



Maritime and Coastguard Agency

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## **LIFEBOATS - Measures to Prevent Accidents**

**Notice to all Ship Owners, Ship Operators and Managers, Masters, Officers and Crews of Merchant Ships**

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**PLEASE NOTE:-**

Where this document provides guidance on the law it should not be regarded as definitive. The way the law applies to any particular case can vary according to circumstances - for example, from vessel to vessel and you should consider seeking independent legal advice if you are unsure of your own legal position.

**Summary**

This Merchant Shipping Notice compiles current guidance on the safe servicing, testing maintenance and drilling of lifeboats.

- This Notice transposes the International Maritime Organization, Maritime Safety Committee Circular 1206 **MEASURES TO PREVENT ACCIDENTS WITH LIFEBOATS**
- It also sets the standard required for the approval of Independent Lifeboat Servicing and Testing Companies.

### **1. Introduction/ Background**

1.1 In recent years the Maritime Industry has suffered an unacceptably high number of accidents with lifeboats in which crew were injured, sometimes fatally, whilst participating in lifeboat drills and/or inspections. It has been noted that most accidents fall under the following categories:

- Failure of on-load release mechanism;
- Inadvertent operation of on-load release mechanism;
- Inadequate maintenance of lifeboats, davits and launching equipment;
- Communication failures;
- Lack of familiarity with lifeboats, davits, equipment and associated controls;
- Unsafe practices during lifeboat drills and inspections; and
- Design faults other than on-load release mechanisms.

1.2 In response to these concerns, the International Maritime Organization (IMO) has produced guidance relating to the safe servicing, maintenance and drilling of lifeboats. In addition, surveyors from the Maritime and Coastguard Agency (MCA) are often questioned with regard to the requirement for MCA surveyors to be in attendance when lifeboats and their launching appliances are subjected to 5 yearly load testing. This MSN highlights the most pertinent IMO guidance and also provides some additional guidance with respect to 5 yearly load testing on board UK vessels.

1.3 This MSN aims to achieve the following goals:

- 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;
- Personnel undertaking inspections, maintenance and adjustment of lifeboats, launching appliances and associated equipment are fully trained and familiar with these duties;
- All appropriate documentation for the maintenance and adjustment of lifeboats, launching appliances and associated equipment is available on board;
- Maintenance of lifeboats, launching appliances and associated equipment is carried out in accordance with approved established procedures;
- The principles of health and safety at work apply to lifeboat drills;
- Personnel undertaking maintenance and repair activities are appropriately qualified;
- Hanging-off pennants are only used for maintenance purposes and not during training exercises;
- All tests required for the design and approval of life-saving appliances are conducted rigorously, according to the guidelines developed by the Maritime and Coastguard Agency, in order to identify and rectify any design faults at an early stage;
- The equipment to be easily accessible for inspections and maintenance and is proven durable in harsh operational conditions, in addition to withstanding prototype tests; and
- The Maritime and Coastguard Agency pays close attention to proper workmanship and technology when assessing equipment for approval; and
- Shipowners, when undertaking maintenance and repair activities, to employ qualified personnel, preferably certified by the manufacturer.

1.4 This Notice transposes the MSC Circular 1206 **MEASURES TO PREVENT ACCIDENTS WITH LIFEBOATS** which consolidates the guidance contained in Circulars; MSC/Circ.1049, MSC/Circ.1093, MSC/Circ.1136 and MSC/Circ 1137.

1.5 The guidance below is to be read in conjunction with the requirements of SOLAS Chapter III, with particular reference to Regulations 20 and 36, and also the requirements of the LSA Code, with particular reference to section 4.4.7.

**2. Format of guidance within this MSN**

2.1 Specific guidance for 5 yearly load testing on board UK vessels and relevant extracts from the text of the pertinent IMO guidance document are included in the form of an annex to this MSN as follows:

**ANNEX MEASURES TO PREVENT ACCIDENTS WITH LIFE BOATS.**

**Part 1. GUIDELINES FOR PERIODIC SERVICING AND MAINTENANCE OF LIFEBOATS, LAUNCHING APPLIANCES AND ON-LOAD RELEASE GEAR**

**APPENDIX 1: SPECIFIC PROCEDURES FOR MAINTENANCE AND SERVICING.**

**APPENDIX 2: GENERAL GUIDANCE ON THE CONDUCT OF 5 YEARLY LOAD TESTS ON UK VESSELS.**

**APPENDIX 3: APPROVAL PROCEDURE FOR INDEPENDENT LIFEBOATS SERVICING COMPANIES.**

**Part 2 GUIDELINES ON SAFETY DURING ABANDON SHIP DRILLS USING LIFEBOATS**

**Part 3 FREE-FALL LIFEBOATS**

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## **ANNEX: MEASURES TO PREVENT ACCIDENTS WITH LIFE BOATS.**

### **PART 1: GUIDELINES FOR PERIODIC SERVICING AND MAINTENANCE OF LIFEBOATS, LAUNCHING APPLIANCES AND ON-LOAD RELEASE GEAR**

#### **1. General**

- 1.1 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.
- 1.2 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.
- 1.3 The general principle in these Guidelines may also be applied to the periodic servicing and maintenance of liferafts, rescue boats and fast rescue boats and their launching appliances and release gear. See Also MGN 317 *Servicing of Inflatable Liferafts, Inflatable Boats, Rescue Boats, Fast Rescue Boats, Inflatable Lifejackets and Hydrostatic Release Units* and MSN 1248 *Automatic Release Hooks for Liferafts and Disengaging Gear for Lifeboats and Rescue Boats*.
- 1.4 Detailed guidance regarding some procedures covered by these Guidelines is provided in the appendices 1 and 2.

#### **2. SOLAS regulations**

These Guidelines relate to the requirements contained in:

- 2.1 SOLAS regulation III/20. Operational readiness, maintenance and inspections; and
- 2.2 SOLAS regulation III/36. Instructions for on-board maintenance.

#### **3. Responsibility**

- 3.1 Both the shipping company and the company contracted to undertake the servicing are responsible for servicing and maintenance onboard its ships and for the establishment and implementation of health, safety and environment (HSE) procedures covering all activities during servicing and maintenance.
- 3.2 The personnel carrying out servicing and maintenance are responsible for the performance of the work as authorised in accordance with the system specified in 4.1.
- 3.3 The above personnel are also responsible for complying with HSE instructions and procedures.
- 3.4 Where satisfied with such an organisation's ability to carry out these functions, the MCA may authorise such organisation and its personnel to perform the functions of the manufacturer and manufacturer's certified personnel as assigned under this MSN. In order to gain this approval the Independent Lifeboat Servicing and Testing Organisation (ILSTO) should follow the procedure in Appendix 3 to Part 1 of this MSN.

#### **4. Authorisation**

- 4.1 Where these Guidelines require certification of accredited service personnel, such certification should be issued by the manufacturer or the ILSTO, in accordance with an established system for training and authorisation.

## **5. Qualification levels**

- 5.1 Weekly and monthly inspections, and routine maintenance as defined by the manufacturer, should be conducted under the direct supervision of a senior ship's officer in accordance with the instructions provided by the manufacturer.
- 5.2 All other inspections, servicing, testing and repair should be conducted by accredited service personnel.

## **6. Reports and records**

- 6.1 All reports and checklists should be correctly completed 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.
- 6.2 Records of inspections, servicing, repairs and maintenance should be updated and filed onboard the ship.
- 6.3 When repairs or servicing are completed, a statement confirming that the lifeboat arrangements remain fit for purpose should be issued by the accredited service personnel.

## **APPENDIX 1: SPECIFIC PROCEDURES FOR MAINTENANCE AND SERVICING**

### **App1.1. GENERAL**

**App1.1.1** Any inspection, servicing and repair should be carried out according to the system for inspection and services developed by the manufacturer.

**App1.1.2** A full set of maintenance manuals and associated documentation issued by the manufacturer 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.

**App1.1.3** The manufacturer's system for inspection and services should include the items contained in App1.2, App1.3 and App1.4 as a minimum.

**App1.1.4** All the inspections, testing and servicing required in App1.2, App1.3 and App1.4 should be conducted by accredited service personnel and all unnecessary personnel should be prohibited from entering the area of risk.

### **App1.2 ANNUAL THOROUGH EXAMINATION**

**App1.2.1** 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 accredited service personnel and any recommendations or new procedures should be demonstrated then

**App1.2.2** 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.

**App1.2.3** Repairs and replacement of parts should be carried out in accordance with the manufacturer's requirements and standards.

#### **App1.2.4 Lifeboats**

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

- (a) Condition of lifeboat structure including fixed and loose equipment;
- (b) Engine and propulsion system;
- (c) Sprinkler system, where fitted;
- (d) Air supply system, where fitted;
- (e) Manoeuvring system;
- (f) Power supply system; and
- (g) Bailing system.

#### **App1.2.5 Release gear**

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

- (a) Operation of devices for activation of release gear;
- (b) Excessive free play (tolerances);
- (c) Hydrostatic interlock system, where fitted;
- (d) Cables for control and release; and
- (e) Hook fastening; including cheek plates, keel bolts etc.

**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. The crew needs to be assured that the structure is safe when loaded by hanging off pennants.
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 to the hook closure and its fastening.

**App1.2.6 Operational test of on-load release function:**

- (a) 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;
- (b) Operate the on-load release gear;
- (c) Reset the on-load release gear; and
- (d) Examine the release gear and hook fastening to ensure that the hook is completely reset and no damage has occurred.

**App1.2.7 Operational test of off-load release function:**

- (a) Position the lifeboat fully waterborne;
- (b) Operate the off-load release gear;
- (c) Reset the on-load release gear; and
- (d) Recover the lifeboat to the stowed position and verified ready for launching in an emergency

**Note:** Prior to hoisting, ensure that release gear is completely and properly reset with interlocks in place. The final turning-in of the lifeboat should be done without any persons on board.

**App1.2.8 Operational test of free-fall lifeboat release function:**

- (a) Engage the simulated launching arrangements as specified in the manufacturer's operating instructions;
- (b) The operator should be properly seated and secured in the seat location from which the release mechanism is to be operated;
- (c) Operate the release mechanism to release the lifeboat;
- (d) Reset the lifeboat in the stowed configuration;
- (e) Repeat procedures b) to d) above, using the back-up release mechanism, when applicable;
- (f) After ensuring that the boat is safely re-stowed remove the simulated launching arrangements; and
- (g) Verify that the lifeboat is in the ready to launch stowed configuration.



### App1.2.9 Davit

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

- (a) Davit structure, with particular regard to corrosion, particularly behind head sheaves and in other hard to paint places, misalignments, deformations and excessive free play, gap in bearings or track rollers;
- (b) Wires and sheaves, possible damage such as kinks and corrosion;
- (c) Lubrication of wires, sheaves and moving parts;
- (d) Functioning of all limit switches;
- (e) Stored power systems including a check on capacity; and
- (f) Hydraulic systems.
- (g) Inspection for correct termination of fall wire ends,
- (h) Verification of fall wire end for ending or replacement of wire
- (i) Condition and reaving of remote control wires, pulleys etc.

### App1.2.10 Winch

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

- (a) Open and inspect brake mechanism;
- (b) Replace brake pads, if necessary;
- (c) Remote control system;
- (d) Power supply system;
- (e) Winch foundation.
- (f) Winch crank handle interlocks; and
- (g) The angles / clearances of "dead mans" brake levers to be checked upon reassembly.

**Note:** See also MSN 1186 Lifeboat Winches Fitted with a Roller Ratchet Mechanism

### App1.3 DYNAMIC WINCH BRAKE TEST

**App1.3.1** 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.

**App1.3.2** 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.

**App1.3.3** 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.

**App1.3.4** In addition to the dynamic winch brake test under App1.3.2 for the secondary launching system of freefall lifeboats, every freefall lifeboat shall be freefall-launched every 5 years loaded to a proof load equal to 1.1 times the weight of the freefall boat and its full complement of persons and equipment. If the boat is launched unmanned without use of its own release system, the release system has to load- tested separately.

#### **App1.4 OVERHAUL OF ON-LOAD RELEASE GEAR**

Overhaul of on-load release gear includes:

- (a) Dismantling of hook release units;
- (b) Examination with regard to tolerances and design requirements;
- (c) Adjustment of release gear system after assembly;
- (d) Operational test as above and with a load according to SOLAS regulation III/20.11.2.3 at least once every 5 years; and
- (e) Examination of vital parts with regard to defects and cracks.

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

## **APPENDIX 2: GENERAL GUIDANCE ON THE CONDUCT OF 5 YEARLY LOAD TESTS ON UK VESSELS**

**App2.1** UK Regulation and SOLAS requires that “at least once every five years rescue boats and lifeboats shall be turned out and lowered when loaded with weights to simulate 1.1 times the total mass of the lifeboat or rescue boat when loaded with its full complement of persons and equipment or with an equivalent load.”

**App2.2** This test is to be applied to all lifeboats, liferaft davits and rescue boats. The procedure used must test the adequacy of all parts of the survival craft system – this includes boat, disengaging gears, davit, winch and foundations. In the case of liferafts there is a separate test carried out by the service stations. Load testing can be hazardous if not carried out correctly and therefore the role of all persons involved must be clear.

**App2.3** The test is to be carried out by accredited service personnel with a ship’s officer in charge (OIC) and witnessed by an authorised person.

The OIC is in charge of the test at all times and should brief those carrying out the test on what is required.

The authorised person should take no part in the test and should not be the OIC. The authorised person may be an MCA surveyor, a Classification Society Surveyor appointed by MCA, or other persons authorised by MCA to witness such tests. If the authorised person is not an MCA surveyor, then the individual concerned will require a letter of appointment from Survey Branch in MCA headquarters.

MCA authorised Class Societies should be aware of these procedures as this will have been given as part of a general authorisation.

**App2.4** All such tests are to be planned in advance. All routine maintenance and records are to be updated before the test. The authorised person must check this. It may be necessary to have a rolling programme for vessels with a large number of appliances. The boat, launching appliance and all relevant components are to be inspected on the day of the test by the OIC or delegated accredited service personnel to ensure that all is in order.

It is recommended that boats should be checked weighed before testing to confirm that the weight remains as previously recorded. Any increase in weight should be investigated. Water seepage into foam buoyancy is one possible cause, especially if benches have been cracked.

**App2.5** The lifeboat test may be carried out in various ways, each of which tests the whole system from boat to davit foundation. It is most important that all involved agree the actual detailed procedure in advance of the test. There are two main methods:

(a) Boats should be loaded up at the embarkation position. Where this is not the stowed position then the boat should be brought alongside the ship with the bowing gear arranged for release from the ship, rather than the boat as usual. Tricing pennants should be removed before loading commences. The boat should then be loaded with weights, distributed around the boat, until the boat and weights amount to a load of 1.1 times the weight of the boat when fully loaded with persons, equipment and stores.

Where the lifesaving capacity of the boat has been voluntarily reduced to a lower number of persons than that for which it was originally certified the full load weight may be calculated based on the lower number of persons, provided that the revised carrying capacity is marked on the boat and used on the passenger or safety equipment certificate. The weights may be either solid weights or water bags. The method of loading weights must be such that no-one enters the boat once the 90% load is reached.

If this cannot be achieved then the weight of the boat must not be taken by the falls during loading but by a crane (of capacity at least 2.2 times the loaded weight of the boat) and a spreader bar. Once loaded, the OIC should agree the test procedure with the attending authorised person and this subsequently explained to the accredited service personnel prior to the test. The attending surveyor should take no further part in the proceedings until the test is complete.

If a crane and spreader bar is used, this should then be lowered so the weight of the boat is taken on the falls. **Under no circumstances should anyone enter the boat at this time.** The boat is to be eased out on the bowsing tackles. The tricing lines should have been removed when the bowsing tackle was fitted. This must all be done from the vessel – which may require the rigging of temporary lines. **The OIC should now check the area under and around the boat is clear of persons and obstructions.** Once ready, the boat is to be lowered lifting the brake fully to enable the boat to reach maximum speed on the centrifugal brake. The mechanical brake is then applied suddenly and the test paused to ensure that the position of the boat is held at least 1 m above the water. If space permits, then it is repeated before the boat reaches the water. The boat is then lowered until the keel of the boat is just **touching the water.**

Boats fitted with on-load release mechanisms are to have these tested. The positioning of the boat is a matter of judgement depending on hull shape, but the weight of the boat should still be on the falls with the boat just touching the water surface. **On no account should the boat be dropped from above the water surface.**

Personnel can then enter the boat from another tender and override the release mechanism to release the boat to test that both hooks release simultaneously under load. Every care should be taken in this process. The personnel on the boat should wear protective clothing including safety helmets and life-jackets and should be sitting down when the boat is released. Davits should be visually checked at this stage.

Once released the weights may be removed from the boat. **Under no circumstances should the ships davits be used to lift the loaded boat.**

If the unloaded boat is to be raised on the falls, the hooks should be reset and the falls attached. The boat should be raised just clear of the water and the hook and interlock mechanism double checked and the secure location of the falls confirmed prior to full recovery. No persons should be in the boat while it is being hoisted on the falls until the hook mechanisms have been thoroughly examined by a competent person. Where the boat is to be hoisted before thorough examination of the hooks then it should be stowed securely by gripes or hanging off pennants while the competent person confirms that the equipment (hooks, boat, davits, winches, ...) have suffered no damage during the test

Once the boat is stowed and secured on the vessel the boat and davit should be inspected by the authorised person for any signs of test damage or straining (Non-destructive examination is strongly recommended at this point).

The results of the test should be recorded on a test certificate produced by the competent persons and signed by the witnessing authorised person.

- (b) Alternatively the boat and davits can be tested separately. This is more time consuming but can be useful in dry-dock situations. With this method the boat is tested by suspending it from a spreader bar and it is loaded to 200% of the weight of the boat when fully loaded with persons, equipment and stores.

This is not a dynamic test. It should be undertaken with caution. Although the boat is load tested in this way during type approval, there is a danger of damage to the boat if due care is not taken. Therefore before this is undertaken the advice of the accredited service personnel should be sought by the Company.

Separate tests are made of the davit and winch using weights, and a spreader bar if necessary, suspended from the falls. A load equivalent to 110% of the weight of the boat when fully loaded with persons, equipment and stores should be applied before the dynamic test is repeated as in (a). Static tests of the davit and winch to 200% load are not acceptable because a static test does not test the speed limiting brake in the winch and the winch is only subjected to a static test to 150% SWI when new.

Subsequently, the unloaded boat and davit should be inspected by the authorised person for any signs of test damage or straining (Non-destructive examination is strongly recommended at this point). The results of the test should be recorded on a test certificate produced by the accredited service personnel and signed by the witnessing authorised person.

- (c) Liferafts and some inflatable or partly inflatable rescue boats are subjected to load testing ashore during their regular servicing. The authorised person may waive on board load testing of boats when satisfied that testing has been done ashore with test loads and frequencies equivalent to that required in SOLAS III R20.11. Particular care must be taken where the on load release gear is part of the boat to ensure that it is test loaded and operated as per that regulation, either during servicing or on board. In such cases all that will need to be carried out on the ship is a 110% dynamic load test of the davit and brake using weights as per paragraph 3 of method (b) above. The test load will have to be calculated on the maximum load expected to be used with the davit in cases where the davit is shared by rafts and rescue boat.

On load release gear for rescue boats should be treated as for lifeboats and either tested as part of the davit and winch test, with operation at 110% load demonstrated afterwards or using an alternative means as per App 2.6.

- App2.6** An alternative method of testing on load release mechanisms may be available using specialist equipment. Some test houses have developed bespoke test equipment for this purpose. The applied load can be simulated hydraulically and the mechanism released in the usual way. This has the advantage that it can be done ashore and avoids the risk of damage to the boat or injury to personnel on loaded release in to the water. Use of such equipment must be agreed by the nominated body and the accredited service personnel. Any required calibration of such equipment must be verified.

This test should also be witnessed by an authorised person. The results of the test should be recorded on a test certificate produced by the test house or accredited service personnel and signed by the witnessing authorised person. In the case of boats without on-load release gear, the release gear should only be tested when the boat is fully waterborne.

**App2.7** Variations on the above methods may be used with the agreement of MCA; however each part of the survival craft and its launching appliance must be tested.

**App2.8** On completion of all testing the assembled boat and davit should be operationally tested to the satisfaction of the OIC before vessel departs or re-enters service.

### **APPENDIX 3: APPROVAL PROCEDURE FOR INDEPENDENT LIFEBOATS SERVICING AND TESTING ORGANISATIONS.**

Independent Lifeboat Servicing Companies wishing to acquire MCA approval for their operation should submit the following documentation:

- App3.1** Proof that their operation is certified and complies with a quality standard (ISO 9001 or equivalent). The standard procedures for the servicing of lifeboat systems should be submitted.
- App3.2** Portfolio justifying at least two years servicing experience with different manufacturer's equipment.
- App3.3** Traceability records system. A record system which provides traceability of work carried out and parts used must be maintained. All spare parts used should be the original manufacturer's spare parts. If the equipment manufacturer no longer exists and there are no original spare parts then the equipment should be replaced by equipment compliant with the Marine Equipment Directive ("Wheelmarked").
- App3.4** Accredited Service Personnel detailed Training Program.
- App3.5** All information referred in the preceding App3.1 to App3.4 should be readily available in case of an accident involving a lifeboat serviced by the Independent Lifeboat Servicing Company at the request of the MCA or The Maritime Accident Investigation Branch (MAIB).
- App3.6** All information (2 copies) referred in the preceding App3.1 to App3.4 should be sent the MCA's Marine Office nearest to the ILSTO or to the Survey Branch in the MCA's Head Quarters (foreign ILSTO should submit their documentation in English).

**The approval will last until 31<sup>st</sup> December 2008 after which the above Policy will be reviewed. Updated documentation may be required for re-approval. Independent Lifeboats Servicing Companies are recommended to acquire Manufacturers authorisation in the meanwhile.**

## **Part 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 and rotation is an important component of drills. As a supplement to their initial shore side training, on board training will familiarise 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 utilisation of the equipment required by the Regulations. The time limits set out in Regulations for ship abandonment should be considered as a secondary objective when conducting drills.

#### **1.2 Drill frequency**

**1.2.1** Experience has shown that holding frequent drills furthers the goal 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 working in co-operation with each other.

**1.2.2** 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 ensure that all on board have had the opportunity to participate in drills if the minimum required drills are conducted. Therefore, consideration needs to be given to scheduling drills as required 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, organised and performed so that the recognized risks are minimised and in accordance with relevant shipboard requirements of occupational health and safety.

**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 manufacturer's instructions, 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**

**1.4.1** 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.

**1.4.2** 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 familiarises 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 organising drills**

**1.5.1** Regulations require that drills shall, as far as practicable, be conducted as if there were an actual emergency. This means that the entire drill should, as far as possible, be carried out. 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 will 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 ensure 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 for 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 unnecessary risk. Such drills should only be carried out if special precautions are observed.

## **2 ABANDON SHIP DRILLS**

### **2.1 Introduction**

**2.1.1** It is important that the crew who operate safety equipment on board are familiar with the functioning and operation of such equipment. Regulations require that sufficiently detailed manufacturer's training manuals and instructions be carried on board, which should be easily understood by the crew. Such manufacturer's manuals and instructions should be accessible for everyone on board 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 UK regulations and that the different pieces of the lifeboat system (Lifeboat, hooks, davit, winch, etc) are all compatible and can work efficiently and safely together.

**2.2.2** Procedures for holding safe drills should be included in the Safety Management System (SMS) of 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.

**2.2.3** Personnel carrying out maintenance and repair work on lifeboats should be qualified in accordance with part 1 of these Guidelines

### **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 ship-owner, the Administration and the system manufacturer are important elements of the marine safety system. If confidentiality is required any reporting can be made through the Confidential Hazardous Incident Reporting Program (CHIRP, [www.chirp.co.uk](http://www.chirp.co.uk))

- 2.3.2** Before placing persons onboard a lifeboat, it is recommended that the boat first be lowered and recovered without persons on board to ascertain that the arrangement functions correctly. 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.

## **Part 3: FREE-FALL LIFEBOATS**

### **1 Free-fall lifeboats drill**

- 1.1** 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.
- 1.2** 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, simulated launching should be carried out in accordance with the manufacturer's instructions, taking due note of this MSN.

### **2 Guidelines for simulated launching of free-fall lifeboats**

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

#### **2.1 Purpose and scope**

The purpose of these Guidelines is to provide a basic outline of essential steps necessary 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.

#### **2.2 Typical simulated launching sequence**

- 2.2.1** Check equipment and documentation to ensure that all components of the lifeboat and launching appliance are in good operational condition.
- 2.2.2** 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.
- 2.2.3** Establish and maintain good communication between the assigned operating crew and the responsible person.
- 2.2.4** Disengage lashings, gripes, etc. installed to secure the lifeboat for sea or for maintenance, except those required for simulated free-fall.
- 2.2.5** Participating crew board the lifeboat and fasten their seatbelts under the supervision of the responsible person.
- 2.2.6** 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.

- 2.2.7** 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.
- 2.2.8** Re-secure 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.
- 2.2.9** Repeat procedures from 2.2.7 above, using the back-up release mechanism when applicable.
- 2.2.10** The assigned operating crew disembarks the lifeboat.
- 2.2.11** 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.
- 2.2.12** The lifeboat should then be verified ready for launching in an emergency.