

MARINE OCCURRENCE REPORT

STRIKING

FOREST PRODUCTS/CONTAINER CARRIER

“HOEGH MERIT”

NANAIMO, B.C.

7 FEBRUARY 1997

REPORT NUMBER M97W0022

The Transportation Safety Board of Canada (TSB) investigated this occurrence for the purpose of advancing transportation safety. It is not the function of the Board to assign fault or determine civil or criminal liability.

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Summary

While manoeuvring to berth at dock C in Nanaimo, the partly loaded “HOEGH MERIT” struck a dolphin located at the outer extremity of the finger pier, indenting and fracturing shell plating in way of the vessel’s bulbous bow. A pilot had the conduct of the vessel during the berthing manoeuvre, which was carried out with the assistance of three tugs during daylight hours. There were no injuries and no apparent damage to the tugs or the dock.

Other Factual Information

Particulars of the Vessel

Name	“HOEGH MERIT”
Port of Registry	Nassau
Flag	Bahamas
Official Number	716006
Type	Forest Products/Container Carrier
Gross Tonnage	30,987
Draught	7.09 m Forward; 7.09 m Aft
Crew	24
Length	201m
Built	1977, Nagasaki, Japan
Propulsion	Sulzer diesel, driving a single, fixed-pitch propeller
Power	16,800 bhp (12,357kW)
Owners	Leif Hoegh & Co. A/S, Norway

The “HOEGH MERIT” was constructed for the carriage of forest products and containers. She is a well-found vessel with respect to her navigational equipment. The vessel’s bridge and accommodation are located aft, abaft her ten holds, which are serviced by two gantry cranes. Blind sectors ahead of the bridge caused by the gantry cranes vary depending on the location of the cranes, but the effect of these blind sectors can be reduced by the observer moving to a different location on the bridge or the bridge wing. At the time of the occurrence, the two gantry cranes were in their aftermost position, close to the wheelhouse, where they least affected forward visibility.

The master and crew were certified in the Philippines and possessed the appropriate certificates of competency. The master had been on the ship for about 5 months during which time the vessel had operated out of Vancouver, British Columbia, under charter to a Canadian company. The pilot had been piloting vessels of all sizes for seventeen years and recollected having previously piloted the “HOEGH MERIT”, three years before.

The pilot boarded the “HOEGH MERIT” on 7 February 1997 at the vessel’s berth in Fraser Surrey Docks in Vancouver. He was well rested having last worked the previous afternoon. There was an exchange of information and the pilot was shown the Pilot (vessel information) Card. He took over the conduct of the vessel from the river pilot at Sandheads, at the mouth of the Fraser River. The vessel, which was partly loaded with lumber, had an uneventful passage across the Straits of Georgia and was met by three tugs in the approaches to the port of Nanaimo, shortly after 1530 hours. The weather was calm and clear with a light south easterly breeze as the vessel proceeded into her berth.

The berth the "HOEGH MERIT" was to use was on the seaward side of a pier that projects into the harbour almost at right angles to the approach channel. The charted depth of water in the vicinity of the dock was 10.6 m. Initially, the pilot positioned two tugs on the starboard bow and one on the port quarter in order to swing the vessel to port to line up with the berth.

As was the normal practice, the vessel was swung, while she continued to move ahead. The pilot ordered one of the tugs on the starboard bow to move to the port bow so as to control an anticipated overswing. However, as the "HOEGH MERIT" closed with the berth, she had not been swung sufficiently and the bow struck the dolphin extending from the end of the pier.

The pilot ordered and received full astern power from the ship before striking the dock. Apart from carrying out the pilot's instructions, no other action was taken by the master or any of the ship's officers to assist with, or intervene in, the manoeuvring of the vessel.

The bulbous bow of the "HOEGH MERIT" was indented for a length of about 3.5 metres and the shell plating above the bulb was torn open for a length of 2.7 metres. The frames, deep stringers and breasthook were damaged in the area of the indentation and fracture. There were no injuries and no apparent damage to the shore structures.

The vessel was repaired at Nanaimo to the satisfaction of the Classification Society and Transport Canada's Ship Safety before proceeding to the next port of call on the B.C. coast.

Communication

On the B.C. coast there is no designated channel for communications between tugs and pilots. Either channel 6 or channel 17 of the very high frequency (VHF) radio/telephone is used, depending on which is convenient. The pilot gave his instructions to the tugs on channel 6, a channel which is not exclusive to pilots but also used by other traffic. The pilot had no involvement in the communications between the bridge and stations forward and aft, except for what he overheard from time to time on the master's walkie-talkie. The master had no input to the communications between the tugs and the pilot and, subsequent to the striking, it was found that the master was not aware of how many tugs had assisted his ship.

The investigation revealed that there had been some mis-communication between the tug, which remained on the starboard bow, and the pilot. The tug master claimed that he questioned the pilot when he did not see the vessel lining up for 'C' berth and that until that time, he had not been aware of which berth the ship was to use. The pilot had assumed that the tug knew where the ship was to berth.

The tug master maintained that he had warned the pilot twice of the closing distance between the ship and dock structure. The tug master also claimed that he had been asked to push at half speed, and he had warned the pilot that they would not swing sufficiently if he did not push at full speed; the other tugs heard these warnings being repeated, and people ashore who had been listening in on the VHF radio/telephone confirmed hearing them.

The pilot denied hearing any warning; he claimed that in fact his requests for estimates of the distance off went unanswered. He also felt that he had not received the full power from the tug on the starboard bow when

requested. The tug masters' information is that they gave full power in order to prevent the ship touching the dolphin, even though the pilot had asked them to ease up.

Communication is an integral part of the Bridge Resource Management (BRM) course. Since May 1997, a majority of B.C. Coast Pilots have taken this training and the remaining pilots are scheduled to take it over the winter. The application of BRM principles by pilots and ship's personnel ought to increase communication and is expected to result in increased safety.

TSB Study

The TSB, concerned by the frequency and potential consequences of marine occurrences involving vessels under the conduct of a pilot, conducted a safety study to identify safety deficiencies associated with teamwork on the bridge. The results of the study were released in 1995 in a report entitled *A Safety Study of the Operational Relationship between Ship Masters/Watchkeeping Officers and Marine Pilots*. In examining causes of marine occurrences, the Board cited 'Human Factors' as a significant contributing factor. When the accidents involving human factors were analysed, misjudgement by pilots was the significant factor contributing to 35% of the occurrences. In some 18% of the occurrences, lack of communication or misunderstanding was the significant factor identified.

Analysis

An examination of events leading to the striking would suggest that some of the human factors identified in the TSB safety study on the operational relationship between ships' personnel and pilots are relevant to this incident. There was ongoing miscommunication, leading to misunderstanding, between the pilot and the tugs as to what was required by, or being done by, the other person. Also, the master and officers were inactive bystanders who watched the ship getting closer to, and finally striking, the dolphin, but did nothing. Proper cooperation and communication with the pilot would have allowed the ship's personnel to keep the pilot apprised of the distance off the dolphin, allowing him to better judge the approach to the berth.

There is no clear explanation as to why the pilot would not have heard the tug master's warnings of the closing distance when others in the vicinity heard them. It is possible that other sounds (radio interference) on his hand-held radio could have prevented him from hearing the tug master's warnings.

Findings

1. There was mis-communication between the tugs and the pilot with respect to the swinging manoeuvre and the distance off the berth.
2. The vessel continued to close with the wharf while swinging to align with the berth.
3. Even as the vessel closed with the dolphin, the master and crew of the "HOEGH MERIT" relied totally on the pilot executing the berthing manoeuvre.

4. There was inadequate consultation and planning of the berthing manoeuvre between the ship's personnel, the pilot and the tugs.

Causes and Contributing Factors

The "HOEGH MERIT" struck the dolphin at the extremity of the pier while berthing in Nanaimo, B.C. because the vessel closed with the wharf before the swinging manoeuvre was completed. Miscommunication between the pilot and tugs contributed to the striking.

This report concludes the Transportation Safety Board's investigation into this occurrence. Consequently, the Board, consisting of Chairperson Benôt Bouchard, and members Maurice Harquail, Charles Simpson and W.A. Tadros, authorized the release of this report on 18 June 1998.