



INTERNATIONAL SHIP CLASSIFICATION

10 Anson Road, #25-01 International Plaza Singapore 079903
Tel: +65 6225 2565 Fax: +65 6225 2265 Email: Info@isclass.org

CIRCULAR



CERT. NO.: FM/FS 504144
BS EN ISO 9001 : 2000

To : All Offices
From : General Manager
ISClass
Date : 14 May 2007
Ref : CIR07/0007

MAINTENANCE, TESTING AND INSPECTIONS OF FIRE-PROTECTION SYSTEMS AND FIRE-FIGHTING SYSTEMS AND APPLIANCES

1. This circular provides guidance for the maintenance and inspection of fire-protection systems and appliances for Tuvalu Ship Registry and Kiribati Ship Registry. Regulation II-2/14.2.2 (Maintenance, testing and inspections) of the 2000 SOLAS Amendments requires maintenance, testing and inspections to be carried out based on MSC/Circ.850 (Guidelines for the Maintenance and Inspection of Fire-protection systems and appliances) dated 8 June 1998.
2. The maintenance plan should include, but not limited to, the following fire protection systems and fire-fighting systems and appliances, where installed:
 - a) fire mains, fire pumps and hydrants including hoses, nozzles and international shore connections;
 - b) fixed fire detection and fire alarm systems;
 - c) fixed fire-extinguishing systems and other fire extinguishing appliances;
 - d) automatic sprinkler, fire detection and fire alarm systems;
 - e) ventilation systems including fire and smoke dampers, fans and their controls;
 - f) emergency shut down of fuel supply;
 - g) fire doors including their controls;
 - h) general emergency alarm systems;
 - i) emergency escape breathing devices;
 - j) portable fire extinguishers including space charges; and
 - k) fire-fighter's outfits.
3. In addition to the fire protection systems and appliances listed in paragraph 2, passenger ships are required to develop a maintenance plan for low-location lighting and public address systems.
4. In addition to the fire protection systems and appliances listed in paragraph 2, tankers are required to develop a maintenance plan for:

- (i) inert gas systems;
- (ii) deck foam systems;
- (iii) fire safety arrangements in cargo pump rooms; and
- (iv) flammable gas detectors.

5. The following are supplementary to the guidelines in MSC/Circ.850:

(a) Portable fire extinguishers

- (i) Portable fire extinguishers should be examined annually by a competent person;
- (ii) Each portable fire extinguisher should be provided with a sign indicating that it has been examined.
- (iii) Containers of permanently pressurized portable fire extinguishers and propellant bottles of non-pressurized portable fire extinguishers should be hydraulic pressure tested as follows:
 - powder extinguishers every 10 years;
 - CO₂ extinguishers every 10 years; and
 - Other extinguishers every 10 years.
- (iv) Containers of non-permanently pressurized portable fire extinguishers should be hydraulic pressure tested every 10 years.
- (v) The condition of recharge of portable CO₂ gas fire extinguishers should be checked annually, and if the loss of gas by weight exceeds 10 % of the original charge, gas cylinders to be hydraulic pressure tested before being recharged.
- (vi) The condition of recharge of portable fire extinguishers other than CO₂ gas fire extinguishers including propellant bottles should be checked annually, and if the loss of gas by weight exceeds 10 % of the original charge, they should be to be recharged.

(b) Fixed CO₂ fire extinguishing installation

- (i) CO₂ bottles of fixed CO₂ fire extinguishing installation should be hydraulic pressure tested 20 years after the date on which the bottles were put into use, and every 5 years thereafter.
- (ii) The quantity of the medium in the CO₂ bottles should be checked once every 4 years. This may be carried out in batches of 25% of the CO₂ bottles annually, or 50% of the CO₂ bottles biennially or in accordance with the ship's maintenance so long as every CO₂ bottle is checked once every 4 years.
- (iii) All stop valves should be checked monthly to ensure that they are in their proper open or closed position.
- (iv) The installation should be checked monthly to ensure that there is no leakage.

- (v) All CO2 bottle connections for cable operating system clips should be checked for tightness every 3 months.
 - (vi) All control valves should be inspected annually and internally inspected every 5 years.
 - (vii) Air should be blown through the piping of the installation annually
- (c) Low pressure fixed CO2 fire extinguishing installation
- (i) The tanks, together with fittings shall be inspected externally every 5 years. At the external inspection, insulation material of the tank at points most likely to suffer corrosion / deterioration and considered necessary shall be removed to facilitate the external inspection. Pipes and valves at transitional points between insulated and uninsulated areas (cold-conductors) as well as tank supports, flange sockets and valves shall be included in the 5-yearly external inspection. The external inspection shall also include maintenance inspection stipulated in the manufacturer's operation and maintenance manual.
 - (ii) At least once a year, a thorough external inspection of the tank supports, flange sockets and valves mentioned in (i) shall be carried out.
 - (iii) In addition to the 5-yearly external inspection, an internal inspection of the tanks shall be carried out every 10 years. If the inspection show the signs of corrosion of the tank which warrants a shorter period of external inspection with the tank stripped of all its insulation material, then it shall be so carried out at the next 5-yearly external inspection. In any way, if the corrosion is serious enough as to render the inquiry and strength of the container doubtful, then a pressure test should be carried out.
 - (iv) Hydrostatic testing of the pipes and tanks may be required at the discretion of the attending surveyor, in cases of corrosion/deterioration or the external or internal proved prudent to do so.
 - (v) In any case, hydrostatic testing of the pipes and tanks shall be carried out after repairs to the tanks or pipes in cases of cracks or holes.
 - (vi) The requirement of above paragraph (iii) is put in abeyance for the time being, at least for the next 2 years. However, should the CO2 tanks be emptied or its external insulation completely removed in the course of specific or routine repairs or maintenance to the tanks or installation, owners/managers should inform ISClass and request for an internal or external inspection of the CO2 tanks as the case may be.

Appendix: MSC/Circ.850 dated 8 June 1998 “Guidelines for the Maintenance and Inspection of Fire-protection systems and appliances”