmembers managed to inflate one of the six-man liferafts by mouth. After drifting for over 4 days, the survivors were rescued on May 19, 1986, by the crew of the M/V TORO, a Norwegian tanker, who notified the Coast Guard of the accident. 1/

Based upon an analysis of the weather conditions in the area of the accident and a description of the weather by the surviving crewmembers, the Safety Board determined that the accident was caused by a gust front developed by a thunderstorm downburst in the vicinity of the accident.

The marine weather forecast issued by the National Weather Forecast Service office, Miami, Florida, on May 14, 1986, for the southwest Atlantic south of 32° north and west of 65° west, called for winds east to southeast 15 knots, seas 3 to 5 feet. The wind

1/ For more detailed information read Marine Accident Report—"Capsizing and Sinking of the U.S. Fishing Vessel PRIDE OF BALTIMORE in the Atlantic Ocean, May 14, 1986" (NTSB/MAR-87/1).

and sea were higher near scattered showers and thundershowers east of 70° west. There was no warning of potentially damaging winds nor could any normally be expected considering the large area of the ocean involved, the paucity of surface and upper air observations in the area, and the state of the art in predicting such localized winds.

The Safety Board found no fault with the forecast in that it was as accurate as possible considering the data available and was prepared and issued in accordance with NWS policies and procedures. The Safety Board is concerned though, that such forecasts are issued with no warnings concerning the potential hazard of thunderstorm induced winds, particularly to sailing crafts and smaller vessels. It has been noted in aviation area forecasts that whenever thunderstorms are predicted, the forecast includes the caveat, "Thunderstorms imply possible severe or greater turbulence, severe icing and low level wind shear." It is the opinion of the Safety Board that such a warning would be appropriately appended to marine weather forecasts when thunderstorm activity is included in the forecast.

The weather conditions encountered were worse than forecast by the offshore marine forecasts. Although thunderstorms were predicted, there was no mention of the severity of the thunderstorms. In this case, it was probably impossible to forecast the occurrence of severe thunderstorms due to the small number of surface observations in the open ocean and the almost complete lack of information describing the vertical structure of the atmosphere. It can be reasonably concluded that the crew had no advance warning of the high winds or of the possibility of high winds in the area. The NWS should include in its marine weather forecasts a warning of the potential for rapidly developing high winds in the vicinity of thunderstorms.

Accurate and timely information about weather phenomena in sparsely transited ocean areas is limited. Some information can be obtained by aircraft overflying the area. The means to provide and disseminate pilot observations currently exist within the International Civil Aviation Organization (ICAO) reporting procedures and NWS procedures. Pilots are supposed to report weather observations with their routing over water position reports or when certain unusual weather conditions are noted. The Safety Board, however, does not believe that these reports are given sufficient emphasis by pilots and that the information provided by overflying aircraft is generally limited to the upper level wind and temperatures encountered during flight. The Safety Board believes that the NWS should make a more active effort to enhance pilot weather reporting by soliciting the cooperation of both the Air Transport Association and the International Air Transport Association to emphasize the value of the ICAO reporting standards.

Therefore, the National Transportation Safety Board recommends that the National Weather Service:

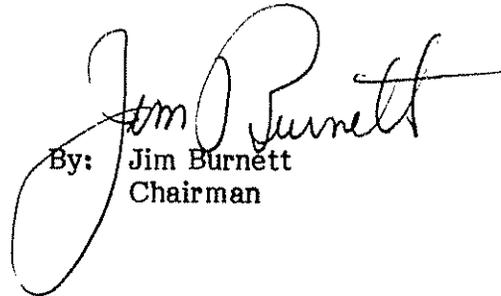
Intensify efforts to obtain visual observations of weather phenomena from aircraft transiting oceanic regions to improve Marine High Seas forecasts. (Class II, Priority Action) (M-87-9)

Include a warning of the potential for rapidly developing high winds in the vicinity of thunderstorms such as the warning used with the aviation Area Forecasts, with the Marine High Seas forecasts where no specific knowledge of thunderstorm intensity is available. (Class II, Priority Action) (M-87-10)

Also, as a result of its investigation, the Safety Board issued Safety Recommendations M-87-1 through -4 to the Coast Guard, M-87-5 to Zodiac of North America, Inc., M-87-6 to the Society of Professional Sailing Ship Masters, and M-87-7 and -8 to Pride of Baltimore, Inc.

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 actions taken as a result of its safety recommendations and 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-87-9 and -10 in your reply.

BURNETT, Chairman, LAUBER and NALL, Members, concurred in these recommendations. GOLDMAN, Vice Chairman, did not participate.

  
By: Jim Burnett  
Chairman