



The Bahamas Maritime Authority

BMA INFORMATION BULLETIN No. 97

FIRE FIGHTING EQUIPMENT

Guidance and Instructions for Ship-owners, Managers, Masters, Bahamas Recognised Organisations and Bahamas Approved Nautical Inspectors

Note: This Bulletin supersedes the previous issued BMA Information Bulletin No. 39 and replaces Instruction to Classification Societies Nos. 4 and 6. This Bulletin is to be read in conjunction with IMO MSC Circulars 600, 775, 850, IMO Circular FP.1/Circ.33, IMO Resolutions A. 655 (16), A. 719 (17) and A.951 (23).

1. Introduction

This Bulletin gives guidance on the inspection, testing and survey requirements of fixed fire fighting installations and portable fire extinguishers.

2. General Inspection and Maintenance of Fixed Carbon Dioxide (CO₂) and Halon Gas installations

- 2.1. A visual inspection of all cylinders forming part of a fixed fire extinguishing installation shall be carried out annually by a competent person*. The inspection shall include a means of determining if any leakage has occurred and verification that all valves, wires, levers/pulls, pipe-work, markings and operational instructions are maintained in a satisfactory condition.

* A competent person is one who has achieved a level of technical skill (incorporating theoretical knowledge and practical experience) to be able to complete a task or activity safely and to the specified standard. Refer to BMA Information Bulletin No. 89

- 2.2. The Company shall ensure that the inspection and maintenance of the whole system meets the requirements of the Recognised Organisation and any recommendations of the installation supplier. Any aspect of the testing and maintenance of the system which is assessed by the Company (as defined in the ISM Code) to be beyond the competence of the Company's and ship's personnel shall be carried out by a competent specialist maintenance firm.
- 2.3. Where the fixed installation is under maintenance and inoperable, alternative arrangements shall be made for dealing with fires in the protected spaces. Proposals for such alternative arrangements must be agreed with the Recognised Organisation and the BMA.

3. Hydrostatic Pressure Testing of Carbon Dioxide and Halon Gas cylinders

- 3.1. All cylinders are to be hydrostatically tested after twenty (20) years from the date of manufacture, and every five (5) years thereafter. A record of the hydraulic pressure test must be legibly marked on the cylinders.
- 3.2. Any cylinder which has been discharged, or has a reduction in pressure of 10% or more from its original pressure as stamped on the cylinder, or shows signs of external corrosion, must be inspected, hydrostatically tested and replaced or recharged.
- 3.3. With regard to potential leakage and losses to atmosphere in the course of Halon transfer, and the limited availability of Halon reception facilities, periodical hydrostatic testing of cylinders containing Halon Gas may be waived on application to the BMA. This is subject to a satisfactory alternative inspection, to be proposed by a Bahamas Recognised Organisation.
- 3.4. Low Pressure CO₂ systems may be exempted from hydrostatic pressure testing, subject to the following:
- i The tank is to be constructed of a material which is not ordinarily prone to corrosion (e.g. Stainless Steel, Aluminium or similar), and
 - ii Fittings and inspection of the tank are in accordance with Classification Society requirements, and
 - iii Documentary evidence to show that the tank and associated systems have been inspected and serviced annually. Annual inspection should include removal of insulation and sample inspection in way of pipes and fittings. The insulation and vapour barrier is to be properly reinstated, and
 - iv The tank shall not be exposed to extremes of temperature or pressure. Such exposure will cause the inspection and testing regime to be reviewed. The BMA is to be notified in such cases.

4. Specific Requirements for Halon Gas

The Bahamas Maritime Authority notes the internationally-agreed detrimental effect that the release of Halon has on the atmosphere but recognizes that there are existing ships which have Halon installed for fire extinguishing purposes. This guidance note takes into account the contents of the Montreal Protocol, IMO Resolutions A. 655 (16) and A. 719 (17) and guidance in IMO MSC Circulars 600 and 775.

4.1. New Installations

In accordance with the provisions of SOLAS Chapter II-I on the installation of fire extinguishing systems using Halon 1211, 1301 and 2402 and perfluorocarbons, such system is prohibited on all new buildings. New installations on existing vessels are also prohibited.

4.2. Discharge or Loss of Pressure of Existing Halon Gas cylinder

- 4.2.1. In the event of the discharge or loss of pressure of the Halon Gas cylinders the BMA will accept the replenishment of the used cylinders which remain in satisfactory condition.
- 4.2.2. The safety of the vessel and its crew remains paramount and if Halon Gas is not readily available, the ship will be required to ensure that the affected space has adequate fire fighting capability prior to departure from port. The adequacy of any temporary arrangement shall be to the satisfaction of the Recognised Organisation and the BMA, taking into account the relevant guidance in IMO MSC Circular.775.

4.3. Phase out of Halon Gas

- 4.3.1. Currently, there is no internationally agreed date for the phasing out of Halon however there may be local or regional regulations that impose restrictions on the use and/or phase out of Halon. The BMA recommends that Owners make themselves aware of these restrictions that may be applied by the country to which the ship is trading.
- 4.3.2. Owners of ships with existing Halon systems should note that the worldwide stock of Halon (see IMO Circular FP.1/Circ.33 for details of the available facilities) is diminishing and it is strongly recommended that a plan is implemented for the replacement the Halon system onboard.
- 4.3.3. Details of any proposed replacement of a system containing Halon must be forwarded to the Recognised Organisation.

5. Alternative Fixed Gas Fire Fighting Media

- 5.1. Alternative fire fighting systems referred to in SOLAS Chapter II-2, and the IGC Code for protection of machinery and accommodation spaces, pump rooms and cargo spaces may be fitted on board ships, subject to the approval, including any attached conditions, of a Bahamas Recognised Organisation or Contracting Government. The BMA shall receive prior notification of intention to fit an alternative system which has not been previously accepted by the BMA.
- 5.2. The BMA accepts the use of NOVEC 1230 and FM 200 (non-asphyxiating) fire extinguishing agents in machinery spaces for which no specific provisions for fire-extinguishing appliances are prescribed under the provisions of SOLAS Chapter II-2 requirements, subject to conditions (to be agreed on a case by case basis) appropriate to the space in question and provided that the space is not connected to an accommodation space.
- 5.3. In the case of alternative fire extinguishing arrangements in cargo spaces under the provisions of SOLAS Chapter II-2 requirements, arrangements may be evaluated and an exemption certificate may be issued, subject to relevant conditions and in conjunction with a list of specified cargoes as appropriate, without reference to the BMA.

6. Portable Fire Extinguishers

In determining the requirements for portable fire extinguishers, Recognised Organisations are directed to IMO Resolution A.951 (23), MSC Circular 850 and the International Code for Fire Safety Systems (FSS Code) Chapter 4.

7. Examination and Testing of Portable Fire Extinguishers

- 7.1. All extinguishers shall be examined annually by a qualified and experienced competent person* and records of the examinations shall be retained on board.
- 7.2. The containers of permanently pressurised fire extinguishers, propellant bottles of non-pressurised extinguishers and other extinguishers must be hydraulically pressure tested at intervals of ten (10) years. Containers of non-pressurised extinguishers shall also be tested at intervals of ten (10) years.

- 7.3. If the loss of gas from a carbon dioxide extinguisher or propellant bottle of any other type of extinguisher exceeds by 10% of the original charge as stamped on the extinguisher or bottle, the extinguisher or bottle must be inspected and recharged. Any extinguisher or bottle which has excessive corrosion shall be replaced.

8. Number of Portable Fire Extinguishers and Spare Charges

- 8.1. The number of portable fire extinguishers required by SOLAS Chapter II-2 is the number required to satisfy Classification Society rules but in no case less than five (5) for ships of 1000 gross tonnage and upwards.
- 8.2. The minimum number of spare charges carried on board for portable extinguishers shall be in accordance with SOLAS Chapter II-2, namely:
- i 100% for the first 10 extinguishers; and
 - ii 50% for the remaining extinguishers up to a maximum of 60.
- 8.3. Additional extinguishers of the same type and capacity shall be carried in lieu of spare charges for any extinguishers which cannot be charged on board ship.
- 8.4. Instructions for recharging extinguishers shall be carried on board ship and refills shall be of a type approved by the manufacturer of the extinguisher.

9. Additional Survey Requirements

- 9.1 In surveying the safety equipment on a vessel, Recognised Organisations shall verify that:
- i all fire fighting equipment has been inspected and maintained in accordance with the manufacturer's instructions and the foregoing requirements;
 - ii the manufacturer's maintenance instructions are on board;
 - iii records of inspections, maintenance and pressure tests are maintained; and
 - iv spare charges are provided in accordance with paragraphs 10.2 and 10.3.
- 9.2 Recognised Organisations shall refer, with relevant recommendations, any Bahamian ship which does not satisfy any of the foregoing requirements to the BMA prior to the issue or endorsement of a Cargo Ship Safety Equipment Certificate, Passenger Ship Safety Certificate or any other statutory certificate that relates to safety equipment (e.g. MODU/MOU certificates).

10. Records

Records shall be maintained onboard of:

- i annual inspections,
- ii other maintenance and testing,
- iii deficiencies identified and corrective actions performed.