FIRE AND ABANDON SHIP DRILLS

Technical Notice SLS.5 Rev.1

Notice to Shipowners, Ship Operators, Managers, Masters,
Owners' Representatives and Recognised Organisations

Fire and Abandon Ship Drills onboard all Maltese flagged cargo ships, as required in Regulation 19.3 of Chapter III of SOLAS 74, as amended, shall be carried out at fortnightly intervals.

Fire and Abandon Ship Drills onboard all Maltese flagged passenger ships are to be carried out at weekly intervals as prescribed in Regulation 30.2 of Chapter III of SOLAS 74, as amended.

The attention of all concerned is drawn to the *Guidelines on safety during abandon ship drills using lifeboats* and the *Guidelines for the simulated launching of free-fall lifeboats*, as contained in Annex 2 to MSC.1/Circ.1206/Rev.1

A copy of the MSC Circular can be download from:
www.transport.gov.mt/admin/uploads/media-library/files/MSC1-Circ1206-Rev1%20MEASURES%20TO%20PREVENT%20ACCIDENTS%20WITH%20LIFEBOATS.pdf

Merchant Shipping Directorate 27 February 2013

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MEASURES TO PREVENT ACCIDENTS WITH LIFEBOATS

1 The Maritime Safety Committee, at its eighty-first session (10 to 19 May 2006), recalled that at its seventy-fifth session (15 to 24 May 2002), it had considered the issue of the unacceptably high number of accidents with lifeboats in which crew were being injured, sometimes fatally, while participating in lifeboat drills and/or inspections, and noted that most accidents fell under the following categories:

.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 failures;

.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 mechanisms.

2 Pending further consideration of the problem, the Committee approved MSC/Circ.1049 on Accidents with lifeboats, to draw the attention of manufacturers, shipowners, crews and classification societies to the personal injury and loss of life that may follow inadequate attention to the design, construction, maintenance and operation of lifeboats, davits and associated equipment and urged all concerned to take necessary action to prevent further accidents with lifeboats. It invited Member Governments to:

.1 bring the circular to the attention of their maritime Administrations, relevant industry organizations, manufacturers, shipowners, crews and classification societies;

.2 take the necessary action to prevent further accidents with lifeboats pending the development of appropriate IMO guidance;

.3 ensure that:

.3.1 on-load release equipment used on ships flying their flag is in full compliance with the requirements of paragraphs 4.4.7.6.2.2 to 4.4.7.6.5 of the LSA Code;

.3.2 all appropriate documentation for the maintenance and adjustment of lifeboats, launching appliances and associated equipment is available on board;

.3.3 personnel undertaking inspections, maintenance and adjustment of lifeboats, launching appliances and associated equipment are fully trained and familiar with these duties;

.3.4 maintenance of lifeboats, launching appliances and associated equipment is carried out in accordance with approved established procedures;

.3.5 lifeboat drills are conducted in accordance with SOLAS regulation III/19.3.3 for the purpose of ensuring that ship's personnel will be able to safely embark and launch the lifeboats in an emergency;

.3.6 the principles of safety and health at work apply to drills as well;

.3.7 personnel undertaking maintenance and repair activities are appropriately qualified;

.3.8 hanging-off pennants should only be used for maintenance purposes and not during training exercises;

.3.9 all tests required for the design and approval of life-saving appliances are conducted rigorously, according to the Guidelines developed by the Organization, in order to identify and rectify any design faults at an early stage;

.3.10 the equipment is easily accessible for inspections and maintenance and is proven durable in harsh operational conditions, in addition to withstanding prototype tests; and

.3.11 the approving authorities or bodies pay close attention to proper workmanship and state-of-the-art possibilities when assessing equipment for approval; and

.4 encourage shipowners, when undertaking maintenance and repair activities, to employ qualified personnel, preferably certified by the manufacturer.

3 Member Governments were further invited, while enforcing the provisions of SOLAS regulation IX/4.3, to ensure that the above issues are addressed through the Safety Management System of the company, as appropriate.

4 The Committee further recalled that, at its seventy-seventh session (28 May to 6 June 2003), recognizing the experience gained since the approval of the Guidelines on inspection and maintenance of lifeboat on-load release gear (MSC/Circ.614) at its sixty-second session (24 to 28 May 1993), and that the implementation of expanded and improved guidelines could contribute towards a reduction of the incidence of accidents with lifeboats, it had approved the Guidelines for periodic servicing and maintenance of lifeboats, launching appliances and on-load release gear (MSC/Circ.1093), superseding MSC/Circ.614. Taking into account subsequent amendments to SOLAS chapter III and the LSA Code, and having considered proposals by the fiftieth session of the Sub-Committee on Fire Protection, the Committee approved amendments to the Guidelines, and further noted that the guidance developed for lifeboats could also apply to the periodic servicing and maintenance of liferafts, rescue boats and fast rescue boats and their launching appliances and on-load release gear.

5 The Committee further recalled that, at its seventy-ninth session (1 to 10 December 2004), it had endorsed the intention of the Sub-Committee on Ship Design and Equipment, in cooperation with the Sub-Committee on Standards of Training and Watchkeeping, to develop further IMO guidance as envisioned in MSC/Circ.1049 and, accordingly, approved the Guidance on safety during abandon ship drills using lifeboats (MSC/Circ.1136), as set out in annex 2. The Committee further recalled that the Guidance developed for lifeboats has relevance, in general, for emergency drills with other life-saving systems and should be taken into account when such drills are conducted. In connection with MSC/Circ.1136, and recognizing the need to provide a basic outline of essential steps to safely carry out simulated launching of free-fall lifeboats in accordance with SOLAS regulation III/19.3.3.4, and having considered proposals by the forty-seventh session of the Sub-Committee on Design and Equipment, the Committee further approved the Guidelines for simulated launching of free-fall lifeboats (MSC/Circ.1137), as set out in the appendix to annex 2.

6 Having considered the need to update several of the circulars discussed above, and having considered proposals by the fiftieth session of the Sub-Committee on Fire Protection to consolidate the numerous circulars on the subject of measures to prevent accidents with lifeboats in order to better serve the mariner, the Committee approved Guidelines for periodic servicing and maintenance of lifeboats, launching appliances and on-load release gear and Guidelines on safety during abandon ship drills using lifeboats, as set out in annexes 1 and 2, respectively, to MSC.1/Circ.1206.

7 The Maritime Safety Committee, at its eighty-sixth session (27 May to 5 June 2009), approved amendments to the aforementioned Guidelines (annexes 1 and 2 to MSC.1/Circ.1206) concerning inspection and maintenance of lifeboats, launching appliances and on-load release gear, following the recommendations made by the Sub-Committee on Ship Design and Equipment, at its fifty-second session. The revised Guidelines are set out in annexes 1 and 2 to this circular.

8 Member Governments are invited to give effect to the annexed Guidelines as soon as possible and to bring them to the attention of shipowners, ship operators, ship-vetting organizations, ship personnel, surveyors, manufacturers and all others concerned with the inspection and maintenance of lifeboats, liferafts, rescue boats and fast rescue boats and their launching appliances and on-load release gear.

9 This circular supersedes MSC/Circ.1049, MSC/Circ.1093, MSC/Circ.1136, MSC/Circ.1137 and MSC.1/Circ.1206.

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ANNEX 1

GUIDELINES FOR PERIODIC SERVICING AND MAINTENANCE OF LIFEBOATS, LAUNCHING APPLIANCES AND ON-LOAD RELEASE GEAR

General

1 The objective of these Guidelines is to establish a uniform, safe and documented performance of periodic servicing and maintenance of lifeboats, launching appliances and on-load release gear.

2 These Guidelines relate to the application of the ISM Code to periodic servicing and maintenance of lifeboat arrangements and should therefore be reflected in procedures developed for a ship under that Code.

3 The general principle in these Guidelines may also be applied for the periodic servicing and maintenance of liferafts, rescue boats and fast rescue boats and their launching appliances and release gear.

4 Detailed guidance regarding some procedures covered by these Guidelines is provided in the appendix.

SOLAS regulations

5 These Guidelines relate to the requirements contained in:

.1 SOLAS regulation III/20 – Operational readiness, maintenance and inspections; and

.2 SOLAS regulation III/36 – Instructions for onboard maintenance.

Responsibility

6 The company* is responsible for servicing and maintenance on board its ships in accordance with SOLAS regulation III/20 and for the establishment and implementation of health, safety and environment (HSE) procedures covering all activities during servicing and maintenance.

7 The personnel carrying out servicing and maintenance are responsible for the performance of the work as authorized in accordance with the system specified in paragraph 10.

8 The above personnel are also responsible for complying with HSE instructions and procedures.

9 Service providers carrying out the thorough examination, operational testing, repair and overhaul of lifeboats, launching appliances and on-load release gear should be authorized in accordance with MSC.1/Circ.1277.

* For the purpose of these Guidelines, company is as defined in SOLAS regulation IX/1.2.

Certification

10 Where these Guidelines call for certification of servicing personnel, such certification should be issued in accordance with an established system for training and authorization in accordance with MSC.1/Circ.1277.

Qualification levels

11 Weekly and monthly inspections, and routine maintenance as specified in the equipment maintenance manual(s), should be conducted under the direct supervision of a senior ship's officer in accordance with the maintenance manual(s).

12 All other inspections, servicing and repair should be conducted by the manufacturer's representative or other person appropriately trained and certified for the work to be done in accordance with MSC.1/Circ.1277.

Reports and records

13 All reports and checklists should be correctly filled out and signed by the person who carries out the inspection and maintenance work and should also be signed by the company's representative or the ship's master.

14 Records of inspections, servicing, repairs and maintenance should be updated and filed on board the ship.

15 When repairs, thorough examinations and annual servicing are completed, a statement confirming that the lifeboat arrangements remain fit for purpose should be promptly issued by the service provider who performed the work.

* * *

APPENDIX

SPECIFIC PROCEDURES FOR MAINTENANCE AND SERVICING

1 GENERAL

1.1 Any inspection, servicing and repair should be carried out according to the maintenance manuals and associated technical documentation developed by the manufacturer or an alternative body authorized in accordance with MSC.1/Circ.1277.

1.2 A full set of maintenance manuals and associated technical documentation as specified in 1.1 should be available on board for use in all operations involved in the inspection, maintenance, adjustment and re-setting of the lifeboat and associated equipment, such as davits and release gear.

1.3 The maintenance manuals and associated technical documentation as specified in 1.1 should include the following items as a minimum and should be periodically reviewed and updated as necessary.

2 ANNUAL THOROUGH EXAMINATION

2.1 As items listed in checklists for the weekly/monthly inspections also form the first part of the annual thorough examination, when carrying out this examination the inspection of these items should be performed by the ship's crew in the presence of the manufacturer's representative or other person appropriately trained and certified for the work to be done in accordance with MSC.1/Circ.1277.

2.2 Inspection and maintenance records of inspections and routine maintenance carried out by the ship's crew and the applicable certificates for the launching appliances and equipment should be available.

Lifeboats

2.3 The following items should be examined and checked for satisfactory condition and operation:

.1 condition of lifeboat structure including fixed and loose equipment;

.2 engine and propulsion system;

.3 sprinkler system, where fitted;

.4 air supply system, where fitted;

.5 manoeuvring system;

.6 power supply system; and

.7 bailing system.

Release gear

2.4 The following should be examined for satisfactory condition and operation after the annual winch brake test with the empty boat, as required by 3.1:

.1 operation of devices for activation of release gear;

.2 excessive free play (tolerances);

.3 hydrostatic interlock system, where fitted;

.4 cables for control and release; and

.5 hook fastening.

Notes:

1 The setting and maintenance of release gear are critical operations with regard to maintaining the safe operation of the lifeboat and the safety of personnel in the lifeboat. All inspection and maintenance operations on this equipment should therefore be carried out with the utmost care.

2 No maintenance or adjustment of the release gear should be undertaken while the hooks are under load.

3 Hanging-off pennants may be used for this purpose but should not remain connected at other times, such as when the lifeboat is normally stowed and during training exercises.

4 The release gear is to be examined prior to its operational test. The release gear is to be re-examined after its operational test and the dynamic winch brake test. Special consideration should be given to ensure that no damage has occurred during the winch brake test, especially the hook fastening.

2.5 Operational test of on-load release function:

.1 position the lifeboat partially into the water such that the mass of the boat is substantially supported by the falls and the hydrostatic interlock system, where fitted, is not triggered;

.2 operate the on-load release gear;

.3 reset the on-load release gear; and

.4 examine the release gear and hook fastening to ensure that the hook is completely reset and no damage has occurred.

2.6 Operational test of off-load release function:

.1 position the lifeboat fully waterborne;

.2 operate the off-load release gear;

.3 reset the on-load release gear; and

.4 recover the lifeboat to the stowed position and prepare for operational readiness.

Note:

Prior to hoisting, check that the release gear is completely and properly reset. The final turning-in of the lifeboat should be done without any persons on board.

2.7 Operational test of free-fall lifeboat release function:

.1 engage the simulated launching arrangements as specified in the manufacturer's operating instructions;

.2 the operator should be properly seated and secured in the seat location from which the release mechanism is to be operated;

.3 operate the release mechanism to release the lifeboat;

.4 reset the lifeboat in the stowed configuration;

.5 repeat procedures referred to in .2 to .4 above, using the back-up release mechanism, when applicable;

.6 remove the simulated launching arrangements; and

.7 verify that the lifeboat is in the ready to launch stowed configuration.

Davit

2.8 The following items should be examined for satisfactory condition and operation:

.1 davit structure, in particular with regard to corrosion, misalignments, deformations and excessive free play;

.2 wires and sheaves, possible damages such as kinks and corrosion;

.3 lubrication of wires, sheaves and moving parts;

.4 functioning of limit switches;

.5 stored power systems; and

.6 hydraulic systems.

Winch

2.9 The following items should be examined for satisfactory condition and operation:

.1 open and inspect brake mechanism;

.2 replace brake pads, if necessary;

.3 remote control system;

.4 power supply system; and

.5 winch foundation.

3 DYNAMIC WINCH BRAKE TEST

3.1 Annual operational testing should preferably be done by lowering the empty boat. When the boat has reached its maximum lowering speed and before the boat enters the water, the brake should be abruptly applied.

3.2 The five-year operational test should be done by lowering the boat loaded to a proof load equal to 1.1 times the weight of the survival craft or rescue boat and its full complement of persons and equipment, or equivalent load. When the boat has reached its maximum lowering speed and before the boat enters the water, the brake should be abruptly applied.

3.3 Following these tests, the brake pads and stressed structural parts should be re-inspected.

Note:

In loading the boat for this test, precautions should be taken to ensure that the stability of the boat is not adversely affected by free surface effects or the raising of the centre of gravity.

4 OVERHAUL OF ON-LOAD RELEASE GEAR

Overhaul of on-load release gear includes:

.1 dismantling of hook release units;

.2 examination with regard to tolerances and design requirements;

.3 adjustment of release gear system after assembly;

.4 operational test as per above and with a load according to SOLAS regulation III/20.11.2.3; and

.5 examination of vital parts with regard to defects and cracks.

Note:

Non-destructive examination (NDE) techniques, such as dye penetrants (DPE), may be suitable.

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ANNEX 2

GUIDELINES ON SAFETY DURING ABANDON SHIP DRILLS USING LIFEBOATS

1 GENERAL

1.1 Introduction

1.1.1 It is essential that seafarers are familiar with the life-saving systems on board their ships and that they have confidence that the systems provided for their safety will work and will be effective in an emergency. Frequent periodic shipboard drills are necessary to achieve this.

1.1.2 Crew training is an important component of drills. As a supplement to initial shore-side training, onboard training will familiarize crew members with the ship systems and the associated procedures for use, operation and drills. On these occasions, the objective is to develop appropriate crew competencies, enabling effective and safe utilization of the equipment required by the 1974 SOLAS Convention. The time limits set out in SOLAS for ship abandonment should be considered as a secondary objective when conducting drills.

1.2 Drill frequency

Experience has shown that holding frequent drills furthers the goals of making the crew familiar with the life-saving systems on board their ships and increasing their confidence that the systems will work and will be effective in an emergency. Drills give the crew opportunity to 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, needs to be well rehearsed. However, frequent crew changes sometimes make it difficult to assure that all on board have had the opportunity to participate in drills if only the minimum required drills are conducted. Therefore, consideration needs to be given to scheduling drills as necessary to ensure all on board have an early opportunity to become familiar with the systems on board.

1.3 Drills must be safe

1.3.1 Abandon ship drills should be planned, organized and performed so that the recognized risks are minimized and in accordance with relevant shipboard requirements of occupational safety and health.

1.3.2 Drills provide an opportunity to verify that the life-saving system is working and that all associated equipment is in place and in good working order, ready for use.

1.3.3 Before conducting drills, it should be checked that the lifeboat and its safety equipment have been maintained in accordance with the ship’s maintenance manuals and any associated technical documentation, as well as noting all the precautionary measures necessary. Abnormal conditions of wear and tear or corrosion should be reported to the responsible officer immediately.

1.4 Emphasis on learning

Drills should be conducted with an emphasis on learning and be viewed as a learning experience, not just as a task to meet a regulatory requirement to conduct drills. Whether they are emergency drills required by SOLAS or additional special drills conducted to enhance the competence of the

crew members, they should be carried out at safe speed. During drills, care should be taken to ensure that everybody familiarizes themselves with their duties and with the equipment. If necessary, pauses should be made during the drills to explain especially difficult elements. The experience of the crew is an important factor in determining how fast a drill or certain drill elements should be carried out.

1.5 Planning and organizing drills

1.5.1 The 1974 SOLAS Convention requires that drills shall, as far as practicable, be conducted as if there was an actual emergency.* This means that the entire drill should, as far as possible, be carried out. The point is that, at the same time, it should be ensured that the drill can be carried out in such a way that it 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.

1.5.2 In preparing for a drill, those responsible should review the manufacturer's instruction manual to assure that a planned drill is conducted properly. Those responsible for the drill should assure that the crew is familiar with the guidance provided in the life-saving system instruction manual.

1.5.3 Lessons learned in the course of a drill should be documented and made a part of follow-up shipboard training discussions and planning the next drill session.

1.5.4 The lowering of a boat with its full complement of persons is an example of an element of a drill that may, depending on the circumstances, involve an unnecessary risk. Such drills should only be carried out if special precautions are observed.

2 ABANDON SHIP DRILLS

2.1 Introduction

It is important that the crew who operate safety equipment on board are familiar with the functioning and operation of such equipment. The 1974 SOLAS Convention requires that sufficiently detailed manufacturers' training manuals and instructions be carried on board, which should be easily understood by the crew. Such manufacturers' manuals and instructions should be accessible for everyone on board and observed and followed closely during drills.

2.2 Guidance to the shipowner

2.2.1 The shipowner should ensure that new safety equipment on board the company's ships has been approved and installed in accordance with the provisions of the 1974 SOLAS Convention and the International Life-Saving Appliances (LSA) Code.

2.2.2 Procedures for holding safe drills should be included in 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.

* Refer to SOLAS regulation III/19.3.1.

2.2.3 Personnel carrying out maintenance and repair work on lifeboats should be qualified accordingly.*

2.3 Lifeboats lowered by means of falls

2.3.1 During drills, those responsible should be alert for potentially dangerous conditions and situations and should bring them to the attention of the responsible person for appropriate action. Feedback and improvement recommendations to the shipowner, the Administration and the system manufacturer are important elements of the marine safety system.

2.3.2 When performing drills with persons on board a lifeboat, it is recommended that the boat first be lowered and recovered without persons on board to ascertain that the arrangement functions correctly. In this case, the boat should then be lowered into the water with only the number of persons on board necessary to operate the boat.

2.3.3 To prevent lashings or gripes from getting entangled, proper release should be checked before swinging out the davit.

2.4 Free-fall lifeboats

2.4.1 The monthly drills with free-fall lifeboats should be carried out according to the manufacturer's instructions, so that the persons who are to enter the boat in an emergency are trained to embark the boat, to take their seats in a correct way and to use the safety belts; and also are instructed on how to act during launching into the sea.

2.4.2 When the lifeboat is free-fall launched as part of a drill, this should be carried out with the minimum personnel required to manoeuvre the boat in the water and to recover it. The recovery operation should be carried out with special attention, bearing in mind the high risk level of this operation. Where permitted by SOLAS, simulated launching should be carried out in accordance with the manufacturer's instructions, taking due note of the Guidelines for simulated launching of free-fall lifeboats at appendix.

* Refer to the Guidelines for periodic servicing and maintenance of lifeboats, launching appliances and on-load release gear (see annex 1).

APPENDIX

GUIDELINES FOR SIMULATED LAUNCHING OF FREE-FALL LIFEBOATS

1 Definition

Simulated launching is a means of training the crew in the free-fall release procedure of free-fall lifeboats and in verifying the satisfactory function of the free-fall release system without allowing the lifeboat to fall into the sea.

2 Purpose and scope

The purpose of these Guidelines is to provide a basic outline of essential steps to safely carry out simulated launching. These Guidelines are general; the lifeboat manufacturer's instruction manual should always be consulted before conducting simulated launching. Simulated launching should only be carried out with lifeboats and launching appliances designed to accommodate it, and for which the manufacturer has provided instructions. Simulated launching should be carried out under the supervision of a responsible person who should be an officer experienced in such procedures.

3 Typical simulated launching sequence

3.1 Check equipment and documentation to ensure that all components of the lifeboat and launching appliance are in good operational condition.

3.2 Ensure that the restraining device(s) provided by the manufacturer for simulated launching are installed and secure and that the free-fall release mechanism is fully and correctly engaged.

3.3 Establish and maintain good communication between the assigned operating crew and the responsible person.

3.4 Disengage lashings, gripes, etc., installed to secure the lifeboat for sea or for maintenance, except those required for simulated free-fall.

3.5 Participating crew board the lifeboat and fasten their seatbelts under the supervision of the responsible person.

3.6 All crew, except the assigned operating crew, disembark the lifeboat. The assigned operating crew fully prepares the lifeboat for free-fall launch and secures themselves in their seats for the release operation.

3.7 The assigned operating crew activates the release mechanism when instructed by the responsible person. Ensure that the release mechanism operates satisfactorily and, if applicable, the lifeboat travels down the ramp to the distance specified in the manufacturer's instructions.

3.8 Resecure the lifeboat to its stowed position, using the means provided by the manufacturer and ensure that the free-fall release mechanism is fully and correctly engaged.

3.9 Repeat procedures from 3.7 above, using the back-up release mechanism when applicable.

3.10 The assigned operating crew disembarks the lifeboat.

3.11 Ensure that the lifeboat is returned to its normal stowed condition. Remove any restraining and/or recovery devices used only for the simulated launch procedure.

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