

MARINE OCCURRENCE REPORT

DISCOVERY OF A LEAK

ON THE BULK CARRIER "DORADO"
IN SEPT-ÎLES BAY, ST. LAWRENCE RIVER, QUEBEC
18 OCTOBER 1995

REPORT NUMBER M95L0147

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

On 07 September 1995, the Cypriot bulk carrier "DORADO", loaded with iron ore, departed Sepetiba, Brazil, en route to Contrecoeur, Quebec. In the next few days, the crew discovered a leak in a ballast tank. On two occasions, rudimentary repairs were effected to plug the leak, but the crew was unable to stop it.

After unloading her cargo at Contrecoeur on 30 September 1995, the vessel proceeded to Port-Cartier, Quebec, where she loaded 28,500 tonnes of grain. On 18 October, the Canadian authorities inspected the hull of the "DORADO" and confirmed the presence of a leak.

Ce rapport est également disponible en français.

Other Factual Information

Particulars of the Vessel

Name	"DORADO"
Port of Registry	Limassol, Cyprus
Flag	Cypriot
Official Number	709542
Type	Bulk carrier
Gross Tonnage	18,443.04
Length	185.93 m
Draught	Forward: 10.01 m Aft: 10.78 m
Built	1974, Seville, Spain
Propulsion	One Sulzer engine, 8,496 kW
Crew	29
Owners	Marinepioneer Shipping Ltd. Nicosia, Cyprus

On 05 September 1995, the "DORADO" underwent an inspection considered essential by Brazilian authorities before any bulk iron ore is loaded at Sepetiba. A classification society other than that of the vessel determined that the vessel's seaworthiness was satisfactory. On 07 September, after loading 30,796 tonnes of iron ore, the vessel departed Sepetiba bound for Canada.

In the next few days, the crew discovered a leak in the No. 7 port ballast tank. On 22 September 1995, the vessel anchored at Five Fathom Hole off the coast of Bermuda to weld a doubling plate over the side shell plating.

When the vessel reported to the Vessel Traffic Centre upon entering Canadian waters on 27 September 1995, there was no mention of any damage.

After the cargo of ore was unloaded at Contrecoeur on 30 September, a second doubling plate was welded inside the No. 7 port ballast tank, in way of the plate that had been installed off Bermuda. The classification society was not informed of these rudimentary repairs.

The vessel proceeded to Port-Cartier, and on 13 October 1995, completed a load of 28,500 tonnes of grain. Meanwhile, Transport Canada was informed of the leak in the No. 7 port ballast tank. Transport Canada authorized the vessel to depart from Port-Cartier on condition that the vessel be anchored in Sept-Îles Bay.

On 18 October, an underwater inspection was performed in Sept-Îles Bay, where the classification society and Transport Canada discovered that a doubling plate had been welded on the port side shell plating in way of the No. 7 port ballast tank. An opening was made in the

forward bulkhead of the engine-room to provide access to the ballast tank. It was noted that the leak was caused by corrosion of the upper continuous weld of the bilge strake. After the leak was discovered by Transport Canada inspectors, the company stated that it had determined that the damage did not compromise the vessel's seaworthiness, and consequently, no detail regarding this occurrence had been recorded in the ship's log or the sounding log.

Subsequently, the classification society issued a Provisional Certificate of Class to the vessel on condition that the necessary repairs be performed after the unloading of the grain cargo at Recife, Brazil. Thereafter, on 19 October, Transport Canada authorized the "DORADO" to depart Sept-Îles Bay.

During a previous voyage in 1995, the vessel had developed a severe list to port between Matanzas, Venezuela, and Murmansk, Russia. After unloading was completed at Murmansk, a leak had been discovered in the No. 4 port ballast tank, and it was plugged under the supervision of the operator. However, within a few days, a leak was again reported in the ballast tank.

A little over a year earlier, the "DORADO" had been in similar circumstances while she was in Canada: on 19 April 1994, no damage was reported to Canadian authorities when the vessel entered territorial waters. On 21 April, the vessel arrived in lightship condition at berth No. 28 of the port of Québec, Quebec, to load grain for Libya. During the loading operation on 26 September, the Ship Safety Branch of Transport Canada was informed of a leak in the No. 4 starboard ballast tank.

The report indicated that when the vessel had called at New Orleans, Louisiana, in the spring of 1994, the services of a diver had been retained to stop a leak in the bottom shell plating in way of the No. 4 starboard ballast tank. The transverse fracture in the bottom shell plating had been plugged with packing, which was then covered with cement to form a coffer. The damages and repairs were not reported to the classification society in New Orleans, nor was the occurrence recorded in the ship's log.

Transport Canada stopped the grain loading operation although some of the ship's senior officers questioned the loss of seaworthiness. An underwater inspection performed in the presence of Transport Canada inspectors and the classification society revealed that the butt weld in way of frame 123½ on the starboard bottom shell plating was corroded and that packing material was leaking through the opening.

In the past, the Board has expressed concern that ships known to have serious operating defects are being granted clearance to enter

Canadian waters, posing a threat to lives, property and the environment. In its report on a similar 1990 occurrence, the Board recommended that, to effectively identify substandard ships and to take appropriate action at the time of the vessel's requesting clearance to enter Canadian waters :

The Department of Transport ensure that any information from Port State Control inspections be readily accessible by Vessel Traffic Services.

(M93-13 issued December 1993)

Transport Canada indicated that operating procedures would be reviewed by Canadian Coast Guard officials to ensure that relevant information held in Port State Control data banks would be accessible to the appropriate authorities to enable them to make informed decisions. Presently, officials from TC, CCG and TSB have set up an interdepartmental working group to exchange and share data, such as Port State Control related information.

Analysis

Although the company was required to comply with Regulation 11(c) of the SOLAS Convention, it did not report the leaks either to the classification society, which is responsible for issuing the relevant certificate, or to the authorities of the country in which the vessel was calling, ie. Transport Canada. In the abovementioned instances, the repairs performed under the supervision of the company did not produce the anticipated results.

As the vessel had been in service for some 20 years and most bulk carriers which sink are more than 15 years old, it was incumbent upon the company to be more vigilant with regard to the maintenance of this vessel and to report to the classification society any deficiency which could affect the vessel's seaworthiness. In two instances, it was determined that corrosion had contributed to the degradation of the hull, particularly to the deterioration of the welds in the shell plating.

In adopting the International Safety Management Code on 04 November 1993, the International Maritime Organization (IMO) encouraged companies to implement a safety management system at all levels of the company, both on-board ship and on shore. As the Code does not go into effect for bulk carriers until 1998, the IMO can only promote it at this time. Sound safety management ensures that a vessel is

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Although defects with the engine and propeller pitch control mechanism persisted, the master of the "RIO ORINOCO" did not mention them to VTS. Being unaware of the defects, ECAREG granted the "RIO ORINOCO" clearance to enter Canadian waters, and the vessel later grounded off Île d'Anticosti, Quebec, due to engine failure (TSB Report No. M90L3025).

maintained in compliance with regulatory requirements.

Contrary to the spirit of the Code, the company, on its own initiative, assessed the risks and significance of the leaks on the "DORADO". As it was considered that the damages did not compromise the vessel's seaworthiness, the occurrences were not recorded in the ship's official documents.

Inspections revealed that the damages were substantial enough to warrant the "DORADO" being dry-docked in 1994 to undergo major repairs.

The vessel held a number of inspection certificates which, while valid on their face, did not accurately reflect the vessel's compromised seaworthiness. The validity of the certificates is based on an agreement between the company and the classification society that issues the certificates. If either party does not fulfil its commitments, the inspection certificates are worthless and verification of these certificates under Port State Control is futile. If Canadian authorities had not been informed of the leaks on board the "DORADO", the loss of seaworthiness in these occurrences would have gone unnoticed.

Findings

1. The company considered that the leaks discovered by the crew did not compromise the vessel's seaworthiness.
2. As the classification society was not informed that the vessel had sustained damages, it did not supervise the repairs.
3. The repairs performed under the supervision of the company did not produce the anticipated results.
4. The damages and repairs were not recorded in the ship's official documents.
5. The leaks compromised the vessel's seaworthiness.
6. When the vessel entered Canadian waters on 27 September 1995, no deficiency was reported.
7. In the two occurrences in Canada, it was determined that welds in the shell plating were corroded.
8. The vessel's construction certificate did not accurately reflect the vessel's compromised seaworthiness.
9. The company had not implemented a safety management system.

10. The authorities and classification societies cannot promote a safety management system without company participation.

Causes and Contributing Factors

Leaks compromised the vessel's seaworthiness. Welding failure due to corrosion caused the leaks in the vessel's double-bottom tanks.

This report concludes the Transportation Safety Board's investigation into this occurrence. Consequently, the Board, consisting of Chairperson Benoît Bouchard, and members Maurice Harquail, Charles Simpson and W.A. Tadros, authorized the release of this report on 17 September 1997.