CONTENTS

SHIPS SAFETY EQUIPMENT

1. GENERAL

It is the Company's policy to equip all vessels with the Safety Equipment required by SOLAS Conventions and additional equipment considered necessary to meet the Company's safety standard or Flag State requirements.

Location of each LSA/FFA equipment on board shall be as per ship specific LSA/FFA plan. After training/ drills equipment shall be kept back in original location as per the plan. Also, extinguishers / SCBA bottles etc. used shall be immediately recharged after training / drills before being re stowed.

The Company has provided LSA register and fire protection systems and appliances binder to all vessels. The binder constitutes instructions for carrying out maintenance on board. In addition to the on board maintenance and inspections provided by company, manufacturer's maintenance and inspection guidelines should be followed.

Records of Safety Equipment Shore Service and Repair must be filed in Sharepoint.(File 6.6.9).

Safety equipment additional to statutory requirements (where provided) must be maintained to the same standard and inspected at the same frequency as the statutory equipment.

All safety equipment shall be kept in state of operational readiness at all times (i.e shall be in working order and ready for immediate use).

LSA/FFA equipment stowage positions will be marked with the appropriate IMO symbol. Equipment is not to be re sighted by Ships Crew. Stowage will be as per the class approved LSA/FFA plan.

Access to each piece of Safety equipment shall be kept well clear and unobstructed.

2. SELF CONTAINED BREATHING APPARATUS (FSS CODE CHAPTER 3)

SCBA's are provided for use by the emergency teams when fighting fires or carrying out rescue/emergency operations such as entering enclosed spaces.

SCBA should be kept fully charged as per FSS code requirements (volume of air contained in the cylinders shall be at least 1,200 l, or other self-contained breathing apparatus which shall be capable of functioning for at least 30 min) and should be ready in a position to be quickly donned.

Vessel shall have appropriate adaptors/ regulators / relief valves as applicable for charging each type of SCBA.

The compressor provided on board should be capable of charging all the SCBA bottles to maximum pressure. (Refer maker instructions for maximum pressure to be charged for each type of breathing apparatus)

After use, the SCBA should be:

- Cleaned - Face mask cleaned and disinfected. When dry, covered with a plastic bag to protect it from dust.
- Checked for defects and excessive wear.
- Pressure checked and air bottle topped up.
- Adjusted to ensure all backpack and head-harness straps are fully extended for ease of donning the equipment.
- Checked to ensure the air bottle valve is closed (taking care not to over tighten) and the face mask depressurised. Check low pressure alarm.
- Kept ready for immediate use.

In any situation where personnel have to enter an enclosed area during an emergency situation a mutual support “buddy” system is to be employed. This requires two members of the emergency team to each be kitted with a SCBA set.

In most of the dry vessels SCBA sets are provided for the following:

- Firefighting purpose – indicated in fire plan
- IMSBC code requirements (for some ships indicated in fire plan)
- Helicopter operations (for some ships indicated in fire plan)

All SCBA sets along with spare bottles for firefighting purpose (LSA/FFA equipment) shall be of the same model / type and interchangeable.

Other SCBA’s may be carried for IMSBC and helicopter operations. These will not be marked on the LSA/FFA plan. They are to be suitably stowed and marked.

The intended purpose (like firefighting, Helicopter operations, IMSBC cargo) should be labelled near the location of each SCBA where it can be clearly seen. Also each spare bottle should be labelled with similar colour coded tags/ stickers.

FIRE FIGHTING SCBA
IMSBC SCBA
HELICOPTER SCBA
TRAINING AIR BOTTLES

Ship staff should know the total number of SCBA sets and spare bottles on board and the intended purpose of the sets.

For each SCBA a fireproof lifeline of at least 30 m in length shall be provided.

The lifeline shall be capable of being attached by means of a snap-hook to the harness of the apparatus or to a separate belt in order to prevent the breathing apparatus becoming detached when the lifeline is operated.

3. EMERGENCY ESCAPE BREATHING DEVICES (FSS CODE CHAPTER 3)

An EEBD is an approved supplied-air device, only used for escape from a compartment that has a hazardous atmosphere. It should have a service air supply of at least 10 minutes.

EEBDs shall not be used for fighting fires, entering oxygen deficient voids or tanks, or worn by fire-fighters. In these events, a self-contained breathing apparatus, which is specifically suited for such applications, shall be used.

EEBD's must:

a. Not be used for any purpose other than emergency escape or emergency drills.

b. Be kept fully charged at all times.

Note: The atmosphere of the enclosed space is to be tested and must be declared safe for entry before entering. The EEBD is provided for escape purposes only and is not a substitute for a SCBA set.

Vessel shall have appropriate adaptors/ regulators / relief valves as applicable for charging EEBD.

EEBD shall be suitably protected from the environment.

All EEBD training units shall be clearly marked. They shall not be counted as part of the operational number of sets required.

4. LIFEJACKETS (SOLAS III/7 AND LSA CODE CHAPTER 2)

A lifejacket shall be provided for every person on board and, in addition, a sufficient number of lifejackets shall be carried for persons on watch and for use at remotely located survival craft stations. The lifejackets carried for persons on watch should be stowed on the bridge, in the engine control room and at any other manned watch station.

Number and location of lifejackets shall be as per LSA plan.

Also each vessel should have three oversize lifejackets (designed to fit persons weighing up to 140 kg and with a chest girth of up to 1,750 mm).

The lifejackets used in totally enclosed lifeboats, except free-fall lifeboats, shall not impede entry into the lifeboat or seating including operation of the seat belts in the lifeboat.

Lifejackets selected for free-fall lifeboats and the manner in which they are carried or worn, shall not interfere with entry into the lifeboat, occupant safety or operation of the lifeboat.

Each lifejacket shall be provided with means of securing a lifejacket light.

Each lifejacket shall be fitted with a whistle firmly secured by a lanyard.

A lifejacket shall be provided with a releasable buoyant line or other means to secure it to a lifejacket worn by another person in the water.

A lifejacket shall be provided with a suitable means to allow a rescuer to lift the wearer from the water into a survival craft or rescue boat.

5. LIFEBUOYS (SOLAS III/7 AND LSA CODE CHAPTER 2)

Every lifebuoy shall have a mass of not less than 2.5 kg.

Number and location of lifebuoys shall be as per LSA plan.

Lifebuoys intended to operate the quick release arrangement provided for the self-activated smoke signals and self-igniting lights shall have a mass of not less than 4 kg.

Lifebuoys shall be so stowed as to be capable of being rapidly cast loose and not permanently secured in any way.

Buoyant lifelines shall be non-kinking and have a diameter of not less than 8 mm.

Each lifebuoy shall be marked in block capitals of the Roman alphabet with the name and port of registry of the ship on which it is carried.

6. IMMERSION SUITS (SOLAS III/7 AND LSA CODE CHAPTER 2)

An immersion suit or an anti-exposure suit, of an appropriate size, shall be provided for every person assigned to crew the rescue boat.

An immersion suit complying with the requirements of section 2.3 of the LSA Code shall be provided for every person on board the ship.

If a ship has any watch or work stations which are located remotely from the place or places where immersion suits are normally stowed, additional immersion suits shall be provided at these locations for the number of persons normally on watch or working at those locations at any time.

Each vessel should have one jumbo size self - buoyant immersion suit (190 – 220 cm).

Each vessel should have immersion suit testing kit which shall be under the 3NO's custody.

7. GAS METER

Each vessel should have 2 gas meters in good working condition.

All officers shall be familiar with the operation, calibration and bump test procedures.

Calibration and Bump test intervals as per Mespas[1] PMS should be complied with.

Gas meters should be handled with care and shall be under the Chief Officer's custody.

8. PYROTECHNICS

Not less than 12 rocket parachute flares shall be carried and stowed on or near the navigation bridge. (SOLAS III/6.3).

A line throwing appliance complying with the requirements of section 7.1 of the Code shall be provided. (SOLAS III/18).

Line throwing apparatus should be ready for immediate use. The line and the rockets should not be stowed apart.

Every line-throwing appliance shall include not less than four projectiles each capable of carrying the line at least 230 m in calm weather (LSA CODE CHAPTER 7).

[1] W 03 / 2024

An illustrated table describing the life-saving signals shall be readily available to the officer of the watch. (SOLAS V/29).

9. FIRE HOSES (SOLAS II-2 /10 – FIRE FIGHTING)

Fire hoses shall be of non-perishable material and shall be sufficient in length to project a jet of water to any of the spaces in which they may be required to be used. Each hose shall be provided with a nozzle and the necessary couplings. Hoses shall, together with any necessary fittings and tools, be kept ready for use in conspicuous positions near the water service hydrants or connections.

Fire hoses shall have a length of at least 10 m, but not more than:

- 15 m in machinery spaces;
- 20 m in other spaces and open decks; and
- 25 m for open decks on ships with a maximum breadth in excess of 30 m.

Fire hose couplings shall be attached to the hose by the use of wire binding. Hose clips are not to be used.

10. FIRE NOZZELS

All fire nozzles on board shall be of an approved dual-purpose type (i.e. spray/jet type) incorporating a shutoff.

Ship staff shall ensure that pressure relief/drain holes are provided on each hydrant cap and not blocked.

Proper securing chain should be fitted on each hydrant cover.

11. FIRE PUMPS

The Emergency Fire pump testing requirements are listed in the company PMS.

Simple operating instructions for the emergency fire pump shall be provided and posted near the pump.

All crewmembers should be familiar with the operation of the emergency fire pump.

12. FIRE EXTINGUISHERS

Vessels shall comply with all Flag Administration and international regulations concerning the distribution, quantity and type of extinguishers to be carried (See vessel's LSA/FFA Plan)

Extinguishers are classified according to the type of extinguishing medium they contain:

Extinguishing medium	Recommended for use on fires involving
Water / Water with additives	wood, paper, textiles and similar materials
Foam	wood, paper, textiles and flammable liquids
Dry powder/dry chemical (standard / classes B, C)	flammable liquids, electrical equipment and flammable gases
Dry powder/dry chemical (multiple or general purpose/classes A, B, C)	wood, paper, textiles, flammable liquids, electrical equipment and flammable gases
Dry powder/dry chemical (metal)	combustible metals
Carbon dioxide	flammable liquids and electrical equipment

Spare charges shall be provided for 100% of the first ten extinguishers and 50% of the remaining fire extinguishers capable of being recharged on board. Not more than sixty total spare charges are required. Instructions for recharging shall be carried on board.

For fire extinguishers which cannot be recharged on board, additional portable fire extinguishers of the same quantity, type, capacity and number shall be provided in lieu of spare charges. Stored (Non refillable) Charge extinguishers, WATER, FOAM, or CHEMICAL, should not be carried aboard company vessels.[2]

Care must be taken to ensure that the powder in Dry Powder Fire Extinguishers does not become compacted due to vibration. The extinguishers should be opened and inspected at regular intervals.

Foam charge can freeze at about 5 deg C. The charge can be altered by elevated temperatures (about 40 deg C or more). Therefore, foam extinguisher should not be installed in positions where it may be exposed to high or low temperatures.

Fire extinguisher tags/stickers should be updated after each inspection.

13. FIRE FIGHTERS COMMUNICATIONS (SOLAS CH II - 2 /10.4)[3]

As per SOLAS, a minimum of 2 two-way portable radiotelephone apparatus for each fire party for fire-fighter's communication shall be carried on board. These two-way portable radiotelephone apparatuses shall be of an explosion-proof type or intrinsically safe.

[2] W 26 / 2019
[3] W 26 / 2019 (Entire Section updated)

13.1. Number of Fire Fighters Portable Radiotelephone Apparatus:[4]

Company has provided each vessel with at least 12 NOS intrinsically safe portable radios.

To meet SOLAS requirements and considering the number of fire party, each vessel shall maintain **4 Nos** portable radiotelephone apparatus **dedicated for firefighting purpose**.

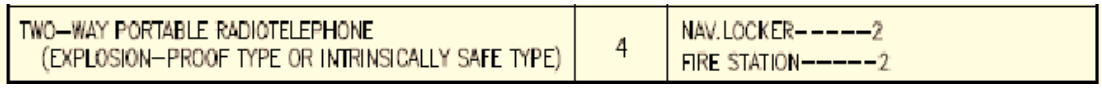
These 4 portable radiotelephone apparatus dedicated for firefighting purpose along with 4 battery chargers shall be labelled (FOR FIRE FIGHTERS COMMUNICATION) and shall NOT be used for any other purpose.
Sample photos: Radios and battery charger clearly marked " fire fighters communication"

13.2. Location of Fire Fighters Portable Radiotelephone Apparatus:[5]

a. For the vessels where the location of fire fighters portable radiotelephone apparatus is indicated in the fire plan , vessel shall keep the 4 radios and 4 battery chargers as per the fire plan

Example 1: Fire plan indicating location as SHIPS OFFICE

Example 2: Fire plan indicating location as NAV LOCKER and FIRE STATION



b. If the portable radiotelephone apparatus is located in the fire station (as per fire plan), the door of the fire station shall be kept sealed in port using security seal and the seal monitored regularly during port stay.

c. For the vessels where the location of fire fighters radio is not indicated in the fire plan, vessel shall keep the 4 radios and 4 battery chargers in Ships Office.

[4] W 26 / 2019 (Entire Section updated)
[5] W 26 / 2019 (Entire Section updated)

NOTE:

- The remaining 8 walkie talkies shall be used for routine communications.
- Power points for charging the fire fighters radios should be available at each location and each battery charger shall be kept connected to the power supply.
- All fire fighters radios shall be tested during drills and kept back in position after the drill.
- Vessel shall have makers certificate on board indicating that the radios are of intrinsically safe type.
- All officers and ratings shall be made aware of the number and location of walkie talkies and should explain this if requested by the PSC inspector.

13.3. Walkie Talkie Frequency[6]

Company has standardised the following frequencies on our fleet

CH1: 457.525
CH2: 457.550
CH3: 457.575
CH4: 457.600
CH5: 457.625
CH6: 457.650
CH7: 457.675
CH8: 457.700
CH9: 457.725
CH10:457.750
CH11:457.775
CH12:457.800
CH13:457.825
CH14:457.850
CH15:457.875
CH16:457.900
All CSQ (no tone)
Bandwidth : 25KHz

14. ELECTRIC SAFETY LAMPS (FSS CODE CHAPTER 3)

Electric safety lamps (hand lantern) shall be provided for each fireman outfit and shall be of an approved type with a minimum burning period of 3 hours.

Sufficient spare batteries should be on board.

[6] W 26 / 2019 (Entire Section updated)

15. FIRE CONTROL PLANS (SOLAS CHAPTER II – 2 /15)

A duplicate copy of the fire control plan(s) shall be kept permanently in a prominently marked weather tight enclosure outside of the deckhouse for the assistance of shore side fire-fighting personnel.

Latest crew list and cargo plan should also be stored in the enclosure.

Fire plan symbol as per MSC/Circ.451 should be posted near the water tight enclosure.

16. IMO SIGNS AND SYMBOLS (SOLAS CHAPTER III/ 9.2.3)

IMO signs and symbols as per LSA/FFA plan are to be posted appropriately to indicate the location of emergency equipment as well as muster and embarkation stations, and escape routes.

Containers, brackets, racks and other similar stowage locations shall be marked with IMO symbols.

If more than one LSA device is stowed in that location, the number of devices shall also be indicated. (SOLAS III/20.10). For example NUMBER of immersion suits and life jackets kept on bridge, forepeak store and ECR shall be clearly indicated.

IMO signs/posters must be in good condition. Missing, damaged or illegible IMO signs/posters should be reported to the Safety Officer and replaced immediately.

Lifeboat and life raft launching instructions shall be posted in the vicinity of the survival craft and their launching controls beneath **an emergency light**. All crew shall familiarize with launching instructions of life saving appliances like lifeboats/ life rafts etc.

IMO/SOLAS signs shall be of the photo luminescent type where appropriate.

Sufficient Spare IMO symbols shall be available on board to replace worn out or damaged symbols.

All emergency escape routes shall be clearly marked with IMO signs, unobstructed and adequately lit.

IMO signs/posters shall be checked as part of safety inspections.

17. MARKINGS – COLOURS

Emergency Fixtures/Fittings:

Fire hydrants	Red
Fire main sectional isolation valve	Red
Emergency alarm bells	Red
Emergency alarm switches	Red
Fixed CO2 system release box doors	Red
Hose boxes and reels	Red
Fire flap handles	Red
Water Mist Spray head	Red
Fixed CO2 heads	Red[7]

Fire Extinguishers are coloured red with the top 5% of the extinguisher coloured as indicated below to identify the type of extinguisher (see Appendix A).

Water	Red
Foam	Red with Buff top
Dry Powder	Red with Light Blue top
CO2	Red with Black top

Emergency lights should have a Red line around the light, or a Red dot, to indicate their emergency purpose.

Other ship's equipment that is not connected with safety should not normally be painted red.

18. USE OF RETRO-REFLECTIVE MATERIAL ON LSA APPLIANCES

To assist detection, life-saving appliances should be fitted with retro-reflective material in such a manner that it is visible from both the air and from a ship.

It should be fitted in accordance with the guidelines provided in IMO Resolution A. 658(16).

All retro-reflective material that is cracked, delaminated or otherwise mechanically damaged must be replaced. Sufficient spare retro-reflective material shall be kept on board.

19. LIFEBOAT RELEASE MECHANISMS AND SAFETY INTERLOCKS

There are different models of release systems/ safety interlocks fitted on our vessels. Ship staff should familiarize with the ship specific arrangement referring to the maker instructions.

[7] W 26 / 2019

Ships should verify the following on weekly basis:

- Lifeboat release hooks reset properly and indicators, where fitted, show correct position.
- Lifeboat release operating lever locked and reset properly.
- Lifeboat release interlock arrangements locked and reset properly.
- Lifeboat release indicators clear and in correct position.
- Lifeboat release instructions fitted within boat and crew aware of correct operation.
- Lifeboat painter release operable.

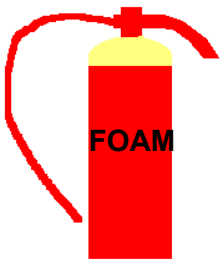
Ship staff shall be aware of routine maintenance requirements on life boat hooks, release systems and safety interlocks and this shall be carried out in accordance with manufacturer's instructions.

Following label to be posted in lifeboat "**Check Release hooks / Operating lever /Safety interlocks/ release indicators for correct position on weekly basis and especially after each lifeboat launching**"

Masters are to ensure that Cadets 3NO'S and 4EO'S fully understand these releases and how they are set and maintained. Many Junior Officers may only have sailed with free fall lifeboats.

Note: In free fall lifeboats, maintenance lashings or turnbuckles shall be used only during maintenance. These shall not be kept connected at other times as the lifeboat will not be in a state of operational readiness for lowering.

APPENDIX A

Portable Fire Extinguisher Guide					
TYPE	**Class A**	**Class B**	**Class C**	**Class E**	**Class F**
	Wood Paper plastics	Flammable Liquids	**Flammable Gases**	Electrical	Cooking Oil and Fat
	**YES**	**NO**	**NO**	**NO**	**NO**
	YES	**YES**	**NO**	**NO**	**Limited**
	YES	**YES**	**YES**	YES	**NO**
	**Limited**	**Limited**	**Limited**	**YES**	**Limited**