



REASSESSMENT OF THE RESPONSE TO MARINE SAFETY RECOMMENDATION M94-21

Warden surveys of cargo

Background

While the *Celine Metz* was outbound in the Gulf of St. Lawrence, under-deck cargo shifted when sea conditions caused the vessel to roll heavily. The vessel developed a list that the crew could not correct, and the master put back into port to secure the cargo. Before finally departing on the transatlantic passage, the vessel made a second return to port to rectify a less severe recurrence of the same problem.

The Board concluded its investigation and released report M91L3033 on 15 December 1994, having determined that the *Celine Metz* listed because the unsecured under-deck cargo had shifted.

Board Recommendation M94-21 (January 1995)

Regulation 5, Chapter VI of SOLAS, Stowage and securing, requires that:

Cargo and cargo units carried on or under deck shall be so loaded, stowed and secured as to prevent as far as practicable, throughout the voyage, damage or hazard to the ship and the persons on board, and loss of cargo overboard.

On 12 eastbound transatlantic voyages in 1991, the *Celine Metz* and her four sister ships had been loaded in the ports of Montréal and Québec in a similar manner to the occurrence voyage, with no special measures being taken to secure the under-deck cargo. There were no reports of cargo shifting on those voyages. Although the loading and securing arrangements were successful in the summer months, they were inadequate for winter conditions.

Stowage and securing of general cargo is expensive in terms of material and labour, and represents a significant operating cost. The securing methods that govern the trade are usually put into practice by longshoremen, such as marine carpenters from the local stevedoring company, under the supervision of the ship's superintendent of cargo operations (known as the supercargo), the ship's officers, and, most often, a marine cargo surveyor hired by the cargo owners or their underwriters.

The master had the final authority to approve the proposed stowage and securing plan prepared by the supercargo but, to save on labour costs, he declined to have the stevedores secure the under-deck cargo while the vessel was in port. The consequences of having unsecured cargo shifting in the hold while crossing the North Atlantic in December were underestimated.

Within the last 10 years, at least 66 occurrences of cargo shifting on board general cargo vessels were reported to Canadian authorities; 75 per cent of these occurred between the months of November and April. The month of December had the greatest number of reported cases, with 23. Of these 66 occurrences, 35 were related to deck cargo, and 25 involved under-deck cargo shifting at sea. (The six remaining occurrences involved unsecured cargo falling in the hold during loading operations in port.)

The *Canada Shipping Act* (CSA) requires port wardens to conduct inspections for cargoes of grain, timber on deck, and concentrates. On 12 January 1994, the Montreal Board of Trade decided to close its port warden office, leaving to the CCG the responsibility of ensuring safe cargo stowage on board vessels. However, loading and safe stowage of general cargoes are not subject to routine cargo surveys by CCG Ship Safety port wardens: it is the responsibility of owners and masters to ensure that their vessels are seaworthy and loaded safely at all times.

Given the frequency of marine occurrences involving shifting cargo and their potential consequences, the Board is concerned that general cargo vessels are granted clearance to cross the North Atlantic during winter months with inadequate loading and securing of under-deck cargo. Therefore, the Board recommends that:

The Department of Transport extend the role of Canadian Coast Guard port wardens to include the survey of the stowage and securing arrangements of under-deck cargo, as well as all types of deck cargo, on vessels departing Canadian ports.

TSB Recommendation M94-21

Board response to Recommendation M94-21 (April 1995)

The Minister of Transport does not accept the recommendation.

In accordance with Section 24 (6)(b) of the *Canadian Accident Investigation Safety Board Act* the recommendation is not accepted for the following reasons:

- Functions such as supervision of proper stowage of general cargo vessels are clearly the responsibility of the master and officers of such vessels, with help from private cargo surveyors with expertise in such areas.
- In accordance with the STCW, all vessels are required to carry certificated personnel.

Additionally, IMO has added the ISM Code to SOLAS which places further responsibility on a vessel's owner/operator. The recommendation made would appear to over-ride these international agreements.

The number of incidents in which this has been a problem appears to be insufficient in relation to the resources necessary to fulfil the recommendation. Therefore, a substantial investment in resources would only result in a very small improvement in safety. There have been approximately 5,600 foreign flag ships entering Canadian ports in past years and very few of them have had this problem.

The Canadian Coast Guard will, however, continue to exercise control over such matters of improper cargo stowage should a complaint be received about an unseaworthy ship or if it becomes apparent during a Port State Control inspection that a vessel is improperly loaded; the vessel may be detained until the ship has been properly stowed and secured.

Board assessment of the response to Recommendation M94-21 (July 1995)

The Department of Transport offers a number of reasons for not accepting the recommendation, the main one being that the supervision of proper stowage of general cargo vessels is the responsibility of the master and officers of such vessels. While the response does acknowledge a problem, it states that the number of accidents in which this has been a problem appears to be insignificant in relation to the resources necessary to fulfil the recommendation. Furthermore, the Department anticipates that the International Safety Management Code (ISM) adopted by the International Maritime Organization (IMO) in 1994 will place more responsibility on ship owners and management companies in facilitating, inter alia, safe loading and stowage of cargoes. However, these new measures for cargo vessels will not come into force for another seven years.

In the interim, Canadian Coast Guard (CCG) will continue to exercise control over improper cargo stowage should a complaint be received through Port State Control inspections. If a vessel is found to be improperly loaded, it may be detained until the cargo has been properly stowed and secured.

The reply has not indicated any new action with respect to the safe stowage of under-deck cargoes. However, the staff recognizes the Department's position with respect to the number of occurrences involving improperly stowed cargo and the substantial resources that would be required in order to achieve improvements.

In this light, the response is assessed as being **Satisfactory in Part**.

A port warden may carry out inspections for the purpose of examining the condition and stowage of grain cargo or deck cargo. This may include cargoes such as timber, grain and concentrates. Monitoring to be done through Port State inspections; however, PSC inspections do not call for inspections of under-deck cargoes. There are no regulations for inspections of other under-deck cargo. TC considers this recommendation closed.

Consequently, the Board assigned the deficiency file **Inactive** status.

Transport Canada's update concerning M94-21 (December 2014)

Under Transport Canada's current regulatory regime, section 104 of the Cargo, Fumigation and Tackle Regulations requires the master of a ship engaged on international voyage to comply with the provisions of SOLAS VI/5.6 with regards to cargo securing and having an approved Cargo Securing manual on board a vessel.

TC does not believe this is a widespread problem and cannot recall a recent incident being caused by the stowage of under deck cargo.

Marine Safety Inspectors carry out mandatory inspections of grain, concentrates and timber on deck cargoes and, in addition, on-spot inspections of containerized packaged dangerous goods as these are high risk cargoes. If sufficient grounds exist to believe that securing of any cargo on board a vessel is not in compliance with respective IMO requirements, then a Port State Control inspection could be expanded to check whether the ship's approved Cargo Securing Manual is being followed by the crew when securing the cargo.

General cargo does not belong to the high risk group. The master is ultimately responsible for safe stowage of cargo in accordance with the ship specific approved Cargo Securing Manual. Current inspection regime proved to be adequate and therefore adequate resources are allocated toward inspecting high risks cargoes.

Consequently, on 1 April 2015, the Board assigned the deficiency file **Active** status.

Transport Canada's response to Recommendation M94-21 (December 2015)

TC indicated that there was no update in 2015 to this recommendation.

Board reassessment of the response to Recommendation M94-21 (March 2016)

Between 1994, when this recommendation was issued, and 2015, there have been only 5 occurrences involving the stowage of underdeck cargo and only 2 occurrences involving on-deck cargo on general cargo vessels reported to the TSB. None of these occurrences resulted in casualties, pollution, or major damage to the vessel. The Board considers that the risk identified in recommendation M94-21 is low given the extent of the general cargo trade in Canada, the low frequency of occurrences, and the absence of significant consequences.

Considering the existing inspection regime, the requirements to follow an approved Cargo Securing Manual, and the low risk associated with this recommendation, the assessment of the response is deemed **Fully Satisfactory**.

This deficiency file is **Closed**.