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Ships and marine technology — Design, location and use of shipboard safety signs, safety-related signs, safety notices and safety markings —

Part 3: Code of practice

Navires et technologie maritime — Conception, emplacement et utilisation des signaux de sécurité, signaux relatifs à la sécurité, notes de sécurité et marquages de sécurité à bord des navires —

Partie 3: Code de bonne pratique

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Contents

Page

Foreword

ISO (the International Organization for Standardization) is a worldwide federation of national standards bodies (ISO member bodies). The work of preparing International Standards is normally carried out through ISO technical committees. Each member body interested in a subject for which a technical committee has been established has the right to be represented on that committee. International organizations, governmental and non-governmental, in liaison with ISO, also take part in the work. ISO collaborates closely with the International Electrotechnical Commission (IEC) on all matters of electrotechnical standardization.

The procedures used to develop this document and those intended for its further maintenance are described in the ISO/IEC Directives, Part 1. In particular the different approval criteria needed for the different types of ISO documents should be noted. This document was drafted in accordance with the editorial rules of the ISO/IEC Directives, Part 2 (see www.iso.org/directives).

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. ISO shall not be held responsible for identifying any or all such patent rights. Details of any patent rights identified during the development of the document will be in the Introduction and/or on the ISO list of patent declarations received (see www.iso.org/patents).

Any trade name used in this document is information given for the convenience of users and does not constitute an endorsement.

For an explanation on the meaning of ISO specific terms and expressions related to conformity assessment, as well as information about ISO's adherence to the WTO principles in the Technical Barriers to Trade (TBT) see the following URL: Foreword - Supplementary information

The committee responsible for this document is ISO/TC 8, *Ships and marine technology*, Subcommittee SC 1, *Lifesaving and fire protection*.

ISO 24409 consists of the following parts, under the general title *Ships and marine technology — Design, location and use of shipboard safety signs, safety-related signs, safety notices and safety markings*:

— *Part 1: Design principles*

— *Part 2: Catalogue*

— *Part 3: Code of practice*

Introduction

The growth of international travel by ship and the variety of work on offshore installations have created a need to provide people travelling and working on-board ships and other marine installations with signs and associated systems that communicate consistent and effective safety information. This part of ISO 24409 specifies a system of signs on ships and other marine installations that is generally consistent with standardized systems of signs with which many will have gained familiarity in other applications.

As such, this part of ISO 24409 clarifies and supplements existing requirements set out in SOLAS regulations II-2/13.3.2.5.1, II-2/13.1.3, II-2/13.7.1.1, II-2/13.7.2, III/8, III/9, III/11.5, III/20.10, and ISO 17631.

This part of ISO 24409 is intended to improve the safety of passengers and crew on board ships and marine installations by providing guidance on the signing of escape routes, including the use of arrows to provide directional information, and in so doing to assist in orientation and in the description of the planned escape process to passengers and crew. In addition, it provides guidance in signing of the location and instructions for the use of fire-fighting equipment and life-saving equipment.

This part of ISO 24409 does not specify if and when escape route signs will be required. However, it has been assumed in the drafting of this part of ISO 24409 that its execution will be entrusted to a competent person familiar with the relevant regulatory requirements. This part of ISO 24409 is also intended for use by regulatory authorities to assist in judging compliance with appropriate IMO regulations and resolutions. It should be noted that the signing of escape routes comprises only a part of the management of means of escape. Many other considerations have to be taken into account, including the requirements of people with special needs, in order to establish a safe evacuation procedure.

This part of ISO 24409 reflects best practice; the illustrations reflect a system designed to provide the optimum amount of information to clearly identify the location and direction of the means of escape from any location within a ship, or offshore installation, to the assembly stations and appropriate survival craft embarkation stations. However, as shown in examples, by the use of supplementary text, escape route signing can also have a role to play in the management of a ship in non-emergency situations.

Ships and marine technology — Design, location and use of shipboard safety signs, safety-related signs, safety notices and safety markings —

Part 3:
Code of practice

1 Scope

This part of ISO 24409 is intended to provide for the consistent use of shipboard safety and fire control plan signs, guidance on their location and size, and for the use of appropriate graphical symbols and supplementary text to furnish additional directional information. This part of ISO 24409 does not apply to low-location lighting systems (or components of such systems) which are covered in ISO 15370.

2 Normative references

The following documents, in whole or in part, are normatively referenced in this document and are indispensable for its application. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

ISO 15370, *Ships and marine technology — Low-location lighting (LLL) on passenger ships — Arrangement*

ISO 17398, *Safety colours and safety signs — Classification, performance and durability of safety signs*

ISO 17631, *Ships and marine technology — Shipboard plans for fire protection, life-saving appliances and means of escape*

ISO 24409-1, *Ships and marine technology — Design, location and use of shipboard safety signs, safety-related signs, safety notices and safety markings — Part 1: Design principles*

ISO 24409-2, *Ships and marine technology — Design, location and use of shipboard safety signs, safety-related signs, safety notices and safety markings — Part 2: Catalogue*

International Convention for the Safety of Life at Sea, 1974 (SOLAS 1974), as amended

International Maritime Organization, *International Code for Fire Safety Systems* (FSS Code)

3 Terms and definitions

For the purposes of this document, the terms and definitions given in ISO 24409-1 and ISO 24409-2 and the following apply.

3.1
assembly station
muster station
designated internal or external space where persons are gathered in the event of an emergency

3.2
assembly station symbol
sign MES001 given in ISO 24409-2 used to identify assembly stations and which may be combined with supplementary arrow to give directional information and/or supplementary text to increase comprehension, as appropriate

3.3
assembly station plan
evacuation and abandon ship plan
plan, approved by the competent authority, which shows the location and the arrangement of passenger and crew assembly stations, the passenger cabins assigned to them, if any, the escape routes to get from them to the assigned survival craft, as applicable to the ship or offshore installation

Note 1 to entry: The above information may be included in the means of escape plan.

3.4
competent authority
administration whose flag the ship is entitled to fly, or an organization authorized by an administration to perform functions on its behalf

3.5
embarkation station
designated area where survival craft are boarded

3.6
escape route
route forming part of the means of escape from any place on-board a ship to a designated assembly station or embarkation station

3.7
escape route sign
exit, assembly station, or embarkation station sign with appropriate directional arrow used to guide people along escape routes to a designated assembly station or embarkation station

3.8
escape route signing system
comprehensive layout of escape route signs

3.9
exit
doorway or other suitable opening lying on the perimeter of a space and part of the means of escape from such space

3.10
exit sign
signs MES002 and MES003 given in ISO 24409-2 used to identify exits and which may be combined with supplementary arrow and/or text, as appropriate, to give directional information or to increase comprehension on the use of the means of escape

3.11
fire control plan
plan, approved by the competent authority, to be done for the guidance of the ship's officers, showing clearly for each deck the structural fire divisions provided for the ship, or installation, and the arrangements relevant to the fire detection and fire alarms systems, the fire extinguishing appliances, systems and equipment, the means of escape, and the arrangements provided for the fire protection of the ventilation systems

3.12
life-saving appliances plan
plan, approved by the competent authority, which lists and shows the location and the arrangement of the life-saving appliances provided for the ship

3.13
means of escape
doorways, corridors, stairways forming an escape route the dimensions of which are calculated in accordance with the prescriptions of the FSS Code and SOLAS '74

3.14
means of escape plan
plan, approved by the competent authority, which provides prescriptions for the on-board arrangements in accordance with the requirements set out by the FSS Code and SOLAS '74

Note 1 to entry: The elements of a means of escape plan are defined in ISO 17631, including an example in ISO 17631, Annex B.

3.15
survival craft
craft capable of sustaining the lives of persons in distress from the time of abandoning the ship

4 Escape route signing system

4.1 General

4.1.1 The objective of the escape route signing system is to ensure that from any space within a ship or other marine installation, a sign or series of signs is provided and placed so that a person is directed along an escape route toward an assembly station or embarkation station, as applicable.

4.1.2 The signing system should be designed based on the means of escape plan, assembly station plan, and life-saving appliances plan, as applicable. The operational needs of the ship in its management should also be considered.

4.2 Planning

4.2.1 The signing system should provide simple identification of the means of escape provisions to allow people to escape with minimum assistance. It should avoid possible points of confusion and, in particular, give no cause for hesitation or need for decision-making amongst alternatives. People escaping should be provided with clear, unambiguous directions from any place in the ship throughout the escape route to the assembly stations and/or embarkation stations.

4.2.2 The following areas should be taken into account in planning and designing escape route signing systems:

a) siting and nature of all designated means of escape, in particular, noting stairway enclosures, escape ladders, and hatches;

b) relative conspicuousness of escape routes;

c) position of all doors and other exits sited along escape routes;

d) escape from public spaces or open decks;

e) provision of other systems (if any), such as low-location lighting or audible devices, to assist in wayfinding in the event of an emergency evacuation;

f) type and positioning of ambient lights and lighting levels within the ship under both normal conditions (such as entertainment areas which may have low lighting levels as part of normal operation) and emergency lighting conditions;

g) location and lighting of any other signs, architectural features, decor, or barriers that could conceal or divert attention from an escape route sign;

EXAMPLE A duty free store, for instance, may have many signs which compete for the viewer's attention.

h) dead ends that may exist along escape routes are to be identified to avoid persons taking the wrong route in an emergency situation;

i) type, height, and architectural design of ceilings.

4.3 Familiarization

4.3.1 General

Information regarding signs and the signing system should be made available (for example, by information video, mimic signs, leaflets, public address system, etc.) to familiarize the crew and the passengers, in accordance with relevant regulations and requirements.

4.3.2 Orientation within the ship

4.3.2.1 Numbering of decks should be consistent with and should reflect the numbering in the ship's safety plans. The deck numbers should be prominently displayed at stair landings and lift lobbies. Decks may also be named, but the deck number should always be displayed with the name. See Figure A.3.

It is recommended that all decks be sequentially numbered, e.g. starting with "1" at the tank top or lowest deck and then upwards; or with "1" at the bulkhead deck and upwards, and from it downwards. In this latter case, the decks below the bulkhead deck may be identified by negative numbers (e.g. –1, –2, –3, etc.) or by letters (e.g. A, B, C, etc.), again from top to bottom.

4.3.2.2 All embarkation stations for the survival craft, and the relevant survival craft, should be sequentially numbered from fore to aft. Odd numbers should be used for the starboard side and even numbers for the port side.

4.3.2.3 All assembly stations should be sequentially lettered, starting with "A", from fore to aft. In case they are located on the same deck but on both sides of the ship, then they should be sequentially lettered from starboard side to port side. Should an assembly station span more than one deck, then the notation may be by assembly station letter and deck number, e.g. A3, A4, and A5 for the assembly station A spanning on decks 3, 4, and 5. Should assembly stations be located on more than one deck, then they should be lettered from bottom to top.

4.4 Marking of means of escape

4.4.1 Exit doors and hatches from machinery spaces, service spaces, normally manned control stations, and accommodation spaces that lead to escape routes should be clearly marked by the exit sign. This requirement may not apply to normally unmanned spaces of less than 15 m^2, to cabins (except for multi-room cabins), and to spaces where the location of the exit door is self-evident under emergency lighting conditions. Intermediate doors in escape routes should be clearly marked with escape route signs supplemented by directional arrows. See Figure A.1.

4.4.2 Assembly station directional signs should be provided along escape routes such as stairways, corridors, and entrance halls and on outside decks in the vicinity of doors giving access to assembly stations or to the routes to the assembly stations in consistency with the approved means of escape plan. The assembly station directional sign should consist of the assembly station symbol with appropriate directional arrow in accordance with ISO 24409-2, MSE001. In case more than one assembly station is provided on the ship or marine installation, at the deck level of an assembly station, the assembly station directional signs should be supplemented by the relevant identification letter. See Figures A.1, A.3, and A.13.

4.4.3 In passenger ships, assembly station directional signs should be provided along the escape routes identified on the escape plan, which give access to the enclosed stairways providing continuous fire shelter from the level of their origin to the embarkation deck or assembly station, as applicable. Moreover, such signs should also be provided at each landing of the stairways in order to indicate the direction of escape. See Figure A.3.

4.5 Marking of assembly stations and embarkation stations

4.5.1 Access to assembly stations should be identified by the assembly station directional sign with the appropriate identification letter. The sign should be placed above or by the access door.

4.5.2 A space designated as an assembly station should be marked with the assembly station sign and the appropriate identification letter (see Figures A.4 and A.5).

4.5.3 When the assembly station is in a different location than the embarkation station, the signing system should clearly indicate the direction and egress route from the assembly station to the designated areas where the survival craft are boarded by the use of the appropriate survival craft directional signs, as specified in ISO 24409-2 (i.e. by lifeboat LSS001, davit-launched liferaft LSS004, evacuation slide LSS019, or evacuation chute LSS020, with supplementary arrow to give directional information) and as applicable to the ship or marine installation. See Figure A.6.

4.5.4 A space designated as an embarkation station should be marked with the appropriate sign for the type of survival craft at the station and the appropriate identification number. See Figure A.5.

4.5.5 The signs should be of sufficient size and quantity to be visible from any access to the assembly station, or survival craft embarkation station, and located so as not to be obscured by persons or other obstructions in the area.

NOTE Illustrative examples of the use of assembly station and embarkation station signs to mark escape routes may be found in informative Annex A.

4.6 Location of escape route signs

4.6.1 Escape route signs should take precedence over all other signs in the same area. Signs with a potentially conflicting message (e.g. "NO THOROUGHFARE") should not be used in the same location. Where this conflict is unavoidable, a supplementary text sign (e.g. "EXCEPT IN AN EMERGENCY") should be provided to override the prohibition message. The effectiveness of any safety sign should not be adversely affected by other signs, by the presence of other signs conveying information in a similar format, or by competing or distracting light sources.

4.6.2 In general, and whenever possible, the exit signs specified in 4.4.1 should be fitted over the door and should be visible from any foot traffic area within rooms and enclosures. Further exit signs, supplemented by appropriate directional arrows, should be provided throughout large spaces to identify the direction of travel towards the exit doors (which are part of the means of escape to assembly stations or embarkation stations identified on the means of escape plan) and should be referred at 4.4.2 and 4.4.3 when the viewing distance between the observation point within the traffic area and the exit is more than 15 m. See Figure A.13.

4.6.3 In general, the escape route signs mentioned in 4.4.2 and 4.4.3 should be fitted above or by the exit doors which are part of the means of escape identified on the escape plan to the designated assembly station or embarkation station, as applicable.

4.6.4 Where an escape route involves a change of direction or level that presents a person with a choice of directions, an escape route sign with the appropriate supplementary arrow should be provided to indicate the direction of travel. See Figures A.3 and A.13.

4.6.5 So far as is reasonably practicable, signs should be evenly spaced and consistently located so that the evacuee can effectively and quickly predict the location of the next sign along the escape route. Additional signs should be provided where the line of sight to the next sign would otherwise exceed 15 m.