**第 42/2015 號行政長官公告**

中華人民共和國於一九九九年十二月十三日以照會通知聯合國秘書長，經修訂的《1974年國際海上人命安全公約》自一九九九年十二月二十日起適用於澳門特別行政區；

國際海事組織海上安全委員會於二零一二年十一月三十日透過第MSC.339（91）號決議通過了《國際消防安全系統規則》修正案，該修正案自二零一四年七月一日起適用於澳門特別行政區；

基於此，行政長官根據澳門特別行政區第3/1999號法律第六條第一款的規定，命令公佈包含上指修正案的第MSC.339（91）號決議的中文及英文文本。

二零一五年五月四日發佈。

行政長官　崔世安

**Aviso do Chefe do Executivo n.º 42/2015**

Considerando que a República Popular da China, por nota datada de 13 de Dezembro de 1999, notificou o Secretário-Geral das Nações Unidas sobre a aplicação da Convenção Internacional para a Salvaguarda da Vida Humana no Mar de 1974, tal como emendada, na Região Administrativa Especial de Macau a partir de 20 de Dezembro de 1999;

Considerando igualmente que, em 30 de Novembro de 2012, o Comité de Segurança Marítima da Organização Marítima Internacional, através da resolução MSC.339(91), adoptou emendas ao Código Internacional dos Sistemas de Segurança contra Incêndios, e que tais emendas são aplicáveis na Região Administrativa Especial de Macau desde 1 de Julho de 2014;

O Chefe do Executivo manda publicar, nos termos do n.º 1 do artigo 6.º da Lei n.º 3/1999 da Região Administrativa Especial de Macau, a resolução MSC.339(91), que contém as referidas emendas, nos seus textos em línguas chinesa e inglesa.

Promulgado em 4 de Maio de 2015.

O Chefe do Executivo, *Chui Sai On*.

# 第 MSC.339（91）號決議

# （2012 年 11 月 30 日通過）

# 《國際消防安全系統規則》修正案

**海上安全委員會，**

**憶及**《國際海事組織公約》關於本委員會職能的第二十八條第（二）款，

**注意到**第 MSC.98（73）號決議，憑該決議，委員會通過了《國際消防安全系統規則》（以下稱“消防系統規則”），根據《1974 年國際海上人命安全公約》（以下稱“公約”）第 II－2 章，該規則具有強制性，

**還注意到**公約關於《消防系統規則》修正程序的第 VIII（b）條和第 II－2/3.22 條，

在其第九十一屆會議上審議了按照公約第 VIII（b）（i）條提出和分發的《消防系統規則》的修正案，

1. 按照公約第 VIII（b）（iv）條，**通過**《國際消防安全系統規則》修正案，其文本載於本決議附件中；

2. 按照公約第 VIII（b）（vi）（2）（bb）條，**決定**該修正案將於 2014 年 1 月 1 日視爲已獲接受，除非在此日期之前，有三分之一以上的公約締約國政府或擁有商船合計噸位不少於世界商船總噸位 50%的締約國政府表示反對該修正案；

3. **請**公約各締約國政府注意，按照公約第 VIII（b）（vii）（2）條，該修正案在按上述第 2 段獲接受後，將於 2014 年 7 月 1 日生效；

4. **要求**秘書長遵照公約第 VIII（b）（v）條，將本決議及其附件中修正案文本的核證無誤副本分發給所有公約締約國政府；

5. **還要求**秘書長將本決議及其附件的副本分發給非公約締約國的本組織會員國。

# 附件

# 《國際消防安全系統規則》修正案

## 第 3 章

## 人員保護

1 現有第 2.1.2 段由下列二個新段落替代：

“2.1.2.1 呼吸器應爲自給式壓縮空氣呼吸器，其瓶內儲氣量須至少爲 1,200 升，或其他型式的自給式呼吸器，其可供使用的時間須至少爲 30 分鐘。呼吸器所有的空氣瓶須能互換。

2.1.2.2 壓縮空氣呼吸器須設有聽覺報警和視覺或其他裝置，以在瓶內儲氣量降至不少於 200 升前向使用者發出警報。”

## 第 5 章

## 固定式氣體滅火系統

2 在第 2.1.1.1 段第二句後，新增句子如下：

“未採用至少 A－0 級分隔分開並設有獨立通風系統的相鄰處所應視為同一處所。”

3 在第 2.1.1.3 段第一句後，新增句子如下：

“無需為此目的而將容器從其固定位置完全移開。對於二氧化碳系統，在每排瓶子上須設有懸掛稱重裝置的橫杠或其他裝置。對於其他滅火劑類型，可使用適當的液面指示器。”

4 第 2.1.3.2 段的第一句由下文替代：

“對任何滾裝處所、裝有整體式冷藏集裝箱的集裝箱貨艙、可經門或艙口進出的處所和通常有人員工作或進出的其他處所，須設有釋放滅火劑的聽覺和視覺自動報警裝置。”

5 現有第 2.2.1.1 段後新增第 2.2.1.2 如下，之後的段落（包括對其的引述）相應重新編號：

“2.2.1.2 特種處所以外的車輛處所和滾裝處所所備二氧化碳的數量須足以釋放出體積至少等於可被密封的最大貨物處所總容積 45%的自由氣體，且該佈置須確保相關處所所需氣體的至少三分之二將在 10 分鐘內注入。二氧化碳系統不得用於保護特種處所。”

6 在重新編號的第 2.2.1.6 段之後，新增第 2.2.1.7 段如下：

“2.2.1.7 對於集裝箱和普通貨物處所（主要擬載運多種獨立繫固或包裝的貨物），固定管系須可在 10 分鐘內將至少三分之二的氣體注入該處所。對於固體散貨處所，固定管系須可在 20 分鐘內將至少三分之二的氣體注入該處所。系統控制裝置的佈置須允許根據貨艙的裝載狀況釋放氣體總量的三分之一、三分之二或全部。”

7 第 2.2.2 段的第一句由下文替代：

“保護滾裝處所、裝有整體式冷藏集裝箱的集裝箱貨艙、可經門或艙口進出的處所和通常有人員工作或進出的其他處所的二氧化碳系統須符合下列要求：” 。

8 刪除第 2.4 節。

9 第 2.5 節重新編號為第 2.4 節，且其中的文字“第 2.2 至 2.4 段”由“第 2.2 和 2.3 段”所替代。

## 第 7 章

## 固定式壓力噴水和水霧滅火系統

10 現有第 2.3 段後新增第 2.4 段如下：

“**2.4 用於滾裝處所、車輛處所和特種處所的固定式水基滅火系統**

用於滾裝處所、車輛處所和特種處所的固定式水基滅火系統須由主管機關根據本組織制定的導則予以認可。”

## 第 8 章

## 自動噴水器、探火和失火報警系統

11 在第 2.5.2.3 段第一句後，新增句子如下：

“為此，額定面積須為受保護區域的總水平投影面積。”

## 第 9 章

## 固定式探火和失火報警系統

12 在第 2.2.1 段第三句後，新增句子如下：

“在 2014 年 7 月 1 日或以後建造的船舶上，轉換開關須佈置成在發生故障時不會導致兩套電源同時斷電。”

13 在第 2.2.1 段後新增第 2.2.2 段如下，現有第 2.2.2 段重新編號為第 2.2.3 段：

“2.2.2 在 2014 年 7 月 1 日或以後建造的船舶上，自動轉換開關的操作或其中一套電源的故障不得導致探火能力的喪失。如短暫斷電會導致系統能力下降，須配有足夠容量的蓄電池以確保轉換期間的持續運行。”

14 刪除現有第 2.2.3 段，並在重新編號的第 2.2.3 段後新增如下段落：

“2.2.4 上述第 2.2.1 段中規定的應急電源可由蓄電池組或應急配電板供電。該電源須足以在公約第 II－1/42 和 43 條所要求的時間期限內維持探火和失火報警系統的運行，並且在該所要求的時間期限結束時，須能夠運作所有相連接的視覺和聽覺失火報警信號至少 30 分鐘。

2.2.5 在 2014 年 7 月 1 日或以後建造的船舶上，如系統由蓄電池組供電，蓄電池組須位於探火系統的控制板內或附近，或在另一個適合在應急情況下使用的位置。電池充電裝置的功率須足以在對處於完全放電狀態的電池充電時維持對探火系統的正常供電輸出。”

15 在第 2.3.1.2、2.3.1.3 和 2.3.1.5 段中，所引述的標準“IEC 60092－505:2001”改換為“IEC 60092－504”。

16 在第 2.5.1.3 段第二句後，新增句子如下：

“對於設有貨物控制室並在 2014 年 7 月 1 日或以後建造的船舶，貨物控制室內須有一個額外指示裝置。”

17 在第 2.5.2 段第二句後，新增句子如下：

“在 2014 年 7 月 1 日或以後建造的船舶上，安裝在低温處所（例如，冷藏艙）的探測器須使用充分慮及此類位置特點的程序進行測試。”

## 第 12 章

## 固定式應急消防泵

18 現有第 2.2.2.1 段由下文替代：

“2.2.2.1 柴油機的起動

任何應急消防泵的柴油驅動動力源，須在温度降至 0℃時的冷態下能用人工手搖曲柄隨時起動。在不能確保隨時起動時，如不可行，或如可能遇到更低温度時，及如柴油驅動動力源所在艙室無供暖時，則須設有令主管機關滿意的柴油機冷卻水或潤滑油電力加熱系統。如人工起動不可行時，主管機關可允許採用壓縮空氣、電或其他儲備能源，包括液壓蓄能器或起動藥筒作為起動裝置。這些起動裝置，須能在 30 分鐘內起動柴油機驅動動力源至少 6 次，並在第一個 10 分鐘內起動至少 2 次。”

## 第 13 章

## 脫險通道的佈置

19 現有第 2.2.4 段由下文替代：

“2.2.4 梯道平台

除服務於公共處所直接通向梯道環圍的梯道平台外，每一層甲

板的梯道平台（不包括中間梯道平台）的面積不得小於 $2m^2$。並在使用該平台人員數超過 20 人時，每增加 10 人須增加 $1m^2$ 面積，但不必超過 $16m^2$。中間梯道平台的尺寸須按照第 2.3.1 條劃定。”

## 第 14 章

## 固定式甲板泡沫系統

20 現有第 14 章由下文替代：

“**1 適用範圍**

1.1 本章詳細規定了公約第 II－2 章要求配備的固定式甲板泡沫系統的技術要求。

**2 技術要求**

**2.1** ***通則***

2.1.1 提供泡沫的裝置須能將泡沫輸送到整個貨艙甲板區域，並且能送入甲板已經破裂的任一貨艙內。

2.1.2 甲板泡沫系統操作須簡單而迅速。

2.1.3 按所要求的輸出量操作甲板泡沫系統時，須從消防總管按所要求的壓力同時噴射所要求的最少數目的水柱。如甲板泡沫系統由消防總管的共用管路水，須為泡沫系統提供同時操作兩支水槍所需的額外泡沫濃縮液。須能在船舶全長範圍的甲板上、起居處所、服務處所、控制站和機器處所內同時噴射所要求的最少數目的水柱。

**2.2** *部件要求*

2.2.1 *泡沫混合液和泡沫濃縮液*

2.2.1.1 對於載運下列貨物的液貨船：

.1 閃點不超過 60℃（閉杯試驗，由經認可閃點儀測定），且其雷德蒸氣壓力低於大氣壓力的原油或石油產品或具有類似失火危險的其他液體產品，包括《國際散化規則》第 18 章中閃點不超過 60℃（閉杯試驗）且常規泡沫滅火系統對之有效的貨物（參見公約第 II－2/1.6.1 和 10.8 條）；或

.2 閃點超過 60℃（閉杯試驗，由經認可閃點儀測定）的石油產品（參見公約第 II－2/1.6.4 條）；或

.3 閃點超過 60℃（閉杯試驗，由經認可閃點儀測定）的《國際散化規則》第 17 章貨物（參見《國際散化規則第 11.1.3 段和公約第 II－2/1.6.4 條），

泡沫混合液的供給率不得小於下例數值中的最大值：

.1 貨艙甲板區域每平方米 0.6 升/分鐘，貨艙甲板面積係指船舶最大寬度乘以全部貨艙處所的縱向總長度；

.2 具有最大這種面積的單個貨艙的水平截面面積每平方米 6 升/分鐘；或

.3 最大泡沫炮保護的並完全位於該炮前方的面積每平方米 3 升/分鐘，但任何泡沫炮的輸出量不應少於 1,250 升/分鐘。

2.2.1.2 對於載運《國際散化規則》第 17 章所列閃點不超過 60℃（閉杯試驗）的散裝化學品的液貨船，泡沫混合液的供給率須符合《國際散化規則》的要求。

2.2.1.3 須供給足量的泡沫濃縮液，以確保對裝設惰性氣體裝置的液貨船產生泡沫至少 20 分鐘，或，對未裝設惰性氣體裝置或不要求使用惰性氣體系統的液貨船產生泡沫至少 30 分鐘。

2.2.1.4 船上供給的泡沫濃縮液須由主管機關針對擬載運的貨物予以認可。為保護原油、石油產品和非極性溶劑貨物須供給 B 類泡沫濃縮液。對《國際散化規則》第 17 章表中所列極性溶劑貨物須供給 A 類泡沫濃縮液。須僅供給一種類型的泡沫濃縮液，且該濃縮液應對最大可能數量的擬載運貨物有效。對於泡沫對其無效或與之不兼容的貨物，須提供令主管機關滿意的附加安排。

2.2.1.5 閃點不超過 60℃且常規泡沫滅火系統對其無效的液體貨物，須符合公約第 II－2/1.6.2.1 條的規定。

2.2.2 *泡沫炮和泡沫槍*

2.2.2.1 固定式泡沫系統的泡沫，須用若干泡沫炮和泡沫槍提供。須進行泡沫炮和泡沫槍的原型試驗以確保所產生泡沫的發泡時間和析液時間與第 2.2.1.4 段中所確定者相差不超過 ±10%。當採用中等發泡倍數的泡沫（發泡率在 21:1 和 200:1 之間）時，泡沫施放率和泡沫炮裝置的能力須令使主管機關滿意。每一泡沫炮須至少供給所要求的泡沫混合液供給率的 50%。對於小於 4,000 載重噸的液貨船，主管機關可以不要求裝設泡沫

炮，而只要求裝設泡沫槍。但是，在這種情況下，每一泡沫槍的能力須至少是所要求的泡沫混合液供給率的 25%。

2.2.2.2 任何泡沫槍的能力須不小於 400 升/分鐘，在靜止空氣中，噴槍的射程須不小於 15 米。

**2.3 *安裝要求***

2.3.1 *主控制站*

2.3.1.1 系統的主控制站須適當地佈置在貨物區域以外，靠近起居處所並在被保護區域萬一失火時能易於到達並操作的位置。

2.3.2 *泡沫炮*

2.3.2.1 泡沫炮的數目和位置須符合第 2.1.1 段的規定。

2.3.2.2 從泡沫炮至其前方所保護區域最遠端的距離，不得大於該炮在靜止空氣中射程的 75%。

2.3.2.3 在尾樓或面向貨艙甲板的起居處所的前端左右兩舷須各裝設 1 具泡沫炮和泡沫槍軟管接頭。泡沫炮和軟管接頭須位於任何貨艙的後方，但若能夠保護相互之下的甲板和後方，可位於泵艙、隔離空艙、壓載艙和相鄰於貨艙的空艙上方的貨物區域內。對小於 4,000 載重噸的液貨船，在尾樓或面向貨艙甲板的起居處所的前端左右兩舷須各裝設 1 具泡沫槍軟管接頭。

2.3.3 *泡沫槍*

2.3.3.1 所有液貨船須至少配備 4 具泡沫槍。泡沫槍總管出口的數量和佈置須使至少兩具泡沫槍將泡沫噴射到貨艙甲板區域的任何部分。

2.3.3.2 須為確保滅火作業中的動作靈活性並覆蓋泡沫炮所保護不到的區域，提供泡沫槍。

2.3.4 *隔離閥*

2.3.4.1 在泡沫總管中，並在緊接任何泡沫炮之前的係甲板泡沫系統構成部分的消防總管中，須裝有閥門，以隔離總管的損壞部分。”

**RESOLUTION MSC.339(91)**
**(adopted on 30 November 2012)**

**AMENDMENTS TO THE INTERNATIONAL CODE FOR FIRE SAFETY SYSTEMS**

THE MARITIME SAFETY COMMITTEE,

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

NOTING resolution MSC.98(73), by which it adopted the International Code for Fire Safety Systems (hereinafter referred to as "the FSS Code"), which has become mandatory under chapter II-2 of the International Convention for the Safety of Life at Sea, 1974 (hereinafter referred to as "the Convention"),

NOTING ALSO article VIII(b) and regulation II-2/3.22 of the Convention concerning the procedure for amending the FSS Code,

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

1. ADOPTS, in accordance with article VIII(b)(iv) of the Convention, amendments to the International Code for Fire Safety Systems, 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 January 2014, unless, prior to that 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 the Convention to note that, in accordance with article VIII(b)(vii)(2) of the Convention the amendments shall enter into force on 1 July 2014, 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. ALSO REQUESTS the Secretary-General to transmit copies of this resolution and its annex to Members of the Organization which are not Contracting Governments to the Convention.

ANNEX

## AMENDMENTS TO THE INTERNATIONAL CODE FOR FIRE SAFETY SYSTEMS

### CHAPTER 3
### PERSONNEL PROTECTION

1 The existing paragraph 2.1.2 is replaced by the following two new paragraphs:

"2.1.2.1 Breathing apparatus shall be a self-contained compressed air breathing apparatus for which the volume of air contained in the cylinders shall be at least 1,200 *l*, or other self-contained breathing apparatus which shall be capable of functioning for at least 30 min. All air cylinders for breathing apparatus shall be interchangeable.

2.1.2.2 Compressed air breathing apparatus shall be fitted with an audible alarm and a visual or other device which will alert the user before the volume of the air in the cylinder has been reduced to no less than 200 *l*."

### CHAPTER 5
### FIXED GAS FIRE-EXTINGUISHING SYSTEMS

2 In paragraph 2.1.1.1, after the second sentence, the following new sentence is added:

"Adjacent spaces with independent ventilation systems not separated by at least A-0 class divisions should be considered as the same space."

3 In paragraph 2.1.1.3, after the first sentence, the following new sentence is added:

"It shall not be necessary to move the containers completely from their fixing position for this purpose. For carbon dioxide systems, hanging bars for a weighing device above each bottle row, or other means shall be provided. For other types of extinguishing media, suitable surface indicators may be used."

4 In paragraph 2.1.3.2, the first sentence is replaced by the following:

"Means shall be provided for automatically giving audible and visual warning of the release of fire-extinguishing medium into any ro-ro spaces, container holds equipped with integral reefer containers, spaces accessible by doors or hatches, and other spaces in which personnel normally work or to which they have access."

5 The following new paragraph 2.2.1.2 is added after the existing paragraph 2.2.1.1 and the subsequent paragraphs are renumbered accordingly, including references to those paragraphs:

"2.2.1.2 For vehicle spaces and ro-ro spaces which are not special category spaces, the quantity of carbon dioxide available shall be at least sufficient to give a minimum volume of free gas equal to 45 per cent of the gross volume of the largest such cargo space which is capable of being sealed, and the arrangements shall be such as to ensure that at least two thirds of the gas required for the relevant

space shall be introduced within 10 min. Carbon dioxide systems shall not be used for the protection of special category spaces."

6 The following new paragraph 2.2.1.7 is added after the renumbered paragraph 2.2.1.6:

"2.2.1.7 For container and general cargo spaces (primarily intended to carry a variety of cargoes separately secured or packed), the fixed piping system shall be such that at least two thirds of the gas can be discharged into the space within 10 min. For solid bulk cargo spaces, the fixed piping system shall be such that at least two thirds of the gas can be discharged into the space within 20 min. The system controls shall be arranged to allow one third, two thirds or the entire quantity of gas to be discharged based on the loading condition of the hold."

7 In paragraph 2.2.2, the first sentence is replaced by the following:

"Carbon dioxide systems for the protection of ro-ro spaces, container holds equipped with integral reefer containers, spaces accessible by doors or hatches, and other spaces in which personnel normally work or to which they have access shall comply with the following requirements:"

8 Section 2.4 is deleted.

9 Section 2.5 is renumbered as "2.4" and the words "in paragraphs 2.2 to 2.4" are replaced with the words "in paragraphs 2.2 and 2.3".

## CHAPTER 7
## FIXED PRESSURE WATER-SPRAYING AND WATER-MIST FIRE-EXTINGUISHING SYSTEMS

10 The following new paragraph 2.4 is added after the existing paragraph 2.3:

"**2.4 Fixed water-based fire-fighting systems for ro-ro spaces, vehicle spaces and special category spaces**

Fixed water-based fire-fighting systems for ro-ro spaces, vehicle spaces and special category spaces shall be approved by the Administration based on guidelines developed by the Organization."

## CHAPTER 8
## AUTOMATIC SPRINKLER, FIRE DETECTION AND FIRE ALARM SYSTEMS

11 In paragraph 2.5.2.3, after the first sentence, the following new sentence is added:

"For this purpose, nominal area shall be taken as the gross horizontal projection of the area to be covered."

## CHAPTER 9
## FIXED FIRE DETECTION AND FIRE ALARM SYSTEMS

12 In paragraph 2.2.1, after the third sentence, the following new sentence is added:

"On ships constructed on or after 1 July 2014, the changeover switch shall be arranged such that a fault will not result in the loss of both power supplies."

13 The following new paragraph is added after paragraph 2.2.1, and the existing paragraph 2.2.2 is renumbered as paragraph 2.2.3:

"2.2.2 On ships constructed on or after 1 July 2014, the operation of the automatic changeover switch or a failure of one of the power supplies shall not result in loss of fire detection capability. Where a momentary loss of power would cause degradation of the system, a battery of adequate capacity shall be provided to ensure continuous operation during changeover."

14 The existing paragraph 2.2.3 is deleted and the following new paragraphs are added after the renumbered paragraph 2.2.3:

"2.2.4 The emergency source of power specified in paragraph 2.2.1 above may be supplied by accumulator batteries or from the emergency switchboard. The power source shall be sufficient to maintain the operation of the fire detection and fire alarm system for the periods required under chapter II-1, regulations 42 and 43, of the Convention and, at the end of that period, shall be capable of operating all connected visual and audible fire alarm signals for a period of at least 30 min.

2.2.5 On ships constructed on or after 1 July 2014, where the system is supplied from accumulator batteries, they shall be located in or adjacent to the control panel for the fire detection system, or in another location suitable for use in an emergency. The rating of the battery charge unit shall be sufficient to maintain the normal output power supply to the fire detection system while recharging the batteries from a fully discharged condition."

15 In paragraphs 2.3.1.2, 2.3.1.3 and 2.3.1.5, the referenced standard "IEC 60092-505:2001" is replaced by "IEC 60092-504".

16 In paragraph 2.5.1.3, after the second sentence, the following new sentence is added:

"In ships constructed on or after 1 July 2014, with a cargo control room, an additional indicating unit shall be located in the cargo control room."

17 In paragraph 2.5.2, after the second sentence, the following new sentence is added:

"On ships constructed on or after 1 July 2014, detectors installed within cold spaces such as refrigerated compartments shall be tested using procedures having due regard for such locations.

## CHAPTER 12
## FIXED EMERGENCY FIRE PUMPS

18 The existing paragraph 2.2.2.1 is replaced by the following:

"2.2.2.1 Starting of diesel engine

Any diesel-driven power source for the pump shall be capable of being readily started in its cold condition down to the temperature of 0°C by hand (manual) cranking. Where ready starting cannot be assured, if this is impracticable, or if lower temperatures are likely to be encountered, and if the room for the diesel driven power source is not heated, electric heating of the diesel engine cooling water or lubricating oil system shall be fitted, to the satisfaction of the Administration. If hand (manual) starting is impracticable, the Administration may permit compressed air, electricity, or other sources of stored energy, including hydraulic power or starting cartridges to be used as a means of starting. These means shall be such as to enable the diesel-driven power source to be started at least six times within a period of 30 min and at least twice within the first 10 min."

## CHAPTER 13
## ARRANGEMENT OF MEANS OF ESCAPE

19 The existing paragraph 2.2.4 is replaced by the following:

"2.2.4 Landings

With the exception of intermediate landings, 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. Intermediate landings shall be sized in accordance with paragraph 2.3.1."

## CHAPTER 14
## FIXED DECK FOAM SYSTEMS

20 The existing chapter 14 is replaced by the following:

"**1 Application**

1.1 This chapter details the specification of fixed deck foam systems which are required to be provided by chapter II-2 of the Convention.

**2 Engineering specifications**

**2.1 *General***

2.1.1 The arrangements for providing foam shall be capable of delivering foam to the entire cargo tanks deck area as well as into any cargo tank the deck of which has been ruptured.

2.1.2 The deck foam system shall be capable of simple and rapid operation.

2.1.3 Operation of a deck foam system at its required output shall permit the simultaneous use of the minimum required number of jets of water at the required pressure from the fire main. Where the deck foam system is supplied by a common line from the fire main, additional foam concentrate shall be provided for operation of two nozzles for the same period of time required for the foam system. The simultaneous use of the minimum required jets of water shall be possible on deck over the full length of the ship, in the accommodation, service spaces, control stations and machinery spaces.

**2.2 *Component requirements***

2.2.1 *Foam solution and foam concentrate*

2.2.1.1 For tankers carrying:

.1 crude oil or petroleum products having a flashpoint not exceeding 60ºC (closed cup), as determined by an approved flashpoint apparatus, and a Reid vapour pressure which is below atmospheric pressure or other liquid products having a similar fire hazard, including cargoes in chapter 18 of the IBC Code, having a flashpoint not exceeding 60ºC (closed cup) for which a regular foam fire-fighting system is effective (refer to regulations II-2/1.6.1 and 10.8 of the Convention); or

.2 petroleum products with a flashpoint exceeding 60ºC (closed cup), as determined by an approved flashpoint apparatus (refer to regulation II-2/1.6.4 of the Convention); or

.3 IBC Code chapter 17 products with a flashpoint exceeding 60ºC (closed cup) determined by an approved flashpoint apparatus (refer to paragraph 11.1.3 of the IBC Code and regulation II-2/1.6.4 of the Convention),

the rate of supply of foam solution shall be not less than the greatest of the following:

.1 0.6 l/min per square metre of cargo tanks deck area, where cargo tanks deck area means the maximum breadth of the ship multiplied by the total longitudinal extent of the cargo tank spaces;

.2 6 l/min per square metre of the horizontal sectional area of the single tank having the largest such area; or

.3 3 l/min per square metre of the area protected by the largest monitor, such area being entirely forward of the monitor, but in no case should the output of any monitor be less than 1,250 l/min.

2.2.1.2 For tankers carrying chemicals in bulk listed in chapter 17 of the IBC Code having a flashpoint not exceeding 60ºC (closed cup), the rate of supply of foam solution shall be as required by the IBC Code.

2.2.1.3 Sufficient foam concentrate shall be supplied to ensure at least 20 min of foam generation in tankers fitted with an inert gas installation or 30 min of foam generation in tankers not fitted with an inert gas installation or not required to use an inert gas system.

2.2.1.4 The foam concentrate supplied on board shall be approved by the Administration for the cargoes intended to be carried. Type B foam concentrates shall be supplied for the protection of crude oil, petroleum products and non-polar solvent cargoes. Type A foam concentrates shall be supplied for polar solvent cargoes, as listed in the table of chapter 17 of the IBC Code. Only one type of foam concentrate shall be supplied, and it shall be effective for the maximum possible number of cargoes intended to be carried. For cargoes for which foam is not effective or is incompatible, additional arrangements to the satisfaction of the Administration shall be provided.

2.2.1.5 Liquid cargoes with a flashpoint not exceeding 60°C for which a regular foam fire-fighting system is not effective shall comply with the provisions of regulation II-2/1.6.2.1 of the Convention.

2.2.2 *Monitors and foam applicators*

2.2.2.1 Foam from the fixed foam system shall be supplied by means of monitors and foam applicators. Prototype tests of the monitors and foam applicators shall be performed to ensure the foam expansion and drainage time of the foam produced does not differ more than ±10 per cent of that determined in paragraph 2.2.1.4. When medium expansion ratio foam (between 21 to 1 and 200 to 1 expansion ratio) is employed, the application rate of the foam and the capacity of a monitor installation shall be to the satisfaction of the Administration. At least 50 per cent of the foam solution supply rate required shall be delivered from each monitor. On tankers of less than 4,000 tonnes deadweight the Administration may not require installation of monitors but only applicators. However, in such a case the capacity of each applicator shall be at least 25 per cent of the foam solution supply rate required.

2.2.2.2 The capacity of any applicator shall be not less than 400 *l*/min and the applicator throw in still air conditions shall be not less than 15 m.

**2.3 *Installation requirements***

2.3.1 *Main control station*

2.3.1.1 The main control station for the system shall be suitably located outside the cargo area, adjacent to the accommodation spaces and readily accessible and operable in the event of fire in the areas protected.

2.3.2 *Monitors*

2.3.2.1 The number and position of monitors shall be such as to comply with paragraph 2.1.1.

2.3.2.2 The distance from the monitor to the farthest extremity of the protected area forward of that monitor shall not be more than 75 per cent of the monitor throw in still air conditions.

2.3.2.3 A monitor and hose connection for a foam applicator shall be situated both port and starboard at the front of the poop or accommodation spaces facing the cargo tanks deck. The monitors and hose connections shall be aft of any cargo tanks, but may be located in the cargo area above pump-rooms, cofferdams, ballast tanks and void spaces adjacent to cargo tanks if capable of protecting the deck below and aft of each other. On tankers of less than 4,000 tonnes deadweight, a hose connection for a foam applicator shall be situated both port and starboard at the front of the poop or accommodation spaces facing the cargo tanks deck.

2.3.3.1 At least four foam applicators shall be provided on all tankers. The number and disposition of foam main outlets shall be such that foam from at least two applicators can be directed on to any part of the cargo tanks deck area.

2.3.3.2 Applicators shall be provided to ensure flexibility of action during fire-fighting operations and to cover areas screened from the monitors.

2.3.4 *Isolation valves*

2.3.4.1 Valves shall be provided in the foam main, and in the fire main when this is an integral part of the deck foam system, immediately forward of any monitor position to isolate damaged sections of those mains."

**第 43/2015 號行政長官公告**

中華人民共和國於一九九九年十二月十三日以照會通知聯合國秘書長，經修訂的《1974年國際海上人命安全公約》自一九九九年十二月二十日起適用於澳門特別行政區；

國際海事組織海上安全委員會於二零零四年十二月十日透過第MSC.177（79）號決議通過了《國際散裝運輸液化氣體船舶構造和設備規則》（IGC規則）修正案，該修正案自二零零六年七月一日起適用於澳門特別行政區；

基於此，行政長官根據澳門特別行政區第3/1999號法律第六條第一款的規定，命令公佈包含上指修正案的第MSC.177（79）號決議的中文及英文文本。

二零一五年五月四日發佈。

行政長官　崔世安

**Aviso do Chefe do Executivo n.º 43/2015**

Considerando que a República Popular da China, por nota datada de 13 de Dezembro de 1999, notificou o Secretário-Geral das Nações Unidas sobre a aplicação da Convenção Internacional para a Salvaguarda da Vida Humana no Mar de 1974, tal como emendada, na Região Administrativa Especial de Macau a partir de 20 de Dezembro de 1999;

Considerando igualmente que, em 10 de Dezembro de 2004, o Comité de Segurança Marítima da Organização Marítima Internacional, através da resolução MSC.177(79), adoptou emendas ao Código Internacional para a Construção e Equipamento de Navios que Transportam Gases Liquefeitos a Granel (Código IGC), e que tais emendas são aplicáveis na Região Administrativa Especial de Macau desde 1 de Julho de 2006;

O Chefe do Executivo manda publicar, nos termos do n.º 1 do artigo 6.º da Lei n.º 3/1999 da Região Administrativa Especial de Macau, a resolução MSC.177(79), que contém as referidas emendas, nos seus textos em línguas chinesa e inglesa.

Promulgado em 4 de Maio de 2015.

O Chefe do Executivo, *Chui Sai On*.