

MARINE OCCURRENCE REPORT

M96L0112

COLLISION

BETWEEN THE TUG "BROCHU"
AND THE OIL TANKER "JADE STAR"

AT PORT-CARTIER, QUEBEC

22 AUGUST 1996

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

After dropping off a pilot on board the "JADE STAR" as it was preparing to enter Port-Cartier, the tug "BROCHU" proceeded to the oil tanker's bow to take the towline messenger. During this manoeuvre, the oil tanker's stem struck the starboard stern of the "BROCHU" causing damage to the plating. At the time of the accident, a trainee master was at the controls of the tug.

Ce rapport est également disponible en français.

Other Factual Information

Particulars of the Vessels

Name	"BROCHU"	"JADE STAR"
Port of Registry	Québec, Que.	Halifax, N.S.
Flag	Canadian	Canadian
Official Number	347175	814370
Type	Tug	Oil tanker
Gross Tonnage	390 tons	6,262 tons
Length	30.48 m	118.26 m
Draught	Forward: 5.18 m Aft: 5.49 m	Forward: 7.80 m Aft: 8.10 m
Built	1973, New Westminster, B.C.	1993, Wismar, Germany
Propulsion	Two 1 343 kW diesel engines each driving a Voith-Schneider propeller	One 3 700 kW diesel engine driving a variable-pitch propeller
Operators	Québec Cartier Mining Company, Port-Cartier, Que.	Rigel Shipping Canada Inc., Shediac, N.B.
Owners	Canadian Acceptance Corp. Ltd.	Rigelchem Jade Ltd., Isle of Man

At about 2205 on 22 August 1996, the "BROCHU" left its berth at Port-Cartier to go to meet the "JADE STAR", and the harbour pilot that it was carrying boarded the tanker to begin the docking operations. At the start, the trainee master was at the tug's helm while the regular master was standing a little to one side inside the wheelhouse.

On boarding the tanker, the pilot checked the vessel's speed from the global positioning system (GPS) data. The tug proceeded towards the bow of the "JADE STAR" to take the towline messenger. The trainee master was still at the helm while the regular master was at the chart table busy making entries in the vessel's log. In trying to correct the tug's position, a short distance from the tanker's bow, the trainee master initiated a manoeuvre that made the situation worse rather than correcting it. At about 2235, the tug's starboard stern was struck by the

1 All times are EDT (coordinated universal time [UTC] minus four hours) unless otherwise indicated.

"JADE STAR". The bulwark, the deck, and some frames were damaged.

The tug was observed from the tanker's wheelhouse passing from port to starboard. No vibration or sensation of a strike was felt, but, the next day, the ship's master reported that there had been contact without any damage to the tanker.

The accident was not reported to Marine Communication and Traffic Services (MCTS). The crew members of the "BROCHU" reported the damage to the operator the next day. At that time, no entry appeared in the vessel's log. The trainee master was not yet entered on the vessel's certificate, and, consequently, it was not his responsibility to report the damage and make the log entries.

Ninety-nine per cent of the ships calling at Port-Cartier are assisted by two water tractor tugs, the "VACHON" and the "BROCHU". Some of these tugs' masters have considerable experience with Voith-Schneider propellers, having even trained other ports' tug masters. However, the operator of the two Port-Cartier tugs has no program or directive for training its new masters. The training is provided by the regular masters, who each teach in his/her own way.

The "BROCHU" is fitted with two bridge control stations, one at each end of the wheelhouse. The master chooses the station from which he has a better view of what is going on astern. There is sufficient space around each of these control stations for the master to be able to move to fully assess the execution of manoeuvres.

In addition, tires are hung all round the tug to deaden the frequent blows that it sustains during towing operations. These tires helped to limit the extent of the damage.

Analysis

Approaching the bow of a ship under way to take the towline messenger is an operation demanding considerable skill and involves some risk. Constant attention is essential on the part of both the trainer and the trainee. During the operations leading to the occurrence, supervision and monitoring of the operations were inadequate.

The trainee master had never manoeuvred tugs propelled by a Voith-Schneider system. He had begun his tug training a few days before with various masters, each of whom seems to have his own way of executing manoeuvres. Some prefer to have the stern of the tug approach the ship and face astern in order to have a better view of the stern approaching the vessel to be assisted whereas others prefer to do the opposite. While approaching the bow of the "JADE STAR", the trainee master was forward of the controls facing astern of the tug. This unusual position for him probably contributed to what proved to be a hazardous manoeuvre.

The operator has a health and safety program for marine services but no training program for its new masters. An operating policy including a training program would have provided a better framework for the trainee master's training and might perhaps have helped to prevent this accident.

Findings

1. The Port-Cartier tugs are propelled by a Voith-Schneider system, which is very different from a conventional propeller-shaft system.
2. A trainee master was at the tug's controls during manoeuvres requiring good mastery.
3. The regular master responsible for training the trainee master was not ready to take over quickly.
4. In trying to correct the tug's position relative to the tanker's bow, the trainee master executed a manoeuvre that made the situation worse.
5. The tug was struck on the starboard stern and sustained some damage.
6. The operator does not have a training program for its new masters.

Causes and Contributing Factors

The tug "BROCHU" was struck by the ship that it was assisting during manoeuvres as it was preparing to take the towline messenger. The trainee master, who was at the tug's controls, did not have the necessary training to perform such a manoeuvre considering his lack of experience with the propulsion system. The regular master responsible for his training was not ready to take charge quickly.

Safety Action

As a result of this occurrence, the head of tug operations has developed a procedure to ensure more rigorous monitoring during the training of trainee masters. Training reports will help to ensure more gradual follow-up of the skills acquired by the candidates for the various types of manoeuvres.

This report completes the Transportation Safety Board's investigation into this occurrence. Consequently, the Board, consisting of Chairman Benoît Bouchard and members Maurice Harquail, Charles Simpson, and W.A. Tadros, authorized the release of this report of 7 August 1997.