NATIONAL TRANSPORTATION SAFETY BOARD
Public Meeting of April 9, 2013
(Information subject to editing)

Marine Accident Report: Personnel Abandonment of Weather-Damaged US Liftboat *Trinity II*, with Loss of Life Bay of Campeche, Gulf of Mexico September 8, 2011

NTSB/MAR-13/01

This is a synopsis from the National Transportation Safety Board's report and does not include the NTSB's rationale for the conclusions, probable cause, and safety recommendations. NTSB's staff is currently making final revisions to the report from which the attached conclusions and safety recommendations have been extracted. The final report and pertinent safety recommendation letters will be distributed to recommendation recipients as soon as possible. The attached information is subject to further review and editing.

EXECUTIVE SUMMARY

On Thursday, September 8, 2011, about 1225 central daylight time, the 78.5-foot-long liftboat Trinity II, while elevated and at work about 15 miles offshore in the Bay of Campeche, Gulf of Mexico, sustained damage to its stern jacking leg from severe weather associated with Hurricane Nate. Four US crewmembers and six non-US contractors were on board the vessel. When the stern jacking leg failed, causing the vessel to list, the master placed a mayday call over the radio and ordered everyone on board to abandon ship. All 10 persons, wearing lifejackets, entered the water where they clung to one of the vessel's 12-person lifefloats. Three days passed until search and rescuers located nine of the personnel. Two of them were dead by that time, and a third would die later at the hospital. Four days after finding the nine personnel, responders recovered the body of the 10th person. The six survivors sustained serious injuries. The estimated damage to the Trinity II was $1.5 million.

Safety issues identified in this accident include the following:

- Inadequate weather preparedness: Although both Trinity Liftboats and Geokinetics had company hurricane plans in place, neither plan addressed the risk posed by locally forming weather systems. Instead, the plans assumed that weather systems affecting the area of operation would arrive from the east and thus provide a few days' advance warning. Further, neither plan would be activated unless a named tropical weather system approached the area. However, in this accident, the conditions that eventually would produce Hurricane Nate developed locally from a strengthening surface low pressure system. As a result, the company hurricane plans were never activated, and the personnel on board the Trinity II had minimal advance warning to prepare.

- Improper use of available lifesaving equipment: The Trinity II carried two inflatable liferafts that had recently been installed on board the vessel. Although the four Trinity crewmembers had completed training in how to operate lifesaving equipment, they inflated the first of the two liferafts on deck as the personnel prepared to abandon the vessel. Inflating the liferaft on deck—instead of throwing the canister containing the liferaft into the water, which was the proper method and was clearly illustrated in the launching instructions posted where the liferafts were stowed—caused the liferaft to blow away from the deck in the hurricane-force winds and vanish in the rough seas. The second liferaft was also lost in the high winds after a large wave hit the canister, causing the liferaft to inflate while still on board the vessel. Ultimately, the personnel ended up having to cling to a lifefloat, which, unlike the liferafts, did not provide out-of-water flotation, shelter from the elements, and food and water. Further, although the Trinity II was equipped with an emergency position indicating radio beacon (EPIRB), the crewmembers did not take it with them when the personnel abandoned the vessel. The EPIRB, had it been brought along and activated, would have enabled search and rescuers to narrow the search area and reduce the time the men had to spend in the water.

As a result of this investigation, the NTSB makes new safety recommendations to the US Coast Guard, the US Department of State, Trinity Liftboats, Geokinetics, and the Offshore Marine Service Association.

Conclusions

1. The mechanical condition of the vessel before the onset of the storm was not a factor in the accident.

2. The stern jacking leg of the Trinity II likely failed because it was subjected both to lateral forces from waves impacting the vessel's hull and to additional weight from water on deck, and this loading exceeded the stern leg's strength.

3. The master's decision that all personnel on board the Trinity II abandon the vessel once the stern leg failed was understandable, given the context of the situation.

4. The actions taken by the Trinity II crewmembers when abandoning the vessel were of limited effectiveness because the stressed and exhausted crew did not make use of all available safety equipment and supplies, and this reduced the personnel's probability of survival.

5. Had the Trinity II crewmembers brought along and activated the emergency position indicating radio beacon when the personnel abandoned the vessel, it would have aided the Mexican search and rescue effort and shortened the time the personnel had to spend in the water, thus increasing their probability of survival.

6. The inappropriate decision to inflate the starboard-side liferaft on deck, and the inadvertent loss of the portside liferaft, led to the loss of both of the vessel's available out-of-water flotation devices and the additional lifesaving supplies contained therein.

7. The fatalities resulted from prolonged exposure due to lack of out-of-water flotation, combined with no available food and water.

8. Limited access to information about the Mexican search and rescue effort prevented accident investigators from assessing its effectiveness.

9. Marine safety would be better served by improved marine investigative cooperation between the governments of Mexico and the United States.

10. The weather preparedness plans of Trinity Liftboats and Geokinetics in place at the time of the accident did not adequately address weather systems such as rapidly developing surface low pressure systems and nontropical storms, nor the operational limitations of each individual vessel.

Probable Cause

The National Transportation Safety Board determines that the probable cause of the accident was the failure of Trinity Liftboats (the vessel owner/operator) and Geokinetics (the chartering organization) to adequately plan for the risks associated with a rapidly developing surface low pressure weather system, which ultimately subjected the elevated liftboat to hurricane-force conditions, causing the stern jacking leg to fail and the onboard personnel to abandon the vessel. Contributing to the injuries and fatalities was the failure of the Trinity II crewmembers to make effective use of the vessel's available lifesaving equipment, resulting in the personnel's prolonged exposure to the elements while awaiting rescue.

Safety Recommendations

To the US Coast Guard:

1. Distribute the National Transportation Safety Board's safety alert to mariners, and make clear that non-davit-launched liferafts should not be inflated out of the water, especially in high wind conditions, as this may lead to the loss of the liferaft.

2. Work with the US Department of State to develop a written agreement between the government of Mexico, the US Coast Guard, and the National Transportation Safety Board that will ensure mutuality with regard to: timely accident notification; expeditious access to accident sites; unimpeded ability to gather evidence, interview witnesses, and establish facts; logistical assistance on scene; and continuing liaison so that problems and differences are minimized and promptly resolved.

To the US Department of State:

3. Work with the US Coast Guard to develop a written agreement between the government of Mexico, the US Coast Guard, and the National Transportation Safety Board that will ensure mutuality with regard to: timely accident notification; expeditious access to accident sites; unimpeded ability to gather evidence, interview witnesses, and establish facts; logistical assistance on scene; and continuing liaison so that problems and differences are minimized and promptly resolved.

To Trinity Liftboats and Geokinetics:

4. Revise your weather preparedness plan to include weather planning for surface low pressure systems, nontropical storms, and vessel operational limitations.

To the Offshore Marine Service Association:

5. Inform your members about the circumstances of this accident, and make clear that non-davit-launched liferafts should not be inflated out of the water, especially in high wind conditions, as this may lead to the loss of the liferaft.

6. Advise your members to ensure that their weather planning takes into account surface low pressure systems, nontropical storms, and vessel operational limitations.