



TSB Recommendation M16-01

Adequate stability information for crews of new and existing large fishing vessels

The Transportation Safety Board of Canada recommends that the Department of Transport establish standards for all new and existing large fishing vessels to ensure that the stability information is adequate and readily available to the crew.

Marine transportation safety investigation report	M15P0286
Date the recommendation was issued	14 December 2016
Date of the latest response	December 2022
Date of the latest assessment	March 2023
Rating of the latest response	Satisfactory in Part
File status	Active

Summary of the occurrence

On 5 September 2015, the fishing vessel *Caledonian* capsized 20 nautical miles west of Nootka Sound, British Columbia. At the time, the vessel was trawling for hake with 4 crew members on board. Following the capsizing, the master and mate climbed onto the overturned hull and remained there for several hours. When the vessel eventually sank, the master and mate abandoned it, and the mate swam toward and boarded the life raft. The Canadian Coast Guard subsequently rescued the mate and recovered the bodies of the master and the 2 other crew members.

The Board concluded its investigation and released report M15P0286 on 14 December 2016.

Rationale for the recommendation

Crews on fishing vessels need adequate stability information to enable them to determine safe operating limits. A fishing vessel may undergo major modifications at one or more times in its life, and it is always subject to many minor changes that accumulate over the years, contributing to changes in its lightship weight. These changes are not necessarily reflected in the vessel's stability calculations. The need for vessel crews to have easily understood, accessible, up-to-

date stability information that can be adapted to the operations at hand will help to ensure that day-to-day operations are conducted safely.

In order for fishing vessel stability information to be adequate to meet the needs of crew:

- the vessel must have had its stability assessed according to a recognized standard that is appropriate to its size and operation;
- the information from that assessment must be analyzed/interpreted to determine safe operating limits (such as draft/freeboard, appropriate maximum cargo loads, sequences for loading, lifting, and stowing of cargo and gear, and for managing fuel consumption);
- the operating limits must be easily measurable and relevant to the vessel's operation;
- the information must be presented in a manner and format that enables it to be clearly understood and easily accessible to crew while working onboard;
- the information must be maintained so that it is current, and reviewed and amended as necessary to reflect changes to the vessel and/or its operations. For example, if the vessel starts exceeding its draft or freeboard limits, the loading limits may need to be amended accordingly, or the reason for the change in draft (such as increased lightship weight) needs to be identified and rectified.

The *Caledonian* had a stability assessment and stability booklet prepared in 1976; however, the information in that booklet was outdated due to changes made to operational practices and an increase in the vessel's lightship weight that had accumulated over its 39 years of service. These factors reduced the vessel's freeboard and stability significantly, contributing to its capsizing and the loss of 3 lives.

Additionally, the *Caledonian's* stability booklet did not include an assessment of the effect of lifting bags of fish on deck with the boom, nor did it offer guidance or information sufficient to enable the assessment of load conditions that were different from those in the stability booklet. The basic information that was provided for this purpose was not in a user-friendly format and had not been interpreted to provide clear, safe operating limits.

The stability information available to the crew of the *Caledonian* was deemed to have met the applicable regulatory requirements. However, when compared against the elements of adequate stability information described above, only the requirement for the original stability assessment was fully satisfied.

The Canadian fishing vessel fleet includes about 145 vessels that are greater than 150 gross tonnage, like the *Caledonian*. They are regulated under the *Large Fishing Vessel Inspection Regulations* and are therefore required to undergo stability assessments and have stability booklets produced. However, these regulations do not address the regular monitoring of vessel lightship weight and do not include standards or guidelines to ensure that vessel-specific stability information is provided that is adequate for use by fishermen.

Therefore, the Board recommended that

the Department of Transport establish standards for all new and existing large fishing vessels to ensure that the stability information is adequate and readily available to the crew.

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Previous responses and assessments

March 2018: response from Transport Canada

Transport Canada agrees in principle with the recommendation. All new and existing large fishing vessels are required to have adequate stability information as is outlined below and must update it when the information changes. The standard practice for stability places the accountability on the master who is trained on stability issues to provide direction to the crew. Given the TSB's input, Transport Canada will consult with the large fishing vessel industry regarding the feasibility of requiring a stability notice or other means to make stability information more readily available to the crew. Consultations related to *Fishing Vessel Regulations* Phase 3, which will implement the IMO Cape Town Agreement, will provide a good opportunity to do this.

For the fishing vessel *Caledonian*, there was a discrepancy between the vessel's stability information and the actual operations and configuration of the vessel (lightship weight increase, tanks, net drum and trawl configuration changes and reduced freeboard). This may have been avoided had the requirements of the *Large Fishing Vessel Inspection Regulations* (LFVIR) and the recommendation in Ship Safety Bulletin (SSB) 01/2008 Fishing Vessel Safety: Record of Modifications, been followed by the vessel's authorized representative (AR).

Therefore, to remind vessel operators of their responsibilities, increase awareness, and foster compliance, TC will review and reissue SSB 01/2008. This bulletin will be updated and include emphasis on the importance of having accurate stability information and operational procedures. The revised bulletin will be re-issued in spring 2018.

New requirements, as well as potential changes to look and feel of stability information, will be considered for inclusion in the LFVIR to address this issue. This will be undertaken as part of the phased approach to changes to the regulations governing fishing vessels. Phase 1 is complete. Phase 2 (addressing construction requirements for small fishing vessels) is underway. Phase 3 (safety requirements for large fishing vessels) will begin once phase 2 is complete and will introduce the International Maritime Organization (IMO) Cape Town Agreement of 2012. In this context, TC will consider the mandatory requirement for a stability notice for large fishing vessels.

During any inspection conducted in accordance with requirements of the LFVIR, an inspector may review the vessel's stability information and require Authorized Representatives (AR) to comply with any observed nonconformities. Therefore:

- TC, when providing instructional information to inspectors/surveyors as part of its training program, will place renewed emphasis on this aspect of vessel inspection.
- In addition, a Flagstate.net instruction to inspectors/surveyors will be issued regarding the review of the Fishing Vessel Modification History (as detailed in SSB 01/2008) as part of the TC procedure for inspecting and monitoring fishing vessels. The Flagstate.net will be sent before the start of the next fishing season in spring 2018.

March 2018: TSB assessment of the response (Satisfactory Intent)

Transport Canada indicates that it agrees in principle with this recommendation. The TSB notes TC's proposed actions to consider requiring mandatory stability notices, to improve the look and feel of stability information, to reissue SSB 01/2008, and to renew emphasis on stability booklets during inspections.

If TC's actions collectively ensure that fishermen have access to stability information that is current and continually updated to reflect any changes to the vessel and/or its operations, and this information provides user-friendly safe operating limits (stability notices) to crew, then the identified safety issues will be addressed.

However, consultations between TC and the large fishing vessel industry have not yet begun regarding the feasibility of requiring a stability notice or other means to make stability information more readily available to crew and, therefore, the Board considers the response to the recommendation to show **Satisfactory Intent**.

January 2019: response from Transport Canada

Transport Canada (TC) agrees in principle with the recommendation. TC has revised Ship Safety Bulletin (SSB) 01/2008 – "Fishing Vessel Safety: Record of Modifications." This bulletin now includes emphasis on the importance of having accurate stability information and up-to-date operational procedures when modifications to the vessel are made as well as emphasis on obtaining stability notices. Accordingly the risk will be reduced as more owners of fishing vessels obtain stability notices for their vessels.

The bulletin is in the final publication phase and is expected to be made available in winter 2019.

A FlagState.net instruction to inspectors/surveyors will be issued following the publication of the SSB regarding the new Fishing Vessel Record of Modifications Affecting Stability form (detailed in the revised SSB 01/2008) as part of the TC procedure for inspecting and monitoring fishing vessels.

TC is currently reviewing its inspector training program. Once complete, TC will place renewed emphasis on this aspect of vessel inspection when providing instructional information to inspectors/surveyors.

New requirements, as well as potential changes to presentation requirements for stability information, will be considered as part of work on the *Fishing Vessel Safety Regulations* Phase 3 amendments for the *Large Fishing Vessel Inspection Regulations* in order to further address this issue.

TC has updated its fishing vessel safety webpages to provide information on how to obtain Stability Notice templates, which have been developed in an easy-to-use format. Samples of Stability Notices, including guidelines on how to complete the templates, have also been made available: <https://www.tc.gc.ca/eng/marinesafety/how-obtain-stability-notice-templates-instructions.html>.

March 2019: TSB assessment of the response (Satisfactory in Part)

The Board notes that Transport Canada (TC) has updated its website to include stability notice templates and guidelines for how to complete them. The Board also notes TC's proposed actions to consider requiring mandatory stability notices, to improve the look and feel of stability information, and to renew emphasis on stability booklets during inspections in the winter of 2019. Since TC's response, it has issued SSB 03/2019 to replace SSB 01/2008.

However, the Board is concerned that use of the stability notice templates and the Fishing Vessel Safety: Record of Modifications form is voluntary. Voluntary use of these forms may not be sufficient to reduce the risk that stability information is inadequate and not presented in a manner and format that enables it to be clearly understood and easily accessible to crew while working onboard.

Consultations between TC and the large fishing vessel industry are not scheduled to begin until after Phase 2 of the new *Fishing Vessel Safety Regulations* work is complete. TC indicates that Phase 2 work is ongoing and targeted for pre-publication in the *Canada Gazette*, Part I, in June 2020.

The Board considers the response to the recommendation to be **Satisfactory in Part**.

January 2020: response from Transport Canada

Transport Canada (TC) agrees with the recommendation. At present, the *Large Fishing Vessel Inspection Regulations* do not include requirements for Stability Notices and Records of Modifications, therefore TC is only able to recommend their use on a voluntary basis. New requirements, as well as potential changes to presentation requirements for stability information, will be considered under Phase 3 of the *Fishing Vessel Safety Regulations* and in amendments to the *Large Fishing Vessel Inspection Regulations* in order to further address this issue. Phase 3 will begin following the completion of Phase 2, which is planned before the end of 2021.

March 2020: TSB assessment of the response (Satisfactory in Part)

The Board notes that Transport Canada (TC) has issued Ship Safety Bulletin (SSB) 03/2019, which is applicable to fishing vessels that are not more than 24.4 m in length and not more than 150 gross tonnage and highlights relevant sections of the *Fishing Vessel Safety Regulations* (FVSR). However, because new requirements and potential changes to the presentation requirements for stability information will only be considered in Phase 3 of the FVSR and in amendments to the *Large Fishing Vessel Inspection Regulations* (LFVIR), the obligations outlined in the SSB are not enforceable at present. TC can only recommend that all large fishing vessels have a stability notice in place for the safety of the vessel and crew.

Consultations between TC and the large fishing vessel industry are not scheduled to begin until after Phase 2 of the new *Fishing Vessel Safety Regulations* work is complete. TC indicates that Phase 2 work is ongoing and is targeted for pre-publication in the *Canada Gazette*, Part I, in June 2020. Phase 3 of the FVSR and amendments to the LFVIR will begin following the completion of Phase 2, planned before the end of 2021.

The Board considers the response to the recommendation to be **Satisfactory in Part**.

February 2021: response from Transport Canada

Transport Canada agrees with this recommendation. Currently, the *Large Fishing Vessel Inspection Regulations* (LFVIR) do not include requirements for Stability Notices and Records of Modifications, therefore the department is only able to recommend their use on a voluntary basis. New requirements, as well as potential changes to presentation requirements for stability information, will be considered under Phase 3 of the *Fishing Vessel Safety Regulations* and in amendments to the *Large Fishing Vessel Inspection Regulations* in order to further address this issue. Work on Phase 3 will begin following the completion of Phase 2. Phase 2 of the *Fishing Vessel Safety Regulations* is targeted for pre-publication in the *Canada Gazette*, Part I, in early 2022.

March 2021: TSB assessment of the response (Satisfactory in Part)

The Board notes that the new requirements and potential changes to presentation requirements for stability information will be considered under Phase 3 of the *Fishing Vessel Safety Regulations* (FVSR) and in amendments to the *Large Fishing Vessel Inspection Regulations* (LFVIR). Phase 3 of the FVSR and amendments to the LFVIR will begin following the completion of Phase 2, which is targeted for pre-publication in the *Canada Gazette*, Part I, in early 2022. The Board is concerned that progress on this recommendation will not begin for several years. While TC agrees with the recommendation, delays continue, including the repeated delays to the publication schedule and the lack of a target date for completion of Phase 3 of the FVSR. Large fishing vessel crews still do not have easily understandable, accessible, and up-to-date stability information, that can be adapted to the operations at hand and that will help ensure their day-to-day operations are conducted safely.

As an interim measure, the Board acknowledges that TC has issued Ship Safety Bulletin (SSB) 03/2019, which highlights requirements in the FVSR for small fishing vessels to prepare and post stability notices, and recommends voluntary adoption by all fishing vessels regardless of length or tonnage. However, because new requirements and potential changes to the requirements for the presentation of stability information will only be considered in Phase 3 of the FVSR and in amendments to the Lfvir, the obligations outlined in the SSB are not enforceable at present.

The Board considers the response to Recommendation M16-01 to be **Satisfactory in Part**.

December 2021: response from Transport Canada

Transport Canada agrees with this recommendation. Currently, the *Large Fishing Vessel Inspection Regulations* (Lfvir) do not include requirements for Stability Notices and Records of Modifications, therefore the department is only able to recommend their use on a voluntary basis. New requirements for large fishing vessels, as well as potential changes to presentation requirements for stability information, will be considered under Phase 3 of the *Fishing Vessel Safety Regulations* and in amendments to the *Large Fishing Vessel Inspection Regulations* in order to further address this issue. Work on Phase 3 will begin following the completion of Phase 2. Phase 2 of the *Fishing Vessel Safety Regulations* is targeted for pre-publication in the *Canada Gazette*, Part I, in late 2022/early 2023, with *Canada Gazette* publication in late 2023.

March 2022: TSB assessment of the response (Satisfactory in Part)

The Board notes that the new requirements and potential changes to presentation requirements for stability information will be considered under Phase 3 of the *Fishing Vessel Safety Regulations* (FVSR) and in amendments to the *Large Fishing Vessel Inspection Regulations* (Lfvir). Transport Canada (TC) indicates that work on Phase 3 will begin after the completion of Phase 2, which is now targeted for publication in the *Canada Gazette*, Part II, in late 2023.

The Board also notes that, although mandatory provisions of adequate and readily available stability information will be considered under Phase 3 of the FVSR development, TC has encouraged all fishing vessels, regardless of size, to adopt the requirements in Ship Safety Bulletin 03/2019. However, the success of encouraging voluntary compliance with these requirements in an effort to mitigate the underlying safety deficiency is unknown.

The Board considers the response to Recommendation M16-01 to be **Satisfactory in Part**.

Latest response and assessment

December 2022: response from Transport Canada

As noted, Phase 3 of the *Fishing Vessel Safety Regulations* (FVSR), targeted to approximately 125 registered large fishing vessels (more than 24.4m or 150 GT) will begin once Phase 2, targeted to approximately 20,000 registered small fishing vessels, is complete. Phase 3 will introduce a new regulatory framework for large fishing vessels that will align, where possible, with the

Cape Town Agreement (CTA) including specific references to stability as outlined in Part B, Chapter 2, Section 2.1 of the *International Code on Intact Stability, 2008* (2008 IS CODE), adopted by the Maritime Safety Committee of the International Maritime Organization (IMO) by resolution MSC.267(85) and the Code of practice concerning the accuracy of stability information for fishing vessels, adopted by IMO by resolution MSC.267(85).¹

Transport Canada notes that inspection provisions for fishing vessels are included in the revised *Canadian Vessel Plan Approval and Inspection Standard* (TP 15456) released in October 2022. These provisions cover verification of vessels requiring a stability assessment to have a copy of the stability booklet on board, to post the stability notice in a conspicuous location, and to meet the requirements of FVSR Part 0.1 Division 3, Sections 3.51 and 3.52.

Transport Canada continues to encourage voluntary compliance with Ship Safety Bulletin 03/2019 through its ongoing linkages and partnerships with industry and the Department of Fisheries and Oceans and Canadian Coast Guard.

March 2023: TSB assessment of the response (Satisfactory in Part)

Transport Canada's (TC) response indicates that work on Phase 3 of the *Fishing Vessel Safety Regulations* (FVSR) will begin after the completion of Phase 2, which is still targeted for publication in the *Canada Gazette*, Part II, in Fall 2023. Phase 3, which will address large fishing vessels, will be aligned with the *Cape Town Agreement* (CTA) and the *International Code on Intact Stability, 2008* (2008 IS CODE). TC also highlights its publication of the *Canadian Vessel Plan Approval and Inspection Standard* - TP 15456 in October 2022. The department also notes that it continues to encourage vessel owners to comply with Ship Safety Bulletin (SSB) 03/2019.

The Board notes that Phase 3 of the FVSR will consider the requirements for stability notices on large fishing vessels. However, there have been delays to the publication schedule for Phase 2 of the FVSR and there continues to be a lack of a target date for completion of Phase 3. In addition, although TC has implemented guidance for inspectors in TP 15456, it does not expand requirements that would help mitigate the underlying safety deficiency. The Board is encouraged that TC continues to promote voluntary adoption of adequate and readily available stability information through SSB 03/2019, however the rate of voluntary compliance with these requirements is unknown.

The Board considers the response to Recommendation M16-01 to be **Satisfactory in Part**.

File status

The TSB will continue to monitor the progress made by Transport Canada.

¹ All responses are those of the stakeholders to the TSB in written communications and are reproduced in full. The TSB corrects typographical errors in the material it reproduces without indication but uses brackets [] to show other changes or to show that part of the response was omitted because it was not pertinent.

This deficiency file is **Active**.