



# National Transportation Safety Board

Washington, D.C. 20594

## Safety Recommendation

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Date: April 18, 1991

In reply refer to: M-91-10

Honorable John A. Knauss  
Under Secretary and Administrator  
National Oceanic and Atmospheric Administration  
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Room 5128  
14th and Constitution Avenue, N.W.  
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On Monday, June 4, 1990, the Hong Kong-registered 69,900 dwt tankship BT NAUTILUS arrived in New York Harbor with a cargo of No. 6 fuel oil from Cap Limboh, Cameroon, West Africa. Because dock space was not available, the tankship anchored in the Stapleton anchorage to await a berth at the Coastal Oil New York, Inc., terminal in Bayonne, New Jersey, to discharge its cargo. The BT NAUTILUS remained at anchor, with no lightering of cargo, until the following Thursday morning.

On Wednesday evening, June 6, the local agent for the BT NAUTILUS told the master that arrangements had been made to shift the vessel directly to the berth on Thursday morning and that the dockingmaster (pilot) would board at 0400 to move the vessel. The pilot, who had 17 years experience docking vessels in New York Harbor, boarded the BT NAUTILUS at 0300 from the KERRY MORAN, a Moran Towing and Transportation Corporation (Moran) tug. The time of the pilot's boarding was earlier than anticipated by the vessel's crew. The pilot did not read the ship's draft marks to determine the deep draft of the vessel. The mate on the KERRY MORAN stated that he had glanced at the draft marks aft and had noted that the draft was 35.5 feet. A second tug, the SCANDIA, a Moran-contracted tug, arrived at 0300. The chief mate and the ship's bos'n were dispatched to the bow to heave the anchor and make the tugs fast. The master was awakened and promptly went to the navigation bridge.

The pilot and master, as is customary, exchanged information, including information about the tidal current in the Kill Van Kull. The pilot said that he expected a strong flood current in the Kills. The master said that the vessel's calculated deep draft was 35.5 feet at the stern. The master also advised the pilot about the speeds that could be expected at full ahead, half ahead, and slow ahead. The master asked about the depth of water at the approaches to the berth; the pilot said that drafts to a depth of 37 feet would be within the safe limits. The pilot stated that he had previously moved numerous vessels into that berth at that deep a draft, including one within the last 2 months.

At 0335, the vessel began preparations to shift to the dock. The SCANDIA was made fast on the port bow and the KERRY MORAN on the starboard bow, each with one line. The pilot communicated with both tugs on his handheld VHF-FM radiotelephone on channel 7A. The master mentioned to the pilot that he had docked at the Coastal terminal several times before and had berthed port-side-to the dock on the previous voyage (April 4, 1990). The pilot suggested docking the vessel starboard-side-to this time since that was the normal docking for this terminal.

The large-ship berth at the Coastal Oil terminal was situated at the end of a finger pier and parallel to the waterway. Four mooring dolphins were provided to moor the vessel. For larger vessels, such as the BT NAUTILUS, the terminal provided line-handling boats to run mooring lines ashore. The berth had a depth of 40 feet alongside at low water. The navigation chart of the area, National Oceanic and Atmospheric Administration (NOAA) Chart 12333, "Kill Van Kull and Northern Part of Arthur Kill" (26th edition, Nov. 5/86), showed that the water was 34 feet deep at the large-ship berth; the pilot later stated that Moran had the latest information on the water's depth and that he was aware of the 40-foot depth at Coastal's large-ship berth.

The engine was stopped and then ordered astern to reduce the vessel's speed as the BT NAUTILUS approached the berth during a flood tide. The tugs were used to maintain the vessel's heading during the backing maneuver. When the desired speed was attained, the pilot, preparing to dock starboard-side-to the berth, ordered dead slow ahead and, with the assistance of the tugs, maneuvered the tankship toward the terminal. The adjacent berth east of the Coastal Oil terminal was empty. The pilot ordered the operator of the tug KERRY MORAN to shift from the starboard bow to the port side of the stern and to put one line aboard. When the operator of the tug completed the maneuver, the pilot ordered him to maintain his position. The tug's operator complied by holding the twin screw tug's bow against the tankship at idle speed using the port or starboard engine as needed.

At 0515, when the BT NAUTILUS was about 450 feet from the eastern end of the berth, the pilot noticed that the tankship had lost headway. The ship's master immediately ordered the engine stopped. The BT NAUTILUS had grounded and quickly listed to port. Oil appeared at the surface of the water on the starboard side adjacent to the No. 2 starboard cargo tank. The master ordered the chief mate, who was on the bow of the vessel preparing to moor, to check the starboard cargo tanks for loss of cargo. The chief mate reported that the No. 4 starboard wing tank was apparently leaking oil. Shortly thereafter, the pilot reported the grounding and the spill to Coast Guard Group New York by radio. The Coast Guard later estimated that 7,000 barrels of fuel oil had spilled into the harbor.

Both the pilot and the vessel's master stated that the vessel had approached the berth in a normal fashion along the north side of the waterway. Each believed that the vessel was well within the limits of the channel. Chart No. 12333 clearly shows the north edge of the channel; however, no navigational aids, such as a set of range lights or a sector light, are present to indicate the edge of the channel to the mariner. In

the 1989-1990 Tanker Guide to Port Entry<sup>1</sup>, a British publication containing world port information, a description of the Coastal Oil terminal (formerly Belcher Oil) includes the following:

All vessels dock starboard-side-to with the assistance of two tugs. Vessels approach the terminal at time of HW slack with minimal headway. Due to the shape of the dredged basin all vessels are normally spotted off the berth and then moved broadside into position alongside the breasting islands. Tugs hold vessel in position while a small line boat runs head and stern lines to pile clusters.

The publication was aboard the vessel at the time of the grounding.

At 0615, the BT NAUTILUS floated clear of the underwater obstruction and the Coast Guard ordered it to proceed to the berth. There, an underwater survey of the hull revealed a 30-foot long, 16-inch wide rupture in the No. 4 starboard cargo tank through which the oil had leaked. A containment boom was deployed to prevent the spread of the oil. The Coast Guard closed a portion of the Kill Van Kull to all traffic.

Several underwater surveys were conducted in the area of the grounding to determine whether the BT NAUTILUS was in or out of the dredged channel when it touched bottom. On June 11, the U.S. Army Corps of Engineers surveyed the site of the grounding and found a shoal area that was 30.8 feet deep at low water in an area approximately 20 feet outside the charted edge of the channel. (The height of the tide at 0515 on June 7 was +3.0 feet<sup>2</sup>). A diver, using an underwater video camera, photographed a rock that had evidence of paint scrapings from contact with a ship's bottom. Results of a laboratory analysis, however, indicated that the paint scrapings did not match the sample of paint taken from the hull of the BT NAUTILUS. Several vessels have grounded in this area, and the paint scrapings may have come from another vessel. However, traces of oil clinging to the rock appeared to match the cargo oil from the No. 4 starboard wing tank of the BT NAUTILUS; since this shoal is the only one in the area, the Safety Board concludes that the BT NAUTILUS grounded on the rock described above.

Because both the pilot and the ship's master incorrectly believed that the BT NAUTILUS was in the channel as it approached Coastal Oil's large-vessel berth, the Safety Board believes that provision should be made to aid the mariner in identifying the edge of the channel adjacent to the shoal area east of the Coastal Oil terminal. The Board has considered several possible solutions, including setting a buoy at the channel line opposite the shoal in question. However, several tug operators have stated that such a buoy would impede the movement of barges in and out of Coastal Oil's barge

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<sup>1</sup> Tanker Guide to Port Entry, 1989-1990, Shipping Guides Limited, Surry, England, page 1,859.

<sup>2</sup> Tide Tables 1990, East Coast of North and South America, NOAA, National Ocean Service

dock. Other navigational aids, such as a set of range lights or a sector light on the hose tower at Coastal Oil's large vessel berth, may be feasible.

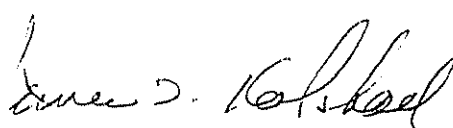
Following the grounding of the BT NAUTILUS, NOAA surveyed the shoaled area between the Coastal Oil terminal and the adjacent International-Matex Tank Terminal (IMTT) in order to confirm the position of the rock on which the vessel grounded. However, NOAA did not survey the depth of water at the Coastal Oil terminal or at the IMTT terminal, and the IMTT pier and mooring dolphins do not appear on NOAA Chart 12333. The most recent survey of the depth at the Coastal Oil terminal was completed by Hydrographic Surveys (company) on May 8, 1990 for Coastal Oil New York, Inc. Since deep-draft tankships frequent both terminals, the Safety Board believes that NOAA should obtain the results of the surveys of the water depths at both terminals and correct the next issue of the navigation chart of the area accordingly. In the meantime, the information should be published in the Notice to Mariners.

Therefore, the National Transportation Safety Board recommends that the National Oceanic and Atmospheric Administration:

Obtain the latest surveys of the dredged areas at the Coastal Oil New York, Inc., terminal, Bayonne, New Jersey, and the adjacent IMTT terminal, including the piers and the mooring dolphins, and use the information and the latest NOAA survey of the shoaled area between the terminals to correct NOAA Chart 12333. In the intervening period, publish the information in the Notice to Mariners. (Class II, Priority Action) (M-91-10)

The Safety Board also issued Safety Recommendation M-91-8 to the U.S. Coast Guard and M-91-9 to Coastal Oil New York, Inc., regarding this matter.

Chairman KOLSTAD, Vice Chairman COUGHLIN, and Members BURNETT, LAUBER, and HART concurred in these recommendations.

  
By: James L. Kolstad  
Chairman