



JABATAN LAUT MALAYSIA

MARINE DEPARTMENT MALAYSIA

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Notis kepada pemilik kapal, agen perkapalan, Nakhoda, pelaut, pengusaha pelabuhan, badan klasifikasi yang diiktiraf, pengurus kapal dan industri maritim
Notice to shipowners, ship agents, Masters, seafarers, port operators, recognized organization, ship manager and the maritime industry

**AMENDMENTS TO INTERNATIONAL CONVENTION ON SAFETY OF LIFE AT SEA - FIXED GAS FIRE
EXTINGUISHING SYSTEM**

1. The purpose of this Notice is to inform the shipping community of the adoption of the amendments to SOLAS CHAPTER II-2, the Maritime Safety Committee during its 84th session on 16th May 2008 has made the following amendments through [RESOLUTION MSC.256 \(84\)](#)
2. The amendment requires that, by the first scheduled dry-docking after 1 January 2010, fixed carbon dioxide fire-extinguishing systems for the protection of machinery spaces and cargo pump-rooms on ships constructed before 1 July 2002 shall comply with the provisions of paragraph 2.2.2 of chapter 5 of the Fire Safety Systems Code; refer to Appendix I.

CO2 system shall comply with the following requirements:

- a. Two separate controls shall be provided for releasing carbon dioxide into a protected space and to ensure the activation of the alarm. One control shall be used for opening the valve of the piping which conveys the gas into the protected space and a second control shall be used to discharge the gas from its storage containers; and
 - b. The two controls shall be located inside a release box clearly identified for the particular space. If the box containing the controls is to be locked, a key to the box shall be in a break-glass-type enclosure conspicuously located adjacent to the box.
3. Shipping Communities are advice to take note the date of entry into force and comply fully with the requirements of the above amendments.

Ketua Pengarah Laut/*Director General of Marine*

Tarikh/Date : 1st January 2010

FSS CODE- FIRE SAFETY SYSTEM

ANNEX- INTERNATIONAL CODE FOR FIRE SAFETY SYSTEMS

CHAPTER 5- FIXED GAS FIRE EXTINGUISHING SYSTEMS

1 Application

This chapter details the specifications for fixed gas fire-extinguishing systems as required by chapter II-2 of the Convention.

2 Engineering specifications

2.1 General

2.1.1. Fire-extinguishing medium

2.1.1.1. Where the quantity of the fire-extinguishing medium is required to protect more than one space, the quantity of medium available need not be more than the largest quantity required for any one space so protected.

2.1.1.2. The volume of starting air receivers, converted to free air volume, shall be added to the gross volume of the machinery space when calculating the necessary quantity of the fire-extinguishing medium. Alternatively, a discharge pipe from the safety valves may be fitted and led directly to the open air.

2.1.1.3. Means shall be provided for the crew to safely check the quantity of the fire-extinguishing medium in the containers.

2.1.1.4. Containers for the storage of fire-extinguishing medium and associated pressure components shall be designed to pressure codes of practice to the satisfaction of the Administration having regard to their locations and maximum ambient temperatures expected in service.

2.1.2. Installation requirements

2.1.2.1. The piping for the distribution of fire-extinguishing medium shall be arranged and discharge nozzles so positioned that a uniform distribution of the medium is obtained.

2.1.2.2. Except as otherwise permitted by the Administration, pressure containers required for the storage of fire-extinguishing medium, other than steam, shall be located outside the protected spaces in accordance with regulation II-2/10.4.3 of the Convention.

2.1.2.3. Spare parts for the system shall be stored on board and be to the satisfaction of the Administration.

2.1.3. System control requirements

2.1.3.1. The necessary pipes for conveying fire-extinguishing medium into the protected spaces shall be provided with control valves so marked as to indicate clearly the spaces to which the pipes are led. Suitable provision shall be made to prevent inadvertent release of the medium into the space. Where a cargo space fitted with a gas fire-extinguishing system is used as a passenger space, the gas connection shall be blanked during such use. The pipes may pass through accommodations providing that they are of substantial thickness and that their tightness is verified with a pressure test, after their installation, at a pressure head not less than 5 N/mm². In addition, pipes passing through accommodation areas shall be joined only by welding and shall not be fitted with drains or other openings within such spaces. The pipes shall not pass through refrigerated spaces.

2.1.3.2. Means shall be provided for automatically giving audible warning of the release of fire-extinguishing medium into any ro-ro spaces and other spaces in which personnel normally work or to which they have access. The pre-discharge alarm shall be automatically activated (e.g., by opening of the release cabinet door). The alarm shall operate for the length of time needed to evacuate the space, but in no case less than 20 s before the medium is released. Conventional cargo spaces and small spaces (such as compressor rooms, paint lockers, etc.) with only a local release need not be provided with such an alarm.

2.1.3.3. The means of control of any fixed gas fire-extinguishing system shall be readily accessible, simple to operate and shall be grouped together in as few locations as possible at positions not likely to be cut off by a fire in a protected space. At each location there shall be clear instructions relating to the operation of the system having regard to the safety of personnel.

2.1.3.4. Automatic release of fire-extinguishing medium shall not be permitted, except as permitted by the Administration.

2.2 Carbon dioxide systems

2.2.1. Quantity of fire extinguishing medium

2.2.1.1. For cargo spaces the quantity of carbon dioxide available shall, unless otherwise provided, be sufficient to give a minimum volume of free gas equal to 30% of the gross volume of the largest cargo space to be protected in the ship.

2.2.1.2. For machinery spaces the quantity of carbon dioxide carried shall be sufficient to give a minimum volume of free gas equal to the larger of the following volumes, either:

- .1. 40% of the gross volume of the largest machinery space so protected, the volume to exclude that part of the casing above the level at which the horizontal area of the casing is 40% or less of the horizontal area of the space concerned taken midway between the tank top and the lowest part of the casing;

.2. or 35% of the gross volume of the largest machinery space protected, including the casing.

2.2.1.3. The percentages specified in paragraph 2.2.1.2 above may be reduced to 35% and 30% respectively, for cargo ships of less than 2,000 gross tonnage provided that, where two or more machinery spaces are not entirely separate, they shall be considered as forming one space.

2.2.1.4. For the purpose of this paragraph the volume of free carbon dioxide shall be calculated at $0.56 \text{ m}^3/\text{kg}$

2.2.1.5. For machinery spaces the fixed piping system shall be such that 85% of the gas can be discharged into the space within 2 min.

2.2.2. Controls

Carbon dioxide systems shall comply with the following requirements:

.1. two separate controls shall be provided for releasing carbon dioxide into a protected space and to ensure the activation of the alarm. One control shall be used for opening the valve of the piping which conveys the gas into the protected space and a second control shall be used to discharge the gas from its storage containers; and

.2. the two controls shall be located inside a release box clearly identified for the particular space. If the box containing the controls is to be locked, a key to the box shall be in a break-glass-type enclosure conspicuously located adjacent to the box.

2.3 Requirements of steam systems

. The boiler or boilers available for supplying steam shall have an evaporation of at least 1 kg of steam per hour for each 0.75 m^3 of the gross volume of the largest space so protected. In addition to complying with the foregoing requirements the systems in all respects shall be as determined by, and to the satisfaction of, the Administration.

2.4 Systems using gaseous products of fuel combustion

2.4.1. General

Where gas other than carbon dioxide or steam, as permitted by paragraph 2.3, is produced on the ship and is used as a fire-extinguishing medium, the system shall comply with the requirements in paragraph 2.4.2.

2.4.2. Requirements of the systems

2.4.2.1. Gaseous products

Gas shall be a gaseous product of fuel combustion in which the oxygen content, the carbon monoxide content, the corrosive elements and any solid combustible elements in a gaseous product shall have been reduced to a permissible minimum.

2.4.2.2. Capacity of fire -extinguishing systems

2.4.2.2.1. Where such gas is used as the fire-extinguishing medium in a fixed fire-extinguishing system for the protection of machinery spaces, it shall afford protection equivalent to that provided by a fixed system using carbon dioxide as the medium.

2.4.2.2.2. Where such gas is used as the fire-extinguishing medium in a fixed fire-extinguishing system for the protection of cargo spaces, a sufficient quantity of such gas shall be available to supply hourly a volume of free gas at least equal to 25 % of the gross volume of the largest space protected in this way for a period of 72 h.

2.5 Equivalent fixed gas fire-extinguishing systems for machinery spaces and cargo pump rooms

. Fixed gas fire-extinguishing systems equivalent to those specified in paragraphs 2.2 to 2.4 shall be approved by the Administration based on the guidelines developed by the Organization.