



SUB-COMMITTEE ON STANDARDS OF
TRAINING AND WATCHKEEPING
37th session
Agenda item 14

STW 37/14
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**REVIEW OF OPERATIONAL AND TRAINING REQUIREMENTS FOR THE
REVISION OF THE INTACT STABILITY CODE**

Outcome of SLF 48

Note by the Secretariat

SUMMARY

Executive summary: This document provides information on the review of the operational and training requirements for the revision of the Intact Stability Code as referred by SLF 48

Action to be taken: Paragraph 4

Related documents: MSC 80/24 and SLF 48/21

1 The Maritime Safety Committee (MSC), at its eightieth session (11 to 20 May 2005), agreed as requested by SLF 47, to include in the Sub-Committee's work programme and provisional agenda for STW 37, a new high priority item on "Review of the operational and training requirements for the revision of the Intact Stability Code", with a target completion date of 2006.

2 The Sub-Committee on Stability and Load Lines and on Fishing Vessels Safety, at its forty-eighth session (12 to 16 September 2006), agreed that Part B, chapter 5 (Operational provisions against capsizing) of the draft revised Intact Stability Code should be referred to the STW Sub-Committee for its review and comments from an operational perspective and for possible use in its development of relevant guidelines relating to training of seafarers (SLF 48/21, paragraph 4.20).

3 To assist the Sub-Committee to review and comment from an operational perspective, the relevant text of the draft Code is set out in annex.

Action requested of the Sub-Committee

4 The Sub-Committee is invited to take the above information into account and decide as appropriate.

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ANNEX

INTACT STABILITY CODE

Text of chapter 5 referred to the Sub-Committee by SLF 48

Chapter 5 – Operational provisions against capsizing

5.1 General precautions against capsizing

5.1.1 Compliance with the stability criteria does not ensure immunity against capsizing, regardless of the circumstances, or absolve the master from his responsibilities. Masters should therefore exercise prudence and good seamanship having regard to the season of the year, weather forecasts and the navigational zone and should take the appropriate action as to speed and course warranted by the prevailing circumstances.²³

5.1.2 Care should be taken that the cargo allocated to the ship is capable of being stowed so that compliance with the criteria can be achieved. If necessary, the amount should be limited to the extent that ballast weight may be required.

5.1.3 Before a voyage commences, care should be taken to ensure that the cargo, cargo handling cranes and sizeable pieces of equipment have been properly stowed or lashed so as to minimize the possibility of both longitudinal and lateral shifting, while at sea, under the effect of acceleration caused by rolling and pitching.²⁴

5.1.4 A ship, when engaged in towing operations, should possess an adequate reserve of stability to withstand the anticipated heeling moment arising from the tow line without endangering the towing ship. Deck cargo on board the towing ship should be so positioned as not to endanger the safe working of the crew on deck or impede the proper functioning of the towing equipment and be properly secured. Tow line arrangements should include towing springs and a method of quick release of the tow.

5.1.5 The number of partially filled or slack tanks should be kept to a minimum because of their adverse effect on stability. The negative effect on stability of filled pool tanks should be taken into consideration.

5.1.6 The stability criteria contained in Part A chapter 2 set minimum values, but no maximum values are recommended. It is advisable to avoid excessive values of metacentric height, since these might lead to acceleration forces which could be prejudicial to the ship, its complement, its equipment and to safe carriage of the cargo. Slack tanks may, in exceptional cases, be used as a means of reducing excessive values of metacentric height. In such cases, due consideration should be given to sloshing effects.

5.1.7 Regard should be paid to the possible adverse effects on stability where certain bulk cargoes are carried. In this connection, attention should be paid to the IMO Code of Safe Practice for Solid Bulk Cargoes.

²³ Refer to the Guidance to the master for avoiding dangerous situations in following and quartering seas (MSC/Circ.707).

²⁴ Refer to the Guidelines for the preparation of the Cargo Securing Manual (MSC/Circ.745).

5.2 Operational precautions in heavy weather

5.2.1 All doorways and other openings, through which water can enter into the hull or deckhouses, forecastle, etc., should be suitably closed in adverse weather conditions and accordingly all appliances for this purpose should be maintained on board and in good condition.

5.2.2 Weathertight and watertight hatches, doors, etc., should be kept closed during navigation, except when necessarily opened for the working of the ship and should always be ready for immediate closure and be clearly marked to indicate that these fittings are to be kept closed except for access. Hatch covers and flush deck scuttles in fishing vessels should be kept properly secured when not in use during fishing operations. All portable deadlights should be maintained in good condition and securely closed in bad weather.

5.2.3 Any closing devices provided for vent pipes to fuel tanks should be secured in bad weather.

5.2.4 Fish should never be carried in bulk without first being sure that the portable divisions in the holds are properly installed.

5.3 Ship handling in heavy weather

5.3.1 In all conditions of loading necessary care should be taken to maintain a seaworthy freeboard.

5.3.2 In severe weather, the speed of the ship should be reduced if propeller emergence, shipping of water on deck or heavy slamming occurs.

5.3.3 Special attention should be paid when a ship is sailing in following, quartering or head seas because dangerous phenomena such as parametric resonance, broaching to, reduction of stability on the wave crest, and excessive rolling may occur singularly, in sequence or simultaneously in a multiple combination, creating a threat of capsize. A ship's speed and/or course should be altered appropriately to avoid the above mentioned phenomena.²⁵

5.3.4 Reliance on automatic steering may be dangerous as this prevents ready changes to course which may be needed in bad weather.

5.3.5 Water trapping in deck wells should be avoided. If freeing ports are not sufficient for the drainage of the well, the speed of the ship should be reduced or the course changed, or both. Freeing ports provided with closing appliances should always be capable of functioning and are not to be locked.

5.3.6 Masters should be aware that steep or breaking waves may occur in certain areas, or in certain wind and current combinations (river estuaries, shallow water areas, funnel shaped bays, etc.). These waves are particularly dangerous, especially for small ships.

²⁵ Refer to the Guidance to the master for avoiding dangerous situations in following and quartering seas (MSC/Circ.707).

5.3.7 In severe weather, the lateral wind pressure may cause a considerable angle of heel. If anti-heeling measures (e.g., ballasting, use of anti-heeling devices, etc.) are used to compensate for heeling due to wind, changes of the ship's course relative to the wind direction may lead to dangerous angles of heel or capsizing. Therefore, heeling caused by the wind should not be compensated with anti-heeling measures, unless, subject to the approval by the Administration, the vessel has been proven by calculation to have sufficient stability in worst case conditions (i.e., improper or incorrect use, mechanism failure, unintended course change, etc.). Guidance on the use of anti-heeling measures [shall][should] be provided in the stability booklet.

5.3.8 Use of operational guidelines for avoiding dangerous situations in severe weather conditions or an on board computer based system is recommended. The method should be simple to use.

5.3.9 High-speed craft should not be intentionally operated outside the worst intended conditions and limitations specified in the relevant certificates, or in documents referred to therein.
