



National Transportation Safety Board

Washington, D.C. 20594

Safety Recommendation

Date:

In reply refer to: M-98-123

Mr. James Bean
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About 4:50 a.m. central daylight time on October 23, 1996, in Tiger Pass, Louisiana,¹ the crew of the Bean Horizon Corporation dredge *Dave Blackburn* dropped a stern spud² into the bottom of the channel in preparation for continued dredging operations. The spud struck and ruptured a 12-inch-diameter submerged natural gas steel pipeline owned by Tennessee Gas Pipeline Company.³ The pressurized (about 930 psig) natural gas released from the pipeline enveloped the stern of the dredge and an accompanying tug, the *G.C. Linsmier*. Within seconds of reaching the surface, the natural gas ignited.⁴ The resulting fire destroyed the dredge and the tug. All 28 crewmembers from the dredge and tug escaped into the water or onto nearby vessels.⁵

Bean had established a safety program for its vessels that included initial, crew-change-out, and monthly abandon ship and man overboard drills, and weekly all-hands safety meetings. These drills and safety meetings were recorded in the vessels' log books, and written summaries were submitted to the company Loss Control Department. *Dave Blackburn* crewmembers stated that no crew list, crew team assignment, or other crew accounting procedure was in place on the vessel.

¹Tiger Pass is a channel through the Mississippi River delta near Venice, Louisiana, that connects the Mississippi River with the Gulf of Mexico. The channel extends partially into the Gulf of Mexico, where the sides of the pass are defined by rock jetties.

²A spud is a large steel shaft that is dropped into the river bottom to serve as an anchor and a pivot during dredging operations.

³At the time of the accident, Tennessee Gas was a division of Tenneco, Inc. Since the accident, it has become a subsidiary of El Paso Energy Corporation.

⁴The ignition source could not be determined but could have been any of a number of electromechanical devices located on the dredge in the area of the escaping gas.

⁵For more information, read Pipeline Accident Summary Report--*Natural Gas Pipeline Rupture and Fire During Dredging of Tiger Pass, Louisiana, October 23, 1996* (NTSB/PAR-98/01/SUM).

Initially, the U.S. Coast Guard on-scene commander believed that 33 crewmembers were on board the *Dave Blackburn* and the *G.C. Linsmier* at the time of the accident. The Coast Guard incident log indicates that 30 crewmembers were aboard the dredge. The required accident report (CG-2692) submitted by Bean indicated that 28 people were aboard the *Dave Blackburn* at the time of the accident, including 3 crewmembers from the tug *G.C. Linsmier*, who were having breakfast on board the dredge when the pipeline ruptured. No crewmember interviewed after the accident knew with certainty how many personnel had been on board the vessels at the time of the accident. Crewmembers stated that, after the accident, they used an informal survey and quick “head count” to determine that no crewmembers were missing.

A review of Bean’s emergency response instructions and the *Dave Blackburn*’s station bill revealed no provision for accurately accounting for the number of persons on board the dredge vessels at any one time.

The Safety Board is concerned that the emergency procedures for Bean’s dredging vessels, because they did not require that an accurate and up-to-date count be maintained of all personnel aboard the vessels, were inadequate to ensure the safety of the company’s crews and other personnel during an emergency. Without a system to accurately account for all personnel—including crewmembers, contractor personnel, vendors, and visitors—aboard the dredging vessels, the risk is substantial that, in the event of a serious emergency, some individuals may be left behind, perhaps with life-threatening injuries, without anyone knowing of their plight until it is too late.

The Safety Board has investigated several accidents aboard passenger and fishing vessels in which passenger and crew accountability was an issue.⁶ The lack of an accurate personnel list or count has been identified in dredge accidents as well.⁷

In this accident, the speed and extent of the gas release and fire placed all crewmembers aboard the dredging vessels in grave danger. Fortunately, despite the early hour, most crewmembers were awake, alert, and able to respond quickly to the emergency. Given the rapid ignition of the natural gas and the extent of the damage to the vessels, had this accident occurred

⁶For more detailed information, read Marine Accident Reports--*Capsizing of the Charter Passenger Vessel San Mateo in Morro Bay, California, on February 16, 1983* (NTSB/MAR-83/09); *Sinking of the Charter Fishing Boat Joan La Rie III off Manasquan Inlet, New Jersey, on October 24, 1982* (NTSB/MAR-84/02); *Collision of the U.S. Passenger Vessel Yankee and the Liberian Freighter M/V Harbelle Tapper in Rhode Island Sound on July 2, 1983* (NTSB/MAR-84/05); *Sinking of the U.S. Fishing Vessel Amazing Grace 80 Nautical Miles East of Cape Henlopen, Delaware, on November 14, 1984* (NTSB/MAR-85/07); *Collision between the U.S. Passenger Vessel Mississippi Queen and the U.S. Towboat Crimson Glory in the Mississippi River, Near Donaldsonville, Louisiana, on December 12, 1985* (NTSB/MAR-86/09); *Near Capsizing of the Charter Passenger Vessel Merry Jane Near Bodega, California, on February 8, 1986* (NTSB/MAR-86/11); *Capsizing of the Charter Fishing Vessel Fish-N-Fool in the Pacific Ocean Near Roca Ben Baja California Norte, Mexico, on February 5, 1987* (NTSB/MAR-87/11); and *Safety Study--Passenger Vessels Operating from U.S. Ports, 1989* (NTSB/SS-89/01).

⁷The following accidents, although not investigated by the Safety Board, highlight the confusion that can occur when rescue authorities cannot document the number of persons on board a vessel: the United Kingdom Marine Accident Investigation Branch’s June 5, 1990, report of the Collision between the passenger launch *Marchioness* and MV *Bowbelle*, with loss of life on the Thames River on August 20, 1989; and the Hong Kong Marine Department’s report of inquiry into the circumstances surrounding the capsizing of the Hong Kong registered training suction hopper dredger *Maas* in the approaches to Nan-sha Wan off the island of Dongao Dao on August 1993.

while most of the crew was sleeping, numerous serious injuries or fatalities may have occurred. The Safety Board concluded that, in even a slightly more serious accident, Bean's emergency procedures, because they did not require that a precise count be kept of the number of personnel on board the company's vessels at all times, would have been inadequate to account for and facilitate the rescue of missing crewmembers, increasing their risk of serious injury or death.

The National Transportation Safety Board therefore makes the following safety recommendation to Bean Horizon Corporation:

Amend your emergency response procedures to require that an accurate count of all persons aboard your vessels be maintained at all times by someone in authority on the vessel and be accessible to the vessel operating department on shore so that the number will be readily available to emergency responders in the event of an on-board emergency. (M-98-123)

Also, the Safety Board issued Safety Recommendations P-98-25 to the Research and Special Programs Administration; P-98-26 and -27 to Tennessee Gas Pipeline Company; M-98-124 to the Western Dredging Association; P-98-28 to the Interstate Natural Gas Association of America; and P-98-29 to the American Petroleum Institute.

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 recommendation in this letter. Please refer to Safety Recommendation M-98-123 in your reply. If you need additional information, you may call (202) 314-6469.

Chairman HALL, Vice Chairman FRANCIS, and Members HAMMERSCHMIDT, GOGLIA, and BLACK concurred in this recommendation.

By: Jim Hall
Chairman