ANNEX 2

RESOLUTION MSC.27(61)
adopted on 11 December 1992

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

THE MARITIME SAFETY COMMITTEE,

RECALLING Article 28(b) of the Convention on the International Maritime Organization concerning the functions of the Committee,

RECALLING FURTHER article VIII(b) of the International Convention for the Safety of Life at Sea, 1974, hereinafter referred to as "the Convention", concerning the procedures for amending the Annex to the Convention, other than the provisions of chapter I thereof,

HAVING CONSIDERED, at its sixty-first session, amendments to the Convention proposed and circulated in accordance with article VIII(b)(i) thereof,

1. ADOPTS, in accordance with article VIII(b)(iv) of the Convention, the amendments to the Convention, the text of which is set out in the annex to the present resolution;

2. DETERMINES, in accordance with article VIII(b)(vi)(2)(bb) of the Convention, that the amendments shall be deemed to have been accepted on 1 April 1994 unless, prior to the date, more than one third of the Contracting Governments to the Convention, or Contracting Governments the combined merchant fleets of which constitute not less than 50 per cent of the gross tonnage of the world's merchant fleet, have notified their objections to the amendments;

3. INVITES Contracting Governments to note that, in accordance with Article VIII(b)(vii)(2) of the Convention, the amendments shall enter into force on 1 October 1994 upon their acceptance in accordance with paragraph 2 above;

4. REQUESTS the Secretary-General, in conformity with article VIII(b)(v) of the Convention, to transmit certified copies of the present resolution and the text of the amendments contained in the Annex to all Contracting Governments to the Convention;

5. FURTHER REQUESTS the Secretary-General to transmit copies of the resolution to Members of the Organization which are not Contracting Governments to the Convention.

ANNEX

AMENDMENTS TO THE 1974 SOLAS CONVENTION

Access to spaces in the cargo area of oil tankers

1 Add the following after paragraph 11 of regulation II-1/2:

"12 An oil tanker is the oil tanker defined in regulation 1 of annex I of the Protocol of 1978 relating to the International Convention for the Prevention of Pollution from Ships, 1973."

2 Add a new regulation II-1/12-2:

"Regulation 12-2

Access to spaces in the cargo area of oil tankers

1 This regulation applies to oil tankers constructed on or after 1 October 1994.

2 Access to cofferdams, ballast tanks, cargo tanks and other spaces in the cargo area shall be direct from the open deck and such as to ensure their complete inspection. Access to double bottom spaces may be through a cargo pump room, pump room, deep cofferdam, pipe tunnel or similar compartments, subject to consideration of ventilation aspects.

3 For access through horizontal openings, hatches or manholes, the dimensions shall be sufficient to allow a person wearing a self-contained, air-breathing apparatus and protective equipment to ascend or descend any ladder without obstruction and also to provide a clear opening to facilitate the hoisting of an injured person from the bottom of the space. The minimum clear opening should be not less than 600 mm by 600 mm.

4 For access through vertical openings, or manholes providing passage through the length and breadth of the space, the minimum clear opening should be not less than 600 mm by 800 mm at a height of not more than 600 mm from the bottom shell plating unless gratings or other footholds are provided.

5 For oil tankers of less than 5,000 tonnes deadweight smaller dimensions may be approved by the Administration in special circumstances, if the ability to traverse such openings or to remove an injured person can be proved to the satisfaction of the Administration."

Regulation II-1/37 - Communication between navigating bridge and machinery space

3 Number the present paragraph as paragraph 1 and add the following:

"2. For ships constructed on or after 1 October 1994 the following requirements apply in lieu of the provisions of paragraph 1:

At least two independent means shall be provided for communicating orders from the navigating bridge to the position in the machinery space or in

the control room from which the speed and direction of thrust of the propellers are normally controlled: one of these shall be an engine-room telegraph which provides visual indication of the orders and responses both in the machinery spaces and on the navigating bridge. Appropriate means of communication shall be provided from the navigating bridge and the engine-room to any other position from which the speed or direction of thrust of the propellers may be controlled."

Regulation II-1/42 - Emergency source of electric power in passenger ships

4 Insert the following paragraph after paragraph 3.2 of regulation II-1/42:

"3.3 The following provision in paragraph 3.1.2 shall not apply to ships constructed on or after 1 October 1994:

unless a second independent means of starting the emergency generating set is provided, the single source of stored energy shall be protected to preclude its complete depletion by the automatic starting system."

Regulation II-1/43 - Emergency source of electric power in cargo ships

5 Insert the following paragraph after paragraph 3.2 of regulation II-1/43:

"3.3 The following provision in paragraph 3.1.2 shall not apply to ships constructed on or after 1 October 1994:

unless a second independent means of starting the emergency generating set is provided, the single source of stored energy shall be protected to preclude its complete depletion by the automatic starting system."

Regulation II-1/44 - Starting arrangements for emergency generating sets

6 Insert the following paragraph after paragraph 2 of regulation II-1/44:

"2.1 Ships constructed on or after 1 October 1994, in lieu of the provision of the second sentence of paragraph 2, shall comply with the following requirements:

The source of stored energy shall be protected to preclude critical depletion by the automatic starting system, unless a second independent means of starting is provided. In addition, a second source of energy shall be provided for an additional three starts within 30 minutes unless manual starting can be demonstrated to be effective."

Regulation II-1/45 - Precautions against shock, fire and other hazards of electrical origin

7 Insert the following after paragraph 3.2 of regulation II-1/45:

"3.2-1 For ships constructed on or after 1 October 1994, the requirement of paragraph 3.1 does not preclude the use of limited and locally earthed systems, provided that any possible resulting current does not flow directly through any dangerous spaces."

8 Insert the following after paragraph 4.2:

"4.3 Ships constructed on or after 1 October 1994, in lieu of the provisions of paragraph 4.1, shall comply with the following requirements:

.1 Except as permitted by 4.3.2 earthed distribution systems shall not be used in a tanker.

.2 The requirement of paragraph 4.3.1 does not preclude the use of earthed intrinsically safe circuits and in addition, under conditions approved by the Administration, the use of the following earthed systems:

.2.1 power supplied, control circuits and instrumentation circuits where technical or safety reasons preclude the use of a system with no connection to earth, provided the current in the hull is limited to not more than 5 amps in both normal and fault conditions; or

.2.2 limited and locally earthed systems, provided that any possible resulting current does not flow directly through any of the dangerous spaces; or

.2.3 alternating current power networks of 1,000 V root mean square (line to line) and over, provided that any possible resulting current does not flow directly through any of the dangerous spaces."

Amendments to chapter II-2 dealing with fire-protection requirements of new ships

Regulation II-2/1 - Application

9 Amend paragraph 1.1 to read:

"1.1 Unless expressly provided otherwise, parts A, C and D of this chapter shall apply to ships the keel of which are laid or which are at a similar stage of construction on or after 1 July 1986, and part B of this chapter shall apply to ships the keel of which are laid or which are at a similar stage of construction on or after 1 October 1994."

10 Add the following to the present sentence of paragraph 2:

"and for ships constructed before 1 October 1994 the Administration shall ensure that the requirements which are applicable under part B of 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) and MSC.24(60) are complied with."

Regulation II-2/3 - Definitions

11 Add new paragraph 33 as follows:

"33 For ships constructed on or after 1 October 1994, in lieu of the definition of main vertical zones provided in paragraph 9, the following definition shall be applied:

Main vertical zones are those sections into which the hull, superstructure and deckhouses are divided by "A" class divisions, the mean length and width of which on any deck does not in general exceed 40 m."

Fire main and fire pump sizing

Regulation II-2/4.4.2

12 Add the following after paragraph 4.2:

"4.2.1 Passenger ships constructed on or after 1 October 1994, in lieu of the provisions of paragraph 4.2, shall comply with the following requirements:

With the two pumps simultaneously delivering through the nozzles specified in paragraph 8 and sufficient hydrants to provide for the quantity of water specified in paragraph 4.1, a minimum pressure of 0.4 N/mm^2 for ships of 4,000 tons gross tonnage and above and 0.3 N/mm^2 for ships of less than 4,000 tons gross tonnage shall be maintained at all hydrants."

Regulation II-2/4.3.3.3

13 Add the following after paragraph 3.3.3:

"3.3.3.1 For ships constructed on or after 1 October 1994, the alternative means to be provided in accordance with the provisions of paragraph 3.3.3 shall be an independently driven, power-operated emergency fire pump and with its source of power and sea connection located outside the machinery space."

Regulation II-2/4.3.3.2.9

14 Add the following after paragraph 3.3.2.8:

"3.3.2.9 Ships constructed on or after 1 October 1994, in lieu of the provisions of paragraph 3.3.2.6, shall comply with the following requirements:

The space containing the fire pump shall not be contiguous to the boundaries of machinery spaces of category A or those spaces containing main fire pumps. Where this is not practicable, the common bulkhead between the two spaces shall be insulated to a standard of structural fire protection equivalent to that required for a control station in regulation 44."

Release mechanism of CO_2

15 The following paragraphs are added after paragraph 2.4 of regulation II-2/5:

"2.5 Carbon dioxide systems installed on or after 1 October 1994 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 activities of the alarm. One

control shall be used to discharge the gas from its storage containers. A second control shall be used for opening the valve of the piping which conveys the gas into the protected space.

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."

Prohibition of new installations of halon system

16 Replace paragraph 3.1 of regulation II-2/5 with the following:

"3.1 The use of halogenated hydrocarbons as fire-extinguishing media is only permitted in machinery spaces, pump-rooms and in cargo spaces intended solely for the carriage of vehicles which are not carrying any cargo. New installations of halogenated hydrocarbon systems shall be prohibited on all ships."

Regulation II-2/13 - Fixed fire detection and fire alarm systems

17 Replace paragraph 1.6 by the following:

"1.6 Indicating units shall, as a minimum, denote the section in which a detector or manually operated call point has operated. At least one unit shall be so located that it is easily accessible to responsible members of the crew at all times, when at sea or in port, except when the ship is out of service. One indicating unit shall be located on the navigating bridge if the control panel is located in the main fire control station."

18 Replace paragraph 1.8 by the following:

"1.8 Where the fire detection system does not include means of remotely identifying each detector individually, no section covering more than one deck within accommodation, service and control stations shall normally be permitted except a section which covers an enclosed stairway. In order to avoid delay in identifying the source of fire, the number of enclosed spaces included in each section shall be limited as determined by the Administration. In no case shall more than fifty enclosed spaces be permitted in any section. If the detection system is fitted with remotely and individually identifiable fire detectors, the sections may cover several decks and serve any number of enclosed spaces."

19 Replace paragraph 1.9 by the following:

"1.9 In passenger ships, if there is no fire detection system capable of remotely and individually identifying each detector, a section of detectors shall not serve spaces on both sides of the ship nor on more than one deck and neither shall it be situated in more than one main vertical zone except that the Administration, if it is satisfied that the protection of the ship against fire will not thereby be reduced, may permit such a section of detectors to serve both sides of the ship and more than one deck. In passenger ships fitted with individually identifiable fire detectors, a section may serve spaces on both sides of the ship and on several decks but may not be situated in more than one main vertical zone."

20 Add the following paragraph 1.15:

"1.15 Fire detection systems with a zone address identification capability fitted on or after 1 October 1994 shall be so arranged that

- a loop cannot be damaged at more than one point by a fire;

- means are provided to ensure that any fault (e.g. power break; short circuit; earth) occurring in the loop will not render the whole loop ineffective;

- all arrangements are made to enable the initial configuration of the system to be restored in the event of failure (electrical, electronic, informatic);

- the first initiated fire alarm will not prevent any other detector to initiate further fire alarms."

Regulation 20

Fire control plans and fire drills

21 A new regulation 20.4 is added as follows:

"In ships carrying more than 36 passengers, plans and booklets required by this regulation shall provide the information regarding fire protection, fire detection and fire extinction based on the guidelines issued by the Organization*".

Regulation II-2/24 - Main vertical zones and horizontal zones

22 Amend paragraph 1.1 to read:

"1.1 In ships carrying more than 36 passengers, the hull, superstructure and deckhouses shall be subdivided into main vertical zones by A-60 class divisions. Steps and recesses shall be kept to a minimum but where they are necessary, they shall also be A-60 class divisions. Where a category 26.2.2(5), 26.2.2(9) or 26.2.2(10) space is on one side of the division the standard may be reduced to A-0."

23 Amend paragraph 2 to read:

"2 As far as practicable, the bulkheads forming the boundaries of the main vertical zones above the bulkhead deck shall be in line with watertight subdivision bulkheads situated immediately below the bulkhead deck. The length and width of main vertical zones may be extended to a maximum of 48 m in order to bring the ends of main vertical zones to coincide with subdivision watertight bulkheads or in order to accommodate a large public space extending for the whole length of the main vertical zone provided that the total area of the main vertical zone is not greater than 1,600 m^2 on any deck. The length or width of a main vertical zone is the maximum distance between the furthermost points of the bulkheads bounding it."

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* Reference is made to the guidelines to be developed by the Organization.

24 Delete the reference to table 26.3.

Regulation II-2/25 - Bulkheads within a main vertical zone

25 Add the following at the beginning of the first sentence of paragraph 2:

"In ships carrying not more than 36 passengers,".

26 Replace paragraph 3 with the following:

"3 All bulkheads required to be "B" class division, except corridor bulkheads prescribed in paragraph 2, shall extend from deck to deck and to the shell or other boundaries unless the continuous "B" class ceilings or linings fitted on both sides of the bulkheads are at least of the same fire resistance as the bulkhead, in which case the bulkhead may terminate at the continuous ceiling or lining."

Regulation II-2/26 - Fire integrity of bulkheads and decks in ships carrying more than 36 passengers

27 Amend paragraph 2.1 as follows:

"2.1 Table 26.1 shall apply to bulkheads not bounding either main vertical zones or horizontal zones. Table 26.2 shall apply to decks not forming steps in main vertical zones nor bounding horizontal zones."

28 In paragraph 2.2(3), delete the words "and lobbies".

29 Amend paragraph 2.2(4) to read:

"(4) Evacuation stations and external escape routes.

Survival craft stowage area.

Open deck spaces and enclosed promenades forming lifeboat and liferaft embarkation and lowering stations.

Muster stations, internal and external.

External stairs and open decks used for escape routes.

The ship's side to the waterline in the lightest seagoing condition, superstructure and deckhouse sides situated below and adjacent to the liferaft's and evacuation slide's embarkation areas."

30 In paragraph 2.2(7), add "Operating rooms" at the end.

31 Delete "Operating rooms" from paragraph 2.2(9).

32 In paragraph .2.2(11), delete the word "emergency" between "driving" and "generators", and delete reference to "special category spaces" on the first, second and twentieth lines.

33 Delete paragraph 2.4 and 2.5, and renumber the present paragraph 2.6 as new paragraph 2.4.

34 Delete the present paragraph 2.7, and add new paragraph 2.5 as follows:

".5 The Administration shall determine in respect of category (5) spaces whether the insulation values in table 26.1 shall apply to ends of deckhouses and superstructures, and whether the insulation values in table 26.2 shall apply to weather decks. In no case shall the requirements of category (5) of table 26.1 or 26.2 necessitate enclosure of spaces which in the opinion of the Administration need not be enclosed."

35 Replace tables 26.1 and 26.2 with the following:

"TABLE 26.1 - BULKHEADS NOT BOUNDING EITHER MAIN VERTICAL ZONES OR HORIZONTAL ZONES

Spaces	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)
Control stations (1)	B-0[a]	A-0	A-0	A-0	A-0	A-60	A-60	A-60	A-0	A-0	A-60	A-60	A-60	A-60
Stairways (2)		A-0[a]	A-0	A-0	A-0	A-0	A-15	A-15	A-0[c]	A-0	A-15	A-30	A-15	A-30
Corridors (3)			B-15	A-60	A-0	B-15	B-15	B-15	B-15	A-0	A-15	A-30	A-0	A-30
Evacuation stations and external escape routes (4)					A-0	A-60[b]	A-60[b]	A-60[b]	A-0	A-0	A-60[b]	A-60[b]	A-60[b]	A-60[b]
Open deck spaces (5)					-	A-0	A-0	A-0	A-0	A-0	A-0	A-0	A-0	A-0
Accommodation spaces of minor fire risk (6)						B-0	B-0	B-0	C	A-0	A-0	A-30	A-0	A-30
Accommodation spaces of moderate fire risk (7)							B-0	B-0	C	A-0	A-15	A-60	A-15	A-60
Accommodation spaces of greater fire risk (8)								B-0	C	A-0	A-30	A-60	A-15	A-60
Sanitary and similar spaces (9)									C	A-0	A-0	A-0	A-0	A-0
Tanks, voids and auxiliary machinery spaces having little or no fire risk (10)										A-0[a]	A-0	A-0	A-0	A-0
Auxiliary machinery spaces, cargo spaces, cargo and other oil tanks and other similar spaces of moderate fire risk (11)											A-0[a]	A-0	A-0	A-15
Machinery spaces and main galleys (12)												A-0[a]	A-0	A-60
Store-rooms, workshops, pantries, etc. (13)													A-0[a]	A-0
Other spaces in which flammable liquids are stowed (14)														A-30

TABLE 26.2 - DECKS NOT FORMING STEPS IN MAIN VERTICAL ZONES NOR BOUNDING HORIZONTAL ZONES

Spaces below \ Spaces above	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)
Control stations (1)	A-30	A-30	A-15	A-0	A-0	A-0	A-15	A-30	A-0	A-0	A-0	A-60	A-0	A-60
Stairways (2)	A-0	A-0	-	A-0	A-0	A-0	A-0	A-0	A-0	A-0	A-0	A-30	A-0	A-30
Corridors (3)	A-15	A-0	A-0[a]	A-60	A-0	A-0	A-15	A-15	A-0	A-0	A-0	A-30	A-0	A-30
Evacuation stations and external escape routes (4)	A-0	A-0	A-0	A-0	-	A-0	A-0	A-0	A-0	A-0	A-0	A-0	A-0	A-0
Open deck spaces (5)	A-0	A-0	A-0	A-0	-	A-0	A-0	A-0	A-0	A-0	A-0	A-0	A-0	A-0
Accommodation spaces of minor fire risk (6)	A-60	A-15	A-0	A-60	A-0	A-0	A-0	A-0	A-0	A-0	A-0	A-0	A-0	A-0
Accommodation spaces of moderate fire risk (7)	A-60	A-15	A-15	A-60	A-0	A-0	A-15	A-15	A-0	A-0	A-0	A-0	A-0	A-0
Accommodation spaces of greater fire risk (8)	A-60	A-15	A-15	A-60	A-0	A-15	A-15	A-30	A-0	A-0	A-0	A-0	A-0	A-0
Sanitary and similar spaces (9)	A-0	A-0	A-0	A-0	A-0	A-0	A-0	A-0	A-0	A-0	A-0	A-0	A-0	A-0
Tanks, voids and auxiliary machinery spaces having little or no fire risk (10)	A-0	A-0	A-0	A-0	A-0	A-0	A-0	A-0	A-0	A-0[a]	A-0	A-0	A-0	A-0
Auxiliary machinery spaces, cargo spaces, cargo and other oil tanks and other similar spaces of moderate fire risk (11)	A-60	A-60	A-60	A-60	A-0	A-0	A-15	A-30	A-0	A-0	A-0[a]	A-0	A-0	A-30
Machinery spaces and main galleys (12)	A-60	A-60	A-60	A-60	A-0	A-60	A-60	A-60	A-0	A-0	A-30	A-30[a]	A-0	A-60
Store-rooms, workshops, pantries, etc. (13)	A-60	A-30	A-15	A-60	A-0	A-15	A-30	A-30	A-0	A-0	A-0	A-0	A-0	A-0
Other spaces in which flammable liquids are stowed (14)	A-60	A-60	A-60	A-60	A-0	A-30	A-60	A-60	A-0	A-0	A-0	A-0	A-0	A-0

Notes: to be applied to tables 26.1 and 26.2 (see overleaf)

a Where adjacent spaces are in the same numerical category and superscript [a] appears, a bulkhead or deck between such spaces need not be fitted if deemed unnecessary by the Administration. For example, in category (12) a bulkhead need not be required between a galley and its annexed pantries provided the pantry bulkhead and decks maintain the integrity of the galley boundaries. A bulkhead is, however, required between a galley and a machinery space even though both spaces are in category (12).

b The ship's side, to the waterline in the lightest seagoing condition, superstructure and deckhouse sides situated below and adjacent to the liferafts and evacuation slides may be reduced to A-30.

c Where public toilets are installed completely within the stairway enclosure, the public toilet bulkhead within the stairway enclosure can be of "B" class integrity."

36 Delete tables 26.3 and 26.4.

Regulation II-2/28 - Means of escape

37 Delete "accommodated or" from the last sentence of paragraph 1.1.

38 Replace paragraph 1.4 with the following:

"1.4 A corridor, lobby, or part of a corridor from which there is only one route of escape shall be prohibited."

39 Replace paragraph 1.5 with the following:

".5 At least one of the means of escape required by paragraphs 1.1 and 1.2 shall consist of a readily accessible enclosed stairway, which shall provide continuous fire shelter from the level of its origin to the appropriate lifeboat and liferaft embarkation decks, or to the uppermost weather deck if the embarkation deck does not extend to the main vertical zone being considered. In the latter case, direct access to the embarkation deck by way of external open stairways and passageways shall be provided and shall have emergency lighting in accordance with regulation III/11.5 and slip-free surfaces under foot. Boundaries facing external open stairways and passageways forming part of an escape route and boundaries in such a position that their failure during a fire would impede escape to the embarkation deck shall have fire integrity, including insulation values, in accordance with the tables in regulation II-2/26. The widths, number and continuity of escapes shall be as follows:

.1 Stairways shall not be less than 900 mm in clear width. Stairways shall be fitted with handrails on each side. The minimum clear width of stairways shall be increased by 10 mm for every one person provided for in excess of 90 persons. The maximum clear width between handrails where stairways are wider than 900 mm shall be 1,800 mm. The total number of persons to be evacuated by such stairways shall be assumed to be two thirds of the crew and the total number of passengers in the areas served by such stairways. The width of the stairways

shall conform to the standards not inferior to those adopted by the Organization.*

.2 All stairways sized for more than 90 persons shall be aligned fore and aft.

.3 Doorways and corridors and intermediate landings included in means of escape shall be sized in the same manner as stairways.

.4 Stairways shall not exceed 3.5 m in vertical rise without the provision of a landing and shall not have an angle of inclination greater than 45°.

.5 Landings at each deck level shall be not less than 2 m^2 in area and shall increase by 1 m^2 for every 10 persons provided for in excess of 20 persons but need not exceed 16 m^2, except for those landings servicing public spaces having direct access onto the stairway enclosure.

40 Add new paragraphs 1.9 and 1.10 as follows:

".9 Where the Administration has granted dispensation under the provisions of paragraph .1.1, this sole means of escape shall provide safe escape. However, stairways shall not be less than 800 mm in clear width with handrails on both sides.

.10 In addition to the emergency lighting required by regulations II-1/42 and III/11.5, the means of escape including stairways and exits, shall be marked by lighting or photoluminescent strip indicators placed not more than 0.3 m above the deck at all points of the escape route including angles and intersections. The marking must enable passengers to identify all the routes of escape and readily identify the escape exits. If electric illumination is used, it shall be supplied by the emergency source of power and it shall be so arranged that the failure of any single light or cut in a lighting strip, will not result in the marking being ineffective. Additionally, all escape route signs and fire equipment location markings shall be of photoluminescent material or marked by lighting. The Administration shall ensure that such lighting or photoluminescent equipment have been evaluated, tested and applied in accordance with the guidelines developed by the Organization**."

41 Add new paragraph 3.3 as follows:

"3.3 Two means of escape shall be provided from a machinery control room located within a machinery space, at least one of which will provide continuous fire shelter to a safe position outside the machinery space."

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* Reference is made to the standards to be developed by the Organization.

** Reference is made to the guidelines to be developed by the Organization.

Regulation II-2/29 - Protection of stairways and lifts in accommodation and service spaces

42 Replace paragraph 2 with the following:

"2 Stairway enclosures shall have direct access with the corridors and be of a sufficient area to prevent congestion, having in view the number of persons likely to use them in an emergency. Within the perimeter of such stairway enclosures, only public toilets, lockers of non-combustible material providing storage for safety equipment and open information counters are permitted. Only public spaces, corridors, public toilets, special category spaces, other escape stairways required by 28.1.5 and external areas are permitted to have direct access to these stairway enclosures."

Regulation II-2/30 - Openings in "A" class division

43 Replace paragraph 4 with the following:

"4 Fire doors in main vertical zone bulkheads and stairway enclosures shall satisfy the following requirements:

.1 The doors shall be self-closing and be capable of closing with an angle of inclination of up to 3.5° opposing closure, and shall have an approximately uniform rate of closure of no more than 40 s and no less than 10 s with the ship in the upright position.

.2 Remote-controlled sliding or power-operated doors shall be equipped with an alarm that sounds at least 5 s but no more than 10 s before the door begins to move and continue sounding until the door is completely closed. Doors designed to re-open upon contacting an object in its path shall re-open sufficiently to allow a clear passage of at least 0.75 m, but no more than 1 m.

.3 All doors shall be capable of remote and automatic release from a continuously manned central control station, either simultaneously or in groups, and also individually from a position at both sides of the door. Indication must be provided at the fire control panel in the continuously manned central control station whether each of the remote-controlled doors are closed. The release mechanism shall be so designed that the door will automatically close in the event of disruption of the control system or central power supply. Release switches shall have an on-off function to prevent automatic resetting of the system. Hold-back hooks not subject to central control station release are prohibited.

.4 Local power accumulators for power-operated doors shall be provided in the immediate vicinity of the doors to enable the doors to be operated at least ten times (fully opened and closed) using the local controls.

.5 Double-leaf doors equipped with a latch necessary to their fire integrity shall have a latch that is automatically activated by the operation of the doors when released by the system.

.6 Doors giving direct access to special category spaces which are power-operated and automatically closed need not be equipped with alarms and remote-release mechanisms required in .2 and .3."

44 In paragraph 5, add the following words at the beginning:

"In ships carrying not more than 36 passengers,".

45 In paragraph 6, add the following words at the end of the first sentence:

"provided that there is no requirement for such boundaries to have "A" class integrity in regulation 33.3".

46 Insert new paragraph 7 as follows:

"7 All "A" class doors located in stairways, public spaces and main vertical zone bulkheads in escape routes shall be equipped with a self-closing hose port of material, construction and fire resistance which is equivalent to the door into which it is fitted, and shall be a 150 mm square clear opening with the door closed and shall be inset into the lower edge of the door, opposite the door hinges, or in the case of sliding doors, nearest the opening."

Regulation II-2/31 - Openings in "B" class division

47 In paragraph 1, amend the first sentence to read:

"Doors and door frames in "B" class divisions and means of securing them shall provide a method of closure which shall have resistance to fire equivalent to that of the divisions* except that ventilation openings may be permitted in the lower portion of such doors."

"* Reference is made to the Recommendation on Fire Test Procedures for "A", "B" and "F" class divisions, adopted by resolution A.517(13)."

48 Add new paragraph 2 to read:

"2 Cabin doors in "B" class divisions shall be of a self-closing type. Hold-backs are not permitted."

49 In paragraph 3, add the following at the beginning:

"In ships carrying not more than 36 passengers".

Regulation II-2/32 - Ventilation systems

Paragraph 1.1 is revised by deleting "16.2 to 16.9" at the end of the sentence and replacing it with "16.2 to 16.6, 16.8 and 16.9".

50 Replace paragraph 1.5 with the following:

"1.5 Stairway enclosures shall be ventilated and shall be served only by an independent fan and duct system which shall not serve any other spaces in the ventilation system."

The following new paragraphs 1.8 and 1.9 are inserted:

"1.8 Ventilation ducts shall be provided with suitably located hatches for inspection and cleaning, where reasonable and practicable.

1.9 Exhaust ducts from galley ranges in which grease or fat is likely to accumulate shall meet requirements of regulation II-2/16.3.2.1 and 16.3.2.2 and shall be fitted with:

.1 a grease trap readily removable for cleaning unless an alternative approved grease removal system is fitted;

.2 a fire damper located in the lower end of the duct which is automatically and remotely operated, and in addition a remotely operated fire damper located in the upper end of the duct;

.3 a fixed means for extinguishing a fire within the duct;

.4 remote control arrangements for shutting off the exhaust fans and supply fans, for operating the fire dampers mentioned in .2 and for operating the fire-extinguishing system, which shall be placed in a position close to the entrance to the galley. Where a multi-branch system is installed, means shall be provided to close all branches exhausting through the same main duct before an extinguishing medium is released into the system; and

.5 suitably located hatches for inspection and cleaning."

Regulation II-2/33 - Windows and sidescuttles

51 Amend paragraph 2 to read:

"2 Notwithstanding the requirements of the tables in regulations 26 and 27, all windows and sidescuttles in bulkheads separating accommodation and service spaces and control stations from weather shall be constructed with frames of steel or other suitable material. The glass shall be retained by a metal glazing bead or angle."

52 Add new paragraph 3 as follows:

"3 Windows facing life-saving appliances, embarkation and muster areas, external stairs and open decks used for escape routes, and windows situated below liferaft and escape slide embarkation areas shall have the fire integrity as required in the tables in regulation II-2/26. Where automatic dedicated sprinkler heads are provided for windows, A-0 windows may be accepted as equivalent. Windows located in the ship's side below the lifeboat embarkation areas shall have the fire integrity at least equal to "A-0" class."

Regulation II-2/34 - Restricted use of combustible material

53 Insert the words "draught stops" between "grounds" and "ceilings" in the first sentence of paragraph 1.

54 Amend paragraph 6 to read:

"6 Furniture in stairway enclosures shall be limited to seating. It shall be fixed, limited to six seats on each deck in each stairway enclosure, be of restricted fire risk, and shall not restrict the passenger escape route. The Administration may permit additional seating in the main reception area within a stairway enclosure if it is fixed, non-combustible and does not restrict the passenger escape route. Furniture shall not be permitted in passenger and crew corridors forming escape routes in cabin areas". In addition to the above, lockers of non-combustible material, providing storage for safety equipment required by regulations, may be permitted.

Regulation II-2/36 - Fixed fire detection and fire alarm systems, automatic sprinkler, fire detection and fire alarm systems

55 Replace regulation 36 with the following:

"Fixed fire detection and fire alarm systems and automatic sprinkler, fire detection and fire alarm systems

1 In passenger ships carrying not more than 36 passengers there shall be installed throughout each separate zone, whether vertical or horizontal, in all accommodation and service spaces and, where it is considered necessary by the Administration, in control stations, except spaces which afford no substantial fire risk such as void spaces, sanitary spaces, etc., either:

.1 a fixed fire detection and fire alarm system of an approved type and complying with the requirements of regulation 13 and so installed and arranged as to detect the presence of fire in such spaces; or

.2 an automatic sprinkler, fire detection and fire alarm system of an approved type and complying with the requirements of regulation 12 or the guidelines developed by the Organization* for an approved equivalent sprinkler system and so installed and arranged as to protect such spaces and, in addition, a fixed fire detection and fire alarm system of an approved type complying with the requirements of regulation 13 so installed and arranged as to provide smoke detection in corridors, stairways and escape routes within accommodation spaces.

2 Passenger ships carrying more than 36 passengers shall be equipped with an automatic sprinkler, fire detection and fire alarm system of an approved type complying with the requirements of regulation 12, or the guidelines developed by the Organization* for an approved equivalent sprinkler system in all service spaces, control stations and accommodation spaces, including corridors and stairways. Alternatively, control stations where water may cause damage to essential equipment may be fitted with an approved fixed fire-extinguishing system of another type. A fixed fire detection and fire alarm system of an approved type shall be installed, complying with the requirements of regulation 13 so

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* Reference is made to the guidelines to be developed.

installed and arranged as to provide smoke detection in service spaces, control stations and accommodation spaces, including corridors and stairways. Smoke detectors need not be fitted in private bathrooms and galleys. Spaces having little or no fire risk such as voids, public toilets and similar spaces need not be fitted with an automatic sprinkler system, or fixed fire detection and alarm system."

Regulation II-2/37 - Protection of special category spaces

56 Amend paragraph 1.2.1 as follows:

"1.2.1 In passenger ships carrying more than 36 passengers the boundary bulkheads and decks of special category spaces shall be insulated to A-60 class standard. However, where a category 26.2.2(5), 26.2.2(9) or 26.2.2(10) space is on one side of the division the standard may be reduced to A-O.

57 Renumber existing paragraph 1.2.2 as 1.2.3 and insert new paragraph 1.2.2 to read:

"1.2.2 In passenger ships carrying not more than 36 passengers the boundary bulkheads of special category spaces shall be insulated as required for category (11) spaces in table 27.1 and the horizontal boundaries as required for category (11) spaces in table 27.2."

Regulation II-2/40 - Fire patrols, detection, alarms and public address systems

58 Add the words "and open decks" at the end of paragraph 5.

59 Paragraph 5 is amended to add after the last sentence:

"Each member of the fire patrol shall be provided with a two-way portable radio telephone apparatus".

60 Add new paragraphs 7.1 to 7.2:

"7.1 Passenger ships carrying more than 36 passengers shall have the detection alarms for the systems required by regulation 36.2 centralized in a continuously manned central control station. In addition, controls for remote closing of the fire doors and shutting down the ventilation fans, shall be centralized in the same location. The ventilation fans shall be capable of reactivation by the crew at the continuously manned control station. The control panels in the central control station shall be capable of indicating open or closed positions of fire doors, closed or off status of the detectors, alarms and fans. The control panel shall be continuously powered and should have an automatic change-over to standby power supply in case of loss of normal power supply. The control panel shall be powered from the main source of electrical power and the emergency source of electrical power defined by regulation II-1/42 unless other arrangements are permitted by the regulations, as applicable.

7.2 The control panel shall be designed on the fail-safe principle, e.g. an open detector circuit shall cause an alarm condition, as noted in regulations II-2/13.1.3 and II-1/51.1.4."

Regulation 59 - Venting, purging, gas-freeing and ventilation

60-1 The following new paragraph 4 should be inserted after the existing paragraph 3:

"4 Inerting, ventilation and gas measurement

4.1 This paragraph shall apply to oil tankers constructed on or after 1 October 1994.

4.2 Double hull and double bottom spaces shall be fitted with suitable connections for the supply of air.

4.3 On tankers required to be fitted with inert gas systems:

.1 double hull spaces shall be fitted with suitable connections for the supply of inert gas;

.2 where such spaces are connected to a permanently fitted inert gas distribution system, means shall be provided to prevent hydrocarbon gases from the cargo tanks entering the double hull spaces through the system;

.3 where such spaces are not permanently connected to an inert gas distribution system, appropriate means shall be provided to allow connection to the inert gas main.

4.4.1 Suitable portable instruments for measuring oxygen and flammable vapour concentrations shall be provided. In selecting these instruments, due attention shall be given for their use in combination with the fixed gas sampling line systems referred to in paragraph 4.4.2.

4.4.2 Where atmosphere in double hull spaces cannot be reliably measured using flexible gas sampling hoses, such spaces shall be fitted with permanent gas sampling lines. The configuration of such line systems shall be adapted to the design of such spaces.

4.4.3 The materials of construction and the dimensions of gas sampling lines shall be such as to prevent restriction. Where plastic materials are used, they should be electrically conductive."

Chapter III

Regulation 50

General emergency alarm system

61 Delete the full stop at the end of the regulation and add the following:

"and open decks, and its sound pressure level shall comply with the standard developed by the Organization*. The alarm shall continue to function after it has been triggered until it is manually turned off or is temporarily interrupted by a message on the public address system".

Approved amendments to chapter IV

Regulation IV/13 - Sources of energy

62 Replace the existing text of paragraphs 2.1 to 2.3 by:

".1 one hour on ships provided with an emergency source of electrical power, if such source of power complies fully with all relevant provisions of regulation II-1/42 or 43, including the supply of such power to the radio installations; and

.2 six hours on ships not provided with an emergency source of electrical power complying fully with all relevant provisions of regulation II-1/42 or 43, including the supply of such power to the radio installations."

63 Delete the reference in regulation IV/13.4 to paragraph 2.3.

Regulation IV/14 - Performance standards

64 Replace "by prescribed" in regulation IV/14.2 with "prescribed by".

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* Reference is made to the Code on alarms and indicators adopted by the Organization by resolution A.686(17).

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