



The latest IMO Briefing (IMO 29,2000) offered the following description of the 73rd Meeting of the Maritime Safety Committee:

*The 73rd meeting of the IMO's senior technical body, the Maritime Safety Committee (MSC), concluded (on 6 December 2000) what Secretary-General William O'Neil referred to as a session "without parallel" in IMO's history. The eight-day meeting successfully completed a demanding work programme that saw significant progress made on a wide diversity of key maritime safety issues.*

This significant body of work resulted in the publication of MSC 73/21/Add. 2, The Report of the Maritime Safety Committee on its Seventy-Third Session. This far reaching document establishes twelve new annexes to the existing SOLAS Convention. **Ocenco, Inc.** has excerpted the attached information from the 266 pages that comprise Annexes 6 through 17.

We have focused on, Resolution MSC.98(73)- Adoption of the International Code for **Fire Safety Systems** (FSS Code) and, Resolution MSC.99(73)-Adoption of **Amendments to the International Convention for the Safety of Life at Sea, 1974** as Amended. All SOLAS ships must comply with the new regulation by July 2002.

We welcome the opportunity to discuss these enclosed SOLAS regulations and look forward to supplying your fleet requirements for EEBDs. To contact us for more information, or to place an order:

Contact us by phone:           +262-947-9000  
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Or visit our website:         [www.ocenco-eebd.com](http://www.ocenco-eebd.com)

*Headquartered in Pleasant Prairie, Wis., **Ocenco, Inc.**, is a worldwide manufacturer of respiratory equipment for the maritime, mining, medical and chemical industries. The company has been providing safety solutions for hostile and hazardous environments since 1970.*

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**IMO**

MARITIME SAFETY COMMITTEE  
73rd session  
Agenda item 21

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14 December 2000  
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**REPORT OF THE MARITIME SAFETY COMMITTEE  
ON ITS SEVENTY-THIRD SESSION**

*This report has been excerpted to include only those portions of Chapter II-2 – Construction – Fire Protection, Fire Detection and Fire Extinction and The International Code for Fire Safety Systems (Fire Safety Systems Code) that effect Emergency Escape Breathing Devices (EEBD).*

**RESOLUTION MSC.99(73)** - ADOPTION OF AMENDMENTS TO THE INTERNATIONAL CONVENTION FOR THE SAFETY OF LIFE AT SEA, 1974, AS AMENDED

**RESOLUTION MSC.98(73)** - ADOPTION OF THE INTERNATIONAL CODE FOR FIRE SAFETY SYSTEMS (FSS CODE)

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**RESOLUTION MSC.99(73)**  
**(adopted on 5 December 2000)**

**ADOPTION OF AMENDMENTS TO THE INTERNATIONAL CONVENTION  
FOR THE SAFETY OF LIFE AT SEA, 1974, AS AMENDED**

**CHAPTER II-2**

**CONSTRUCTION – FIRE PROTECTION, FIRE DETECTION AND  
FIRE EXTINCTION**

6 The existing text of chapter II-2 is replaced by the following:

**“PART A - GENERAL**

**Regulation 1**

**Application**

**1 Application**

1.1 Unless expressly provided otherwise, this chapter shall apply to ships constructed on or after 1 July 2002.

1.2 For the purpose of this chapter:

- .1 the expression *ships constructed* means ships the keels of which are laid or which are at a similar stage of construction;
- .2 the expression *all ships* means ships, irrespective of type, constructed before, on or after 1 July 2002; and
- .3 a cargo ship, whenever built, which is converted to a passenger ship shall be treated as a passenger ship constructed on the date on which such a conversion commences.

1.3 For the purpose of this chapter, the expression a *similar stage of construction* means the stage at which:

- .1 construction identifiable with a specific ship begins; and
- .2 assembly of that ship has commenced comprising at least 50 tonnes or one percent of the estimated mass of all structural material, whichever is less.

## **2 Applicable requirements to existing ships**

2.1 Unless expressly provided otherwise, for ships constructed before 1 July 2002 the Administration shall ensure that the requirements which are applicable under chapter II-2 of the International Convention for the Safety of Life at Sea, 1974, as amended by resolutions MSC.1(XLV), MSC.6(48), MSC.13(57), MSC.22(59), MSC.24(60), MSC.27(61), MSC.31(63) and MSC.57(67), are complied with.

2.2 Ships constructed before 1 July 2002 shall also comply with:

- .1 paragraphs 3, 6.5 and 6.7 as appropriate;
- .2 regulations 13.3.4.2 to 13.3.4.5, 13.4.3 and Part E, except regulations 16.3.2.2 and 16.3.2.3 thereof, as appropriate, not later than the date of the first survey after 1 July 2002;
- .3 regulations 10.4.1.3 and 10.6.4 for new installations only; and
- .4 regulation 10.5.6 not later than 1 October 2005 for passenger ships of 2,000 gross tonnage and above.

## **3 Repairs, alterations, modifications and outfitting**

3.1 All ships which undergo repairs, alterations, modifications and outfitting related thereto shall continue to comply with at least the requirements previously applicable to these ships. Such ships, if constructed before 1 July 2002, shall, as a rule, comply with the requirements for ships constructed on or after that date to at least the same extent as they did before undergoing such repairs, alterations, modifications or outfitting.

3.2 Repairs, alterations and modifications which substantially alter the dimensions of a ship or the passenger accommodation spaces, or substantially increase a ship's service life and outfitting related thereto shall meet the requirements for ships constructed on or after 1 July 2002 in so far as the Administration deems reasonable and practicable.

## **4 Exemptions**

4.1 The Administration may, if it considers that the sheltered nature and conditions of the voyage are such as to render the application of any specific requirements of this chapter unreasonable or unnecessary, exempt\* from those requirements individual ships or classes of ships entitled to fly the flag of its State, provided that such ships, which, in the course of their voyage, do not sail at distances of more than 20 miles from the nearest land.

4.2 In the case of passenger ships which are employed in special trades for the carriage of large numbers of special trade passengers, such as the pilgrim trade, the Administration, if satisfied that it is impracticable to enforce compliance with the requirements of this chapter, may exempt such ships from those requirements, provided that they comply fully with the provisions of:

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\*Refer to port State concurrence with SOLAS exemptions (MSC/Circ.606).

- .1 the rules annexed to the Special Trade Passenger Ships Agreement, 1971; and
- .2 the rules annexed to the Protocol on Space Requirements for Special Trade Passenger Ships, 1973.

## **5 Applicable requirements depending on ship type**

Unless expressly provided otherwise:

- .1 requirements not referring to a specific ship type shall apply to ships of all types; and
- .2 requirements referring to tankers shall apply to tankers subject to the requirements specified in paragraph 6 below.

## **6 Application of requirements for tankers**

- 6.1 Requirements for tankers in this chapter shall apply to tankers carrying crude oil or petroleum products having a flashpoint not exceeding 60°C (closed cup test), as determined by an approved flashpoint apparatus, and a Reid vapour pressure which is below the atmospheric pressure or other liquid products having a similar fire hazard.

**AMENDMENTS TO THE INTERNATIONAL CONVENTION FOR THE  
SAFETY OF LIFE AT SEA, 1974, AS AMENDED**

**CHAPTER II-2**

**CONSTRUCTION – FIRE PROTECTION, FIRE DETECTION AND  
FIRE EXTINCTION**

**PART D - ESCAPE**

**Regulation 13**

**Means of escape**

**1 Purpose**

The purpose of this regulation is to provide means of escape so that persons onboard can safely and swiftly escape to the lifeboat and liferaft embarkation deck. For this purpose, the following functional requirements shall be met:

- .1 safe escape routes shall be provided;
- .2 escape routes shall be maintained in a safe condition, clear of obstacles; and
- .3 additional aids for escape shall be provided as necessary to ensure accessibility, clear marking, and adequate design for emergency situations.

**2 General requirements**

- 2.1 Unless expressly provided otherwise in this regulation, at least two widely separated and ready means of escape shall be provided from all spaces or group of spaces.
- 2.2 Lifts shall not be considered as forming one of the means of escape as required by this regulation.

**3 Means of escape from control stations, accommodation and service spaces**

**3.4 *Emergency escape breathing devices\****

- 3.4.1 **Emergency escape breathing devices** shall comply with the Fire Safety Systems Code. Spare emergency escape breathing devices shall be kept onboard.
- 3.4.2 All ships shall carry at least two **emergency escape breathing devices** within accommodation spaces.
- 3.4.3 In passenger ships, at least two **emergency escape breathing devices** shall be carried in each main vertical zone.
- 3.4.4 In passenger ships carrying more than 36 passengers, two **emergency escape breathing devices**, in addition to those required in paragraph 3.4.3 above, shall be carried in each main vertical zone.

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\*Refer to the Guidelines for the performance, location, use and care of emergency escape breathing devices (MSC/Circ.849).

3.4.5 However, paragraphs 3.4.3 and 3.4.4 do not apply to stairway enclosures which constitute individual main vertical zones and for the main vertical zones in the fore or aft end of a ship which do not contain spaces of categories (6), (7), (8) or (12) defined in regulation 9.2.2.3.

## 4 Means of escape from machinery spaces

### 4.3 *Emergency escape breathing devices*

4.3.1 On all ships, within the machinery spaces, **emergency escape breathing devices** shall be situated ready for use at easily visible places, which can be reached quickly and easily at any time in the event of fire. The location of **emergency escape breathing devices** shall take into account the layout of the machinery space and the number of persons normally working in the spaces.\*

4.3.2 The number and location of these devices shall be indicated in the fire control plan required in regulation 15.2.4.

4.3.3 **Emergency escape breathing devices** shall comply with the Fire Safety Systems Code.

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\*Refer to the Guidelines for the performance, location, use and care of emergency escape breathing devices (MSC/Circ.849).

## **PART E - OPERATIONAL REQUIREMENTS**

### **Regulation 14**

#### **Operational readiness and maintenance**

##### **1 Purpose**

The purpose of this regulation is to maintain and monitor the effectiveness of the fire safety measures the ship is provided with. For this purpose, the following functional requirements shall be met:

- .1 fire protection systems and fire-fighting systems and appliances shall be maintained ready for use; and
- .2 fire protection systems and fire-fighting systems and appliances shall be properly tested and inspected.

##### **2 General requirements**

At all times while the ship is in service, the requirements of paragraph 1.1 shall be complied with. A ship is not in service when:

- .1 it is in for repairs or lay-up (either at anchor or in port) or in dry-dock;
- .2 it is declared not in service by the owner or the owner's representative; and
- .3 in the case of passenger ships, there are no passengers on board.

##### *2.1 Operational readiness*

2.1.1 The following fire protection systems shall be kept in good order so as to ensure their required performance if a fire occurs:

- .1 structural fire protection including fire resisting divisions, and protection of openings and penetrations in these divisions;
- .2 fire detection and fire alarm systems; and
- .3 means of escape systems and appliances.

2.1.2 Fire-fighting systems and appliances shall be kept in good working order and readily available for immediate use. Portable extinguishers which have been discharged shall be immediately recharged or replaced with an equivalent unit.

##### *2.2 Maintenance, testing and inspections*

2.2.1 Maintenance, testing and inspections shall be carried out based on the guidelines developed by the Organization\* and in a manner having due regard to ensuring the reliability of fire-fighting systems and appliances.

2.2.2 The maintenance plan shall be kept on board the ship and shall be available for inspection whenever required by the Administration.

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\*Refer to the Guidelines on maintenance and inspection of fire protection systems and appliances (MSC/Circ.850).



2.2.3 The maintenance plan shall include at least the following fire protection systems and fire-fighting systems and appliances, where installed:

- .1 fire mains, fire pumps and hydrants including hoses, nozzles and international shore connections;
- .2 fixed fire detection and fire alarm systems;
- .3 fixed fire-extinguishing systems and other fire extinguishing appliances;
- .4 automatic sprinkler, fire detection and fire alarm systems;
- .5 ventilation systems including fire and smoke dampers, fans and their controls;
- .6 emergency shut down of fuel supply;
- .7 fire doors including their controls;
- .8 general emergency alarm systems;
- .9 emergency escape breathing devices;**
- .10 portable fire extinguishers including space charges; and
- .11 fire-fighter s outfits.

2.2.4 The maintenance programme may be computer-based.

## Regulation 15

### Instructions, onboard training and drills

#### 1 Purpose

The purpose of this regulation is to mitigate the consequences of fire by means of proper instructions for training and drills of persons onboard in correct procedures under emergency conditions. For this purpose, the crew shall have the necessary knowledge and skills to handle fire emergency cases, including passenger care.

#### 2 General requirements

##### 2.2 Onboard training and drills

2.2.1 Crew members shall be trained to be familiar with the arrangements of the ship as well as the location and operation of any fire-fighting systems and appliances that they may be called upon to use.

2.2.2 Training in the use of the **emergency escape breathing devices** shall be considered as part of on board training.

##### 2.3 Training manuals

2.3.1 A training manual shall be provided in each crew mess room and recreation room or in each crew cabin.

2.3.2 The training manual shall be written in the working language of the ship.

2.3.3 The training manual, which may comprise several volumes, shall contain the instructions and information required in paragraph 2.3.4 in easily understood terms and illustrated wherever possible. Any part of such information may be provided in the form of audio-visual aides in lieu of the manual.

2.3.4 The training manual shall explain the following in detail:

- .1 general fire safety practice and precautions related to the dangers of smoking, electrical hazards, flammable liquids and similar common shipboard hazards;
- .2 general instructions on fire-fighting activities and fire-fighting procedures including procedures for notification of a fire and use of manually operated call points;
- .3 meanings of the ship's alarms;
- .4 operation and use of fire-fighting systems and appliances;
- .5 operation and use of fire doors;
- .6 operation and use of fire and smoke dampers; and
- .7 **escape systems and appliances.**

## **Regulation 16**

### **Operations**

#### **1 Purpose**

The purpose of this regulation is to provide information and instructions for proper ship and cargo handling operations in relation to fire safety. For this purpose, the following functional requirements shall be met:

- .1 fire safety operational booklets shall be provided on board; and
- .2 flammable vapour releases from cargo tank venting shall be controlled.

#### **2 Fire safety operational booklets**

2.1 The required fire safety operational booklet shall contain the necessary information and instructions for the safe operation of the ship and cargo handling operations in relation to fire safety. The booklet shall include information concerning the crew's responsibilities for the general fire safety of the ship while loading and discharging cargo and while underway. Necessary fire safety precautions for handling general cargoes shall be explained. For ships carrying dangerous goods and flammable bulk cargoes, the fire safety operational booklet shall also provide reference to the pertinent fire-fighting and emergency cargo handling instructions contained in the Code of Safe Practice for Solid Bulk Cargoes, the International Bulk Chemical Code, the International Gas Carrier Code and the International Maritime Dangerous Goods Code, as appropriate.

2.2 The fire safety operational booklet shall be provided in each crew mess room and recreation room or in each crew cabin.

2.3 The fire safety operational booklet shall be written in the working language of the ship.

2.4 The fire safety operational booklet may be combined with the training manuals required in regulation 15.2.3.

# THE INTERNATIONAL CODE FOR FIRE SAFETY SYSTEMS (Fire Safety Systems Code)

## PREAMBLE

1 The purpose of this Code is to provide international standards of specific engineering specifications for fire safety systems required by chapter II-2 of the International Convention for the Safety of Life at Sea, 1974, as amended.

2 On or after 1 July 2002, this Code will be mandatory for fire safety systems required by the International Convention for the Safety of Life at Sea, 1974, as amended. Any future amendment to the Code must be adopted and brought into force in accordance with the procedure laid down in Article VIII of the Convention.

## CHAPTER 1 - GENERAL

### 1 Application

1.1 This code is applicable to fire safety systems as referred to in chapter II-2 of the International Convention for the Safety of Life at Sea, 1974, as amended.

1.2 Unless expressly provided otherwise, this Code is applicable for the fire safety systems of ships the keels of which are laid or which are at a similar stage of construction on or after 1 July 2002.

### 2 Definitions

2.1 *Administration* means the Government of the State whose flag the ship is entitled to fly.

2.2 *Convention* means the International Convention for the Safety of Life at Sea, 1974, as amended.

2.3 *Fire Safety Systems Code* means the International Code for Fire Safety Systems as defined in chapter II-2 of the International Convention for the Safety of Life at Sea, 1974, as amended.

2.4 For the purpose of this Code, definitions provided in chapter II-2 of the Convention also apply.

### 3 Use of equivalents and modern technology

In order to allow modern technology and development of fire safety systems, the Administrations may approve fire safety systems which are not specified in this Code if the requirements of Part F of chapter II-2 of the Convention are fulfilled.

### 4 Use of toxic extinguishing media

The use of a fire-extinguishing medium which, in the opinion of the Administration, either by itself or under expected conditions of use gives off toxic gases, liquids and other substances in such quantities as to endanger persons shall not be permitted.

## CHAPTER 3 - PERSONNEL PROTECTION

### 1 Application

This chapter details the specifications for personnel protection as required by chapter II-2 of the Convention.

### 2 Engineering specifications

#### 2.2 *Emergency escape breathing devices (EEBD)*

##### 2.2.1 *General*

2.2.1.1 An **EEBD** is a supplied air or oxygen device only used for escape from a compartment that has a hazardous atmosphere and shall be of an approved type.

2.2.1.2 **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.

##### 2.2.2 *Definitions*

##### 2.2.3 Particulars

2.2.3.1 The **EEBD** shall have a service duration of at least 10 min.

2.2.3.2 The **EEBD** shall include a hood or full face piece, as appropriate, to protect the eyes, nose and mouth during escape. Hoods and face pieces shall be constructed of flame resistant materials and include a clear window for viewing.

2.2.3.3 An inactivated **EEBD** shall be capable of being carried hands-free.

2.2.3.4 An **EEBD**, when stored, shall be suitably protected from the environment.

2.2.3.5 Brief instructions or diagrams clearly illustrating their use shall be clearly printed on the **EEBD**. The donning procedures shall be quick and easy to allow for situations where there is little time to seek safety from a hazardous atmosphere.

##### 2.2.4 *Markings*

Maintenance requirements, manufacturer s trademark and serial number, shelf life with accompanying manufacture date and name of approving authority shall be printed on each **EEBD**. All **EEBD** training units shall be clearly marked.

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Ref. T4/4.03 MSC/Circ.849  
8 June 1998

## **GUIDELINES FOR THE PERFORMANCE, LOCATION, USE AND CARE OF EMERGENCY ESCAPE BREATHING DEVICES (EEBDs)**

1 The Maritime Safety Committee, at its sixty-ninth session (11 to 20 May 1998), noting that it had approved, in principle, proposed draft amendments to SOLAS chapter II-2 to require the carriage of **emergency escape breathing devices (EEBDs)** on all ships, for inclusion in future amendments to the 1974 SOLAS Convention, approved Guidelines for the performance, location, use and care of **emergency escape breathing devices (EEBDs)**, as set out in the annex.

2 Member Governments are invited, pending adoption by the MSC and entry into force of the aforementioned proposed amendments to the 1974 SOLAS Convention, to bring the annexed Guidelines to the attention of shipowners, shipmasters, ships officers and crew and all other parties concerned.

## **GUIDELINES FOR THE PERFORMANCE, LOCATION, USE AND CARE OF EMERGENCY ESCAPE BREATHING DEVICES (EEBDs)**

### 1 SCOPE

1.1 These Guidelines provide information and guidance on the location, use, and care of **emergency escape breathing devices (EEBDs)**, to provide personnel breathing protection against a hazardous atmosphere while escaping to an area of safety.

### 2 GENERAL

2.1 An **EEBD** is a supplied air or oxygen device only used for escape from a compartment that has a hazardous atmosphere and should be of approved type.

2.2 **EEBDs** are not to 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 situations should be used.

### 3 DEFINITIONS

3.1 Face piece means a face covering that is designed to form a complete seal around the eyes, nose and mouth which is secured in position by a suitable means.

3.2 Hood means a head covering which completely covers the head, neck, and may cover portions of the shoulders.

3.3 Hazardous atmosphere means any atmosphere that is immediately dangerous to life or health.

### 4 PARTICULARS

4.1 The **EEBD** should have at least a duration of service of 10 min.

4.2 The **EEBD** should include a hood or full face piece, as appropriate, to protect the eyes, nose and mouth during escape. Hoods and face pieces should be constructed of flame resistant materials, and include a clear window for viewing.

4.3 An unactivated **EEBD** should be capable of being carried hands-free.

4.4 The **EEBDs**, when stored, should be suitably protected from the environment.

4.5 Brief instructions or diagrams clearly illustrating the use should be clearly printed on the **EEBD**. The donning procedures should be quick and easy to allow for situations where there is little time to seek safety from a hazardous atmosphere.

4.6 Unless personnel are individually carrying **EEBDs**, consideration should be given for placing such devices along the escape routes within the machinery spaces or at the foot of each escape ladder within the space. In addition, control spaces and workshops located within the machinery spaces should also be considered for the possible location of such devices.

## 5 CARE

- 5.1 The **EEBD** should be maintained in accordance with the manufacturer s instructions.
- 5.2 Spare **EEBDs** should be kept on board.
- 5.3 Maintenance requirements, manufacturer s trademark and serial number, shelf life with accompanying manufacture date and name of approving authority should be printed on each **EEBD**.

## 6 TRAINING

- 6.1 Training in the use of the **EEBD** should be considered as a part of basic safety training.
- 6.2 All **EEBD** training units should be clearly marked.
- 6.3 Personnel should be trained to immediately don an **EEBD** prior to exiting a space when the atmosphere becomes life threatening. This is necessary due to the possibility of encountering smoke during escape. Such training should be accomplished by scheduling routine escape drills for crew members working in the engineering or machinery spaces.
- 6.4 An **EEBD** may also be used to escape from a machinery space due to an accidental release of a fixed CO2 system and can be carried by fire-fighters for the sole purpose of providing the device to personnel in need of emergency assistance.

MSC/Circ.849