



SUB-COMMITTEE ON STANDARDS OF
TRAINING AND WATCHKEEPING
35th session
Agenda item 8

STW 35/8/1
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MEASURES TO PREVENT ACCIDENTS WITH LIFEBOATS

Note by the Secretariat

SUMMARY

<i>Executive summary:</i>	This document provides the details referred to the Sub-Committee by DE 46 for comments
<i>Action to be taken:</i>	Paragraph 4
<i>Related documents:</i>	DE 46/23 and DE 46/9, annex

1 The Sub-Committee on Design and Equipment at its forty-sixth session considered and agreed on the following list of issues for referral to STW 35:

- .1 generally consider improvements in safety training regarding maintenance of lifeboats and associated equipment and safe practices during lifeboat drills with regard to lifeboat accidents and the outcome of DE 46, taking into account document DE 46/9;
- .2 consider relevant improvement of safety training, facilitating an alternative to on-board training as relevant for free-fall lifeboats, as included in the proposed amended regulation III/19.3.3.4;
- .3 develop means of recording participation in free-fall launches;
- .4 consider shore-based training as an alternative to on-board training with lifeboats in general; and
- .5 submit relevant draft amendments to MSC 78 for approval with a view to adoption.

2 To assist the Sub-Committee in its deliberations, the text relating to the consideration of improvements in safety training regarding maintenance of lifeboats and associated equipment and safe practices during lifeboat drills with regard to lifeboat accidents, as discussed at DE 46, is given at annex 1.

3 The draft text of the proposed amended SOLAS regulation III/19.3.3.4 as developed by DE 46 is given at annex 2.

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Action requested of the Sub-Committee

4 The Sub-Committee is invited to consider the information provided and take action as appropriate.

ANNEX 1

GUIDANCE ON SAFETY DURING ABANDON SHIP DRILLS AND FIRE DRILLS ON BOARD SHIPS*

(Extract from DE 46/9)

1 GENERAL

1.1 Accidents during abandon ship drills and fire drills

In recent years, the shipping industry has experienced an unacceptable number of serious accidents during abandon ship drills and fire drills. The purpose of this guidance is to provide advice and instructions that may help prevent accidents during drills.

1.2 Statutory basis for drills

Regular abandon ship drills and fire drills are prescribed by the International Convention for the Safety of Life at Sea, 1974, as amended (SOLAS), regulations III/19 and III/30. In addition, regulations II-1/24 and II-2/15 contain provisions on drills. In Denmark, the provisions have been implemented in the same chapters and regulations of Notice B from the Danish Maritime Authority. Similar rules for ships not covered by SOLAS are found in the national rules applying to the relevant type of ship.

1.3 Drill frequency

Experience has shown that more drills than required by SOLAS are held on Danish passenger ships. This is positive and generally furthers the aim of drills, in that the crew gain experience in the use of the safety equipment and in cooperation. The ability to cope with an emergency and handle the situation if the ship needs to be abandoned or a fire needs to be extinguished is well rehearsed. During drills, it is also checked that the equipment is in place and in good working order, ready for use. There will, however, be elements of drills that should be carried out only at the intervals required, as described in the guidelines below.

1.4 Drills must be safe

Abandon ship drills and fire drills are covered by the provisions on occupational safety and health on board ships and should be planned, organised and performed so that they are safe in every respect.

Musters, lifeboat and fire-fighting drills and drills prescribed by national laws and regulations and by international instruments shall be conducted in a manner that minimises the disturbance of rest periods and does not induce fatigue.

* This is a translation of the Danish Guidelines on safety during abandon ship drills and fire drills on board ships (Danish Maritime Authority's guidance No. 5 of 22 November 2002). Only the Danish version is authentic.

1.5 Maintenance of safety equipment

The safety equipment should be checked and maintained in accordance with the manufacturer's instructions, and observing all the precautionary measures necessary. It is important to check the conditions of the equipment. Abnormal conditions of wear and tear or corrosion should be reported to the master immediately.

1.6 Emphasis on learning

Drills should be carried out at safe speed. During drills, emphasis should be placed on learning so that everybody gets familiar with their duties and with the equipment. This includes the ability to be able to launch lifeboats and liferafts quickly in an emergency. If necessary, pauses should be held during the drills to explain especially difficult elements of drills. The time limits set out in SOLAS for, for example, the launching of a rescue boat or a fast-rescue-boat (FRB) are to be regarded as design criteria for boats and their launching arrangements and not as a requirement for every drill. The experience of the crew is an important factor in determining how fast a drill or certain drill elements should be carried out.

1.7 Planning and organising drills

SOLAS requires that drills shall, as far as practicable, be conducted as if there were an actual emergency¹. This means that the entire drill should, as far as possible, be carried out. The point is that, at the same time, it must be ensured that the drill can be carried out in such a way that is safe in every respect. Consequently, elements of the drill that may involve unnecessary risks need special attention or may be excluded from the drill.

The lowering of a boat with its full complement of persons or the sliding down or through a Marine Evacuation System (MES) are examples of elements of drills that may – depending on the circumstances – involve an unnecessary risk. Such elements of drills should only be carried out if special precautions are observed and, if necessary, left out of the drill. Nevertheless, the importance of drills must be maintained.

1.8 IMO initiatives

The International Maritime Organization (IMO) has placed the issue of safer drills on its agenda and is expected to finalize guidelines and measures that will make abandon ship drills safer in 2004. Until IMO has developed such guidelines, the Danish Maritime Authority recommends that the following precautions and recommendations be followed as a temporary measure.

2 ABANDON SHIP DRILLS

Lifeboats, liferafts, MES systems, rescue boats and FRBs are, in general, safe life-saving appliances that do not constitute any significant safety risk if they are maintained and operated correctly. However, certain elements of drills require special attention in order to avoid accidents.

¹ SOLAS, regulation III/19.3.1
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2.1 Guidance to the ship owner

The ship owner should ensure that new safety equipment on board the company's ships has been approved in accordance with the technical regulation on marine equipment and that it is installed correctly.

Procedures for holding safe drills should be based on the Safety Management System (SMS) of the shipping companies. Detailed procedures for elements of drills that involve a special risk should be evident from workplace assessments adjusted to the relevant life-saving appliance.

Personnel carrying out maintenance and repair work on lifeboats should be qualified for this.

2.2 Guidance to the master

IMO has recommended that Port State Control (PSC) officers² should not insist that boats be launched during a Port State Control inspection if the master of the ship finds it unsafe under the prevailing circumstances. Drills should always be organised so that all safety requirements are fulfilled, also when the drill is carried out upon the request of a PSC officer. If the master in addition assesses that a given element of a drill cannot be arranged so that this requirement is fulfilled, the master should leave out that element of a drill.

It is important that the crew who operate safety equipment on board are familiar with the functioning and operation of such equipment. SOLAS, regulations III/35 and III/36, requires that sufficiently detailed training manuals and instructions be carried on board, which should be easily understood by the crew. Such manuals and instructions should be accessible for everyone on board and observed closely during drills.

In connection with surveys carried out in accordance with technical regulation no. 6 of 26 August 1999 on ro-ro passenger ships and high-speed craft, the Danish Maritime Authority will inform the relevant countries of the content of this guidance.

2.3 Guidance for both the master and the crew

Training in the use of the safety equipment should include instructions pertaining to personal safety, including issues to which particular attention should be paid, the use of personal protective equipment, etc.

Some elements of drills can be risky. Particular caution should be exercised in connection with such risky elements and, if they cannot be carried out in another way that is in every respect acceptable from a health and safety perspective, personal protective equipment should be used. If necessary, risky elements should be entirely left out at the master's discretion.

The crew should make themselves familiar with the ship's training manuals and instructions and should follow closely the instructions given by the responsible officers. Particular caution should be exercised when carrying out risky elements of a drill and especially when drills are carried out with lifeboats, launching arrangements, fast-rescue-boats and means of rescue.

² MSC/Circ. 1016, Application of SOLAS reg. III/26 concerning FRB and means of rescue (MOR) systems on ro-ro passenger ships.

Below follows examples of particularly risky elements of drills and suggestions for precautions to be taken:

2.4 Lifeboats lowered by means of wires

Where lifeboats are placed in a high position above the water, they should be lowered and recovered without persons on board and, when it has been ascertained that the arrangement functions correctly, the boat should be lowered to the water with only the number of persons on board necessary to operate the boat. The drill should take place only in protected waters in calm weather and sea.

In MSC/Circ.1049, dealing with accidents with lifeboats, IMO has identified the following causes of accidents, to which special attention should be paid on board:

1. failure of on-load release mechanism;
2. inadvertent operation of on-load release mechanism;
3. inadequate maintenance of lifeboats, davits and launching equipment;
4. communication failure;
5. lack of familiarity with lifeboats, davits, equipment and associated controls;
6. unsafe practices during lifeboat drills and inspections; and
7. design faults other than on-load release mechanism.

The Danish Maritime Authority will make concerted efforts within the framework of IMO to ensure that, in the future, life-saving appliances are manufactured in such a way that fail-safe operation is achieved.

2.5 Rescue boat and FRB

The principles for the launching of lifeboats also apply to rescue boats and FRBs, i.e. where the boats are placed in a high position, they should be lowered and recovered without persons on board and, when it has been ascertained that this functions correctly, the boat is lowered with no more persons on board than what is necessary to operate the boat. The drill should take place only in calm weather in protected waters.

If, during a drill, the master assesses that a rescue boat or FRB has to be launched while the ship is making headway, the correct use of a painter is important. In such cases, the crew of rescue boat and FRB should wear immersion suits or anti-exposure suits during drills.

There is no requirement that the hook for boats launched by a single fall be fitted with an on-load release. Accordingly, a simple cargo hook with a safety latch is recommended for such boats.

2.6 Free-fall lifeboats

The monthly drills with lifeboats for free-fall launching should be carried out so that the persons who are to enter the boat in an emergency are trained in how to embark the boat, to take their seats in a correct way and to use the safety belts; and also instructed in how to act during launching into the sea. Subsequently, the boat should be disembarked. The boat should not be released for

free-fall. The release system, etc. should be tested by the responsible person on board with a short wire fitted so that the boat moves only a few centimetres down the ramp. The type of wire and its fastening are to be in accordance with the manufacturer's instructions, and the wire should be fitted only in connection with drills and maintenance work.

SOLAS regulation III/19.3.3.4 requires that lifeboats for free-fall launching be launched by free-fall every six months with its assigned operating crew on board. During such launching, only the persons who are to manoeuvre the boat in the water should be on board.

The same SOLAS regulation gives the Administration a possibility of extending the interval between the launching of lifeboats by free-fall to 12 months provided that an arrangement is provided for simulated launching every six months. **The Danish Maritime Authority hereby grants Danish ships an extension of the intervals between the launching of lifeboats by free-fall to 12 months provided that a simulated launching is carried out at least every six months.** Such simulated launching should be carried out according to the manufacturer's instructions and without any persons on board.

2.7 MES systems (chutes and slides)

Drills may be carried out using specially designed installations ashore.

The drills on board the ship should include the procedures to be followed in the event the system is to be launched. The system should be released only exceptionally. In general, persons should not be sent down slides or chutes. Such drills should be carried out using an installation ashore.

2.8 Davit-launched liferafts

During drills with davit-launched liferafts, no persons should be on board the liferaft while it is suspended from its wire fall over the ship's side. It should be considered using a dummy raft, such as an empty liferaft container fitted with the lines necessary for the drills. By means of such a raft, it is possible to train the operation of the crane, hook, lines, etc.

3 FIRE DRILLS

Fire drills have caused accidents, and for this reason all elements involving unnecessary risks should be left out of such drills. Here are some examples:

- When watertight doors are closed, there might be a risk of persons getting jammed in the doors that are closing with great force. For this reason, watertight doors should not be closed by means of remote control during drills.
- The remote controlled release of fire doors can also involve a risk of personal injury. Before fire doors are remote released, a warning hereof should, insofar as possible, be announced on the public address system.
- Some ships are provided with an arrangement for the recovery of a hoist stretcher, for example from the pump room. Training of the recovery of a hoist stretcher should be carried out without persons on the stretcher. A similar load can be used instead.

- Darkening the glass of the smoke-helmet can, for example, simulate reduced visibility caused by smoke. This makes it possible for a person who can see to walk next to the fire-fighter with reduced visibility and interfere if the fire-fighter is about to get into trouble.

ANNEX 2**PROPOSED DRAFT AMENDMENTS TO SOLAS REGULATION III/19.3.3.4**

Replace existing SOLAS regulation III/19, paragraph 3.3.4 with the following:

“3.3.4 Lowering into the water, rather than launching of a lifeboat arranged for free-fall launching is acceptable where free-fall launching is impracticable, provided that:

- .1 arrangements are made for simulated launching according to the manufacturer’s instructions, which will take place at intervals of not more than 3 months; and
- .2 all crew members have participated in a free-fall launch within the last 18 months.

Each free-fall lifeboat must be manoeuvred in the water by its assigned operating crew at least every six months.”
