



## Reassessment of the response to TSB Recommendation M94-06

### Water level detectors

#### Background

On 16 December 1990, while returning from fishing grounds in the Gulf of St. Lawrence in heavy weather, the *Nadine*, a 37-metre fishing vessel, listed to port and sank by the stern. Only two of the ten crew members survived.

The Board concluded its investigation and released report M90L3034 on 16 May 1994.

#### TSB Recommendation M94-06 (May 1994)

Concerned that delay in identifying and draining water from any compartment can jeopardize a vessel's seaworthiness, the Board recommended that

the Department of Transport require the installation of water level detectors in all compartments below the waterline on large fishing vessels.

#### TSB Recommendation M94-06

#### Transport Canada's response to Recommendation M94-06 (August 1994)

The Minister of Transport agrees with the recommendation. In accordance with the Ship Safety Regulatory Review Report, the *Large Fishing Vessel Regulations* are to be amended to give effect to the Torremolinos Convention. The bilge system will include requirements in the regulation for high water level detector alarms to be fitted in all compartments below the waterline. A draft of the proposed amendments to the regulations will be on a future agenda for discussion at a Canadian Coast Guard Marine Advisory Council meeting.

#### TSB assessment of Transport Canada's response to Recommendation M94-06 (January 1995)

As part of its review process for *Large Fishing Vessel Regulations*, Transport Canada (TC) will require high water level detector alarms to be fitted in all compartments below waterline. The proposed amendments to the regulations will be presented to the Canadian Coast Guard Marine Advisory Council meeting for discussion. The process of amending regulations involves several stages of time-consuming discussions with Canadian Coast Guard. While TC agrees with the

recommendation and has indicated action to address the deficiency, inadequate warning systems for high water levels will continue in the short term.

The response is considered **Satisfactory Intent**.

#### **Transport Canada's response to Recommendation M94-06 (August 2001)**

TC is concerned that any gains, which may be achieved by requiring the installation of water level detectors in all compartments below the waterline, may be offset because of practical problems regarding the physical protection of water level detector transducers and the subsequent potential for generating false alarms. TC has published a Ship Safety Bulletin (SSB#04-2000—Flooding Detection on Fishing Vessels) addressing this issue, on April 17, 2000, and intends to monitor compliance with the bulletin during inspections in order to ascertain if there is a need to re-assess this issue in the future.

#### **TSB reassessment of Transport Canada's response to Recommendation M94-06 (December 2005)**

SSB 04/2000 was issued in which TC strongly recommended that water detectors be fitted in all dry compartments. TC intends to monitor compliance with the bulletin during inspections in order to ascertain if there is a need to re-assess this issue and introduce a regulatory instrument in the future. Durability and reliability of water level detectors is a concern for TC. IMO is presently developing performance standards for detectors for bulk carriers. TC will examine these standards prior to initiating any regulatory action for small fishing vessels.

No substantial change to address the safety deficiency since the last reassessment.

#### **Transport Canada's response to Recommendation M94-06 (November 2006)**

TC's updated, dated November 2006, the International Maritime Organization is presently developing performance standards for water level detectors for bulk carriers. TC, in the course of developing the new *Large Fishing Vessel Regulations* in Phase 2 of Regulatory Reform will examine these standards and consider the development of a regulatory requirement to address the issue.

#### **TSB reassessment of Transport Canada's response to Recommendation M94-06 (November 2006)**

No substantial change to address the safety deficiency since the last reassessment. Therefore, the assessment remains at **Satisfactory Intent**.

#### **Transport Canada's response to Recommendation M94-06 (June 2008)**

TC's update, dated June 2008, indicated that as part of the Regulatory Reform Initiative, Transport Canada intends to merge the *Large Fishing Vessel Inspection Regulations* into the new *Fishing Vessel Safety Regulations* and will examine these standards and consider the

development of a regulatory requirement to address the issue. It is anticipated that pre-publication of the amendments to the *Large Fishing Vessel Inspection Regulations* in Part I of the Canada Gazette will be in the summer of 2011.

#### **TSB reassessment of Transport Canada's response to Recommendation M94-06 (September 2008)**

It is anticipated that the *Fishing Vessel Safety Regulations* will be published in Canada Gazette, Part I, in the winter/spring of 2009/2010 and will replace the *Small Fishing Vessel Inspection Regulations*. At that time, the FVSR will contain requirements for fishing vessels less than 24 metres in length. The next step will be to incorporate the requirements for fishing vessels more than 24 metres in length. No substantial change to address the safety deficiency since the last reassessment.

Therefore, the assessment of the response remains at **Satisfactory Intent**.

#### **Transport Canada's response to Recommendation M94-06 (March 2010)**

TC's update, dated March 2010, indicated that as part of the Regulatory Reform Project, TC intends to merge the *Large Fishing Vessel Inspection Regulations* into the proposed new *Fishing Vessel Safety Regulations*. At that time, TC will examine this standard and consider the development of a regulatory requirement to address the issue. There is no anticipated publication date for these amendments to the proposed new *Fishing Vessel Safety Regulations* at this time.

#### **TSB reassessment of Transport Canada's response to Recommendation M94-06 (July 2010)**

Ten occurrences involving large Canadian fishing vessels taking on water have been reported to the TSB since 2000. None of the vessels sank. At least one of the vessels was fitted with a high water bilge alarm; however, there was no information to indicate whether the other vessels were also fitted with such an alarm. Furthermore, there are about 157 large fishing vessels currently listed in the Canadian registry.

Given the proposed actions and that the safety risk is considered low, the assessment of the response remains at **Satisfactory Intent**.

#### **Transport Canada's response to Recommendation M94-06 (December 2014)**

Transport Canada will address the installation of water level detectors for large fishing vessels (more than 24 metres) as part of its review of the Large Fishing Vessel Inspection Regulations. TC is looking at incorporating the Cape Town Agreement of 2012 in its regulatory framework for the Canadian domestic fleet. This will include the development of requirements for large fishing vessels, including Canadian modifications as appropriate, to address Recommendation M92-05. Please note that there is no anticipated publication for these amendments at this time.

### Transport Canada's response to Recommendation M94-06 (December 2015)

Transport Canada reported that there was nothing to update in 2015.

### TSB reassessment of Transport Canada's response to Recommendation M94-06 (March 2016)

TC reported that there are 164 large fishing vessels listed in the Canadian registry as of 04 February 2016. It is unknown how many of these fishing vessels are fitted with bilge alarms. Although there is no specific regulation that requires the installation of water level detectors, the Cape Town Agreement of 2012 which updates and amends a number of provisions of the Torremolinos Protocol applying to fishing vessels over 24 metres specifically includes the requirement for high water level indicator alarms.

The risk of a large vessel sinking because of a lack of a high water level indicator is assessed as low. Given the proposed TC action to consider the incorporation of the Cape Town Amendment in the new proposed Fishing Vessel Safety Regulations and to assess compliance with Ship Safety Bulletin 4/2000, issued 07 July 2013, *Flooding Detection on Fishing Vessels*, the assessment of the response remains at **Satisfactory Intent**.

### Transport Canada's response to Recommendation M94-06 (December 2016)

TC is continuing its analysis towards incorporating the Cape Town Agreement of 2012, including Canadian modifications as appropriate, into its regulatory framework for Large Fishing Vessels.

### TSB reassessment of Transport Canada's response to Recommendation M94-06 (March 2017)

TC has indicated that it is continuing its analysis towards incorporation of the 2012 Cape Town Agreement into the regulations. This assessment has been going on for over 2 years and TC has not provided a target date for its completion.

There have been no recently reported occurrences where a large fishing vessel was taking on water and the crew was not aware of it because of the absence of a high water level alarm. However, the risk remains that delays in identifying and draining water from any compartment can jeopardize a vessel's seaworthiness and the safety of its crew.

It is recognized nationwide that the loss of life on fishing vessels is simply too great. The first phase of the new *Fishing Vessel Safety Regulations*, which applies only to small fishing vessels up to 24.4 m, has been published. These regulations will lower some of the risks associated with outstanding fishing safety deficiencies, but significant gaps remain such as the risk associated with this recommendation. Future phases of the fishing vessel regulations may address this outstanding issue for fishing vessels over 24.4 m, but this work has not progressed much even though this recommendation was issued in 1994. The Board is concerned about the protracted delays in addressing the underlying safety deficiency. Such extended delays have prompted the

TSB to add an item to its key safety issues Watchlist that calls for both TC and the Government of Canada to move towards an improved and accelerated process for taking action on TSB recommendations.

The reassessment of this response therefore is changed to **Unsatisfactory**.

#### **Transport Canada's response to Recommendation M94-06 (December 2017)**

TC agrees with the TSB that the risk is low considering there have been no recently reported occurrences where a large fishing vessel was taking on water and the crew was not aware of it because of the absence of a high water level alarm.

TC is focusing its work on Phase 2 of the FVSR (construction requirements for small fishing vessels.) TC is continuing analysis required to support Phase 3 of the FVSR which will incorporate the Cape Town Agreement of 2012, including Canadian modifications as appropriate, into the regulatory framework for large fishing vessels.

#### **TSB reassessment of Transport Canada's response to Recommendation M94-06 (March 2018)**

Phase 3 of the *Fishing Vessel Safety Regulations* (FVSR), which deals with the regulatory framework for large fishing vessels, is in the initial stage. As a result, gaps will remain until the risk associated with this recommendation is mitigated.

Although there have been no recently reported occurrences where a large fishing vessel was taking on water and the crew was not aware of it because of the absence of a high water level alarm, the risk remains. Delays in identifying and draining water from any compartment can jeopardize a vessel's seaworthiness and the safety of its crew.

In British Columbia, WorkSafeBC requires all fishing vessels, regardless of size or voyage, to be equipped with a sensor in the engine room and shaft tunnel or lazarette that sounds an alarm to warn of flooding or high water levels.

The Board is concerned about the protracted delays in addressing the underlying safety deficiency. Such extended delays have prompted the TSB to add an item to its key safety issues Watchlist that calls for both TC and the Government of Canada to move towards an improved and accelerated process for taking action on TSB recommendations.

The Board considers the response to the recommendation to be **Unsatisfactory**.

#### **Transport Canada's response to Recommendation M94-06 (January 2019)**

Transport Canada (TC) agrees in principle with the recommendation. Water level detectors in certain compartments may augment existing safety requirements; however, it is impractical to apply this requirement to all vessels as some compartments are designed to contain water.

TC is amending the regulations governing fishing vessels, the *Fishing Vessel Safety Regulations* (FVSR), in a phased-in approach to facilitate the implementation process and is considering the development of a regulatory requirement to address this recommendation during Phase 2 and Phase 3.

TC is continuing work on Phase 2, which addresses construction requirements for small fishing vessels and is targeted for pre-publication in the *Canada Gazette*, Part I, in June 2020. Stakeholders were consulted at the Fall National Canadian Marine Advisory Council (CMAC) 2018.

Analysis is continuing on Phase 3 of the FVSR and we aim to have it finalized in 2021. This phase will repeal the Large Fishing Vessel Inspection Regulations and will amend the Fishing Vessel Safety Regulations to incorporate the Cape Town Agreement of 2012 into the regulatory framework for large fishing vessels, including Canadian modifications as appropriate.

#### **TSB reassessment of Transport Canada's response to Recommendation M94-06 (February 2019)**

Transport Canada (TC) has indicated that this recommendation may be addressed by Phase 2 or Phase 3 of the *Fishing Vessel Safety Regulations* (FVSR). The Board is concerned that TC has not clearly committed to address this risk and, furthermore, Phases 2 and 3 of the FVSR are not scheduled to be completed until 2020 and 2021 respectively. As a result, the risk associated with this recommendation will persist. The Board is concerned about the protracted delays by TC in addressing this recommendation, since it was issued in 1994.

The Board considers the response to the recommendation to be **Unsatisfactory**.

#### **Transport Canada's response to Recommendation M94-06 (January 2020)**

Transport Canada (TC) agrees with this recommendation. TC has proposed amendments to the existing *Large Fishing Vessel Inspection Regulations* that would require the installation of water level detectors in all compartments below the waterline on all large fishing vessels. Consultation with industry on the proposed amendments to the *Large Fishing Vessel Inspection Regulations* took place at the Fall 2019 National CMAC. TC plans to include the proposed amendments in the MSS Regulatory Amendments Package, which is expected to be published in the *Canada Gazette*, Part I in Fall 2020.

#### **TSB reassessment of Transport Canada's response to Recommendation M94-06 (March 2020)**

In January 2019, Transport Canada (TC) indicated that this recommendation would be addressed by Phase 3 of the *Fishing Vessel Safety Regulations* when the *Large Fishing Vessel Regulations* (LFVR) are repealed. In the interim, TC is now proposing to amend the existing LFVR to incorporate a requirement for the installation of water level detectors in all compartments below the waterline on all large fishing vessels. The amendment to the LFVR is

expected to be published in the *Canada Gazette*, Part I in Fall 2020. This amendment, once implemented, would mitigate the risk associated with this safety deficiency.

The Board considers the response to the recommendation to show **Satisfactory Intent**.

#### **Transport Canada's response to Recommendation M94-06 (February 2021)**

Transport Canada agrees with this recommendation. In 2020, the department focused on drafting amendments to the *Large Fishing Vessel Inspection Regulations* which will require water level detectors to be fitted in all watertight compartments of large fishing vessels below the waterline not intended to carry liquids. These amendments will be published in the *Canada Gazette*, Part I, in spring 2021 with a 60-day comment period. Once the *Large Fishing Vessel Inspection Regulations* are amended, the safety deficiency associated with this recommendation will be mitigated.

#### **TSB reassessment of Transport Canada's response to Recommendation M94-06 (March 2021)**

The Board notes that the new *Large Fishing Vessel Inspection Regulations*, which are expected to be published in the *Canada Gazette*, Part I in spring 2021, will require large fishing vessels to be fitted with water level detectors in all watertight compartments below the waterline that are not intended to carry liquids. This amendment, once implemented, would mitigate the risk associated with this safety deficiency.

The Board considers the response to Recommendation M94-06 to show **Satisfactory Intent**.

#### **Transport Canada's response to Recommendation M94-06 (December 2021)**

Transport Canada agrees with this recommendation. In 2020, the department focused on drafting amendments to the *Large Fishing Vessel Inspection Regulations* which will require water level detectors to be fitted in all watertight compartments of large fishing vessels below the waterline not intended to carry liquids. In the spring 2021 (May 22, 2021), these amendments were pre-published in the *Canada Gazette*, Part I, with a 60-day comment period. One comment was received during the comment period, which did not require changes to be made to the Regulations. Additionally, one minor change following pre-publication in *Canada Gazette*, Part I was needed as a result of the new Vessel Safety Certificates Regulations being published in the *Canada Gazette*, Part II in June 2021. The final publication of this amendment in the *Canada Gazette*, Part II is targeting early 2022.

Once the *Large Fishing Vessel Inspection Regulations* are amended, the safety deficiency associated with this recommendation will be mitigated.

**TSB reassessment of Transport Canada's response to Recommendation M94-06  
(March 2022)**

The *Large Fishing Vessel Inspection Regulations*, published 02 March 2022, now require that large fishing vessels be fitted with water level detectors in all watertight compartments below the waterline that are not intended to carry liquids. The changes contained in these new regulations are expected to mitigate the risk associated with this safety deficiency.

Accordingly, the Board considers the response to Recommendation M94-06 to be **Fully Satisfactory**.

**Next TSB action**

This deficiency file is **Closed**.