

**第 4/2021 號行政長官公告****Aviso do Chefe do Executivo n.º 4/2021**

國際海事組織海上安全委員會分別於二零一六年五月十九日和二零一六年十一月二十五日，透過第MSC.403(96)號和第MSC.410(97)號決議，通過了《國際消防安全系統規則》（《消防規則》）修正案，該等修正案於二零二零年一月一日在國際法律秩序上生效，包括對澳門特別行政區生效；

基於此，行政長官根據第3/1999號法律《法規的公佈與格式》第五條（一）項和第六條第一款的規定，命令公佈：

——包含上指修正案的國際海事組織海上安全委員會第MSC.403(96)號決議的中文和英文正式文本；

——包含上指修正案的國際海事組織海上安全委員會第MSC.410(97)號決議的中文和英文正式文本。

二零二一年一月十八日發佈。

行政長官 賀一誠

Considerando que, em 19 de Maio de 2016 e em 25 de Novembro de 2016, o Comité de Segurança Marítima da Organização Marítima Internacional (OMI), respectivamente, através das resoluções MSC.403(96) e MSC.410(97), adoptou as emendas ao Código Internacional dos Sistemas de Segurança contra Incêndios (Código FSS), e que tais emendas entraram em vigor na ordem jurídica internacional, incluindo a Região Administrativa Especial de Macau, em 1 de Janeiro de 2020;

O Chefe do Executivo manda publicar, nos termos da alínea 1) do artigo 5.º e do n.º 1 do artigo 6.º da Lei n.º 3/1999 (Publicação e formulário dos diplomas):

— a resolução MSC.403(96) do Comité de Segurança Marítima da OMI, que contém as referidas emendas, nos seus textos autênticos em línguas chinesa e inglesa;

— a resolução MSC.410(97) do Comité de Segurança Marítima da OMI, que contém as referidas emendas, nos seus textos autênticos em línguas chinesa e inglesa.

Promulgado em 18 de Janeiro de 2021.

O Chefe do Executivo, *Ho Iat Seng*.

## 第 MSC.403 (96) 號決議

(2016 年 5 月 19 日通過)

### 《國際消防安全系統規則》(消防規則)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的職能的第 28 (b) 條，

注意到第 MSC.98 (73) 號決議通過的《國際消防安全系統規則》(“消防規則”)，根據《1974 年國際海上人命安全公約》(“本公約”)第 II-2 章已成為強制性文件，

還注意到本公約第 VIII (b) 條和第 II-2/3.22 條關於《消防規則》的修正程序，

在其第九十六屆會議上，審議了按本公約第 VIII (b) (i) 條提出和分發的《消防規則》修正案，

- 1 按本公約第 VIII (b) (iv) 條，通過《消防規則》修正案，其文本載於本決議附件中；
- 2 按本公約第 VIII (b) (vi) (2) (bb) 條，決定該修正案應於 2019 年 7 月 1 日被視為獲得接受，除非在該日期之前，有三分之一以上的本公約締約國政府或其合計商船總噸位不少於世界商船總噸位 50% 的締約國政府，已通知秘書長反對該修正案；
- 3 提請本公約締約國政府注意，按本公約第 VIII (b) (vii) (2) 條，該修正案在按上述第 2 段獲得接受後，應於 2020 年 1 月 1 日生效；
- 4 要求秘書長，按本公約第 VIII (b) (v) 條，將本決議及其附件中所含修正案文本的核正無誤的副本送交所有本公約締約國政府；
- 5 還要求秘書長將本決議及其附件的副本送交非本公約締約國政府的本組織各會員國。

## 附件

## 《國際消防安全系統規則》（消防規則）修正案

## 第 8 章

## 自動噴水器、探火和失火報警系統

- 1 現有第 2.4.1 項的文字由以下替換：

**“2.4.1 總則**

2.4.1.1 對於該系統在服務中可能處於冰凍溫度的任何部件，須做適當的防凍保護。

2.4.1.2 須特別注意系統製造商提供的水質規格，以防止噴水器內部腐蝕和由於腐蝕物或形成水垢的礦物質造成的堵塞或阻塞。”

- 2 在現有第 16 章後增加新的第 17 章如下：

**“第 17 章****直升機設施泡沫消防設備****1 適用範圍**

本章詳細描述了公約第 II-2 章要求用於直升機甲板和直升機降落區域保護的泡沫消防設備的規格。

**2 定義**

2.1 *D* 值係指直升機機翼在轉動時用於評估直升機甲板的直升機最大尺寸。該值確定泡沫供給所需的面積。

2.2 甲板一體式泡沫噴嘴係指直升機甲板內嵌入的或嵌於其上的泡沫噴嘴。

2.3 發泡支管係指用於製造和施放泡沫的管型吸氣噴嘴，通常僅以直線水流施放。

2.4 直升機降落區域的定義同《安全公約》第 II-2/3.57 條。

2.5 直升機甲板的定義同《安全公約》第 II-2/3.26 條。

2.6 軟管卷車泡沫站係指裝有發泡支管和不可折軟管的軟管卷車，與固定式泡沫比例混合器和固定式泡沫濃縮液罐裝在同一框架上。

2.7 泡沫炮站係指自吸式或與單獨的固定式泡沫比例混合器和固定式泡沫濃縮液罐裝在同一框架上的泡沫炮。

2.8 無障礙區域係指起飛和着陸區域，該區域完全包括安全降落區域並延伸至少 210°的區域，在此區域內僅允許規定的障礙物。

2.9 有限障礙區域係指起飛和着陸區域外、從直升機甲板向外延伸 150°的區域，在此區域允許有限高度的物品。

### 3 直升機甲板和直升機降落區域的工程規格

3.1 系統須能手動釋放，並可佈置為自動釋放。

3.2 對於直升機甲板，泡沫系統須包括至少兩個固定式泡沫炮或甲板一體式泡沫噴嘴。此外，須設有至少兩個裝有發泡支管和足夠到達直升機甲板任何區域的不可折軟管的軟管卷車。最小泡沫系統施放率須由 D 值面積乘以 6 升/米<sup>2</sup>/分鐘確定。甲板一體式泡沫噴嘴系統的最小泡沫系統施放率須由直升機甲板總面積乘以 6 升/米<sup>2</sup>/分

鐘確定。每個炮須能至少提供最小泡沫系統施放率的 50%，但不小於 500 升/分鐘。每個軟管卷車的最小施放率須至少為 400 升/分鐘。泡沫濃縮劑的量須足夠使所有連接的施放設備運行至少 5 分鐘。

3.3 如安裝泡沫炮，從該炮至所保護區域最遠端的距離須不大於該炮在靜止空氣中射程的 75%。

3.4 對於直升機降落區域，須至少設有兩個便攜式泡沫滅火器或兩個軟管卷車泡沫站，每個泡沫滅火器或泡沫站都能按下表以最小泡沫溶液施放率進行施放。

類別	直升機總長 (D 值)	最小泡沫溶液施放率 (升/分鐘)
H1	15 米以下但不包括 15 米	250
H2	15 米以上 24 米以下但不包括 24 米	500
H3	24 米以上 35 米以下但不包括 35 米	800

泡沫濃縮劑的量須足夠使所有連接的施放設備運行至少 10 分鐘。對於裝有甲板泡沫系統的液貨船，主管機關可在慮及所使用的泡沫濃縮液類型的情況下考慮替代佈置。

3.5 能啟動必要的泵和打開操作所需的閥門，包括消防總管系統的手動釋放站，如用於供水，須位於每個炮和軟管卷車。此外，在受保護位置須設有中央手動釋放站。泡沫系統須設計為在啟動 30 秒內從任何連接的施放設備以額定流量和設計壓力施放泡沫。

3.6 任何手動釋放站的啟動須使泡沫溶液開始流向所有連接的軟管卷車、炮和甲板一體式泡沫噴嘴。

3.7 系統及其部件須設計成承受開敞甲板通常會遇到的環境溫度變化、震動、潮濕、衝擊和腐蝕，並且其製造和測試須使主管機關滿意。

- 3.8 同時施放泡沫的所有軟管卷車和炮須有至少 15 米的最小噴嘴射程。甲板一體式泡沫噴嘴的施放壓力、流速和施放模式須使主管機關滿意，根據測試證明噴嘴能熄滅涉及直升機甲板設計的最大尺寸直升機的火災。
- 3.9 炮、發泡支管、甲板一體式泡沫噴嘴和管箍須由黃銅、青銅或不鏽鋼製成。管路、附件和相關部件（墊圈除外）須設計成承受 925°C 的溫度。
- 3.10 泡沫濃縮劑須被證明有效熄滅航空燃油泄漏火災並須符合不低於本組織接受的性能標準。如泡沫儲存櫃位於露天甲板，須根據情況對操作區域使用防凍泡沫濃縮劑。
- 3.11 安裝在起飛和着陸無障礙區域內的任何泡沫系統設備高度不得超過 0.25 米。安裝在有限障礙區域內的任何泡沫系統設備高度不得超過該區域內允許的物品高度。
- 3.12 所有手動釋放站、泡沫炮站、軟管卷車泡沫站、軟管卷車和炮須設有無需穿過直升機甲板或直升機降落區域的通道。
- 3.13 如使用搖擺炮，須預先設定為以水霧模式施放泡沫，並能快速從搖擺模式轉為手動操作。
- 3.14 如安裝流速達到 1,000 升/分鐘的泡沫炮，該炮須配有吸氣式噴嘴。如安裝甲板一體式噴嘴系統，額外安裝的軟管卷車須配有吸氣式小口徑噴嘴（泡沫支管）。只有在安裝流速大於 1,000 升/分鐘的泡沫炮時才允許（在炮和額外的軟管卷車上）使用非吸氣式泡沫噴嘴。如只設有便攜式泡沫滅火器或軟管卷車站，兩者皆須配有吸氣式小口徑噴嘴（泡沫支管）。”

**RESOLUTION MSC.403(96)**  
**(adopted on 19 May 2016)**

**AMENDMENTS TO THE INTERNATIONAL CODE  
FOR FIRE SAFETY SYSTEMS (FSS CODE)**

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 ("the FSS Code"), which has become mandatory under chapter II-2 of the International Convention for the Safety of Life at Sea, 1974 ("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-sixth 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 FSS Code 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 said amendments shall be deemed to have been accepted on 1 July 2019 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% of the gross tonnage of the world's merchant fleet, have notified the Secretary-General of 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 January 2020 upon their acceptance in accordance with paragraph 2 above;

4 REQUESTS the Secretary-General, for the purposes of 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 REQUESTS ALSO 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 (FSS CODE)

## CHAPTER 8

## AUTOMATIC SPRINKLER, FIRE DETECTION AND FIRE ALARM SYSTEMS

- 1 The text in existing paragraph 2.4.1 is replaced with the following:

**"2.4.1 General**

2.4.1.1 Any parts of the system which may be subjected to freezing temperatures in service shall be suitably protected against freezing.

2.4.1.2 Special attention shall be paid to the specification of water quality provided by the system manufacturer to prevent internal corrosion of sprinklers and clogging or blockage arising from products of corrosion or scale-forming minerals."

- 2 A new chapter 17 is added after existing chapter 16 as follows:

**"CHAPTER 17  
HELICOPTER FACILITY FOAM FIREFIGHTING APPLIANCES****1 Application**

This chapter details the specifications for foam firefighting appliances for the protection of helidecks and helicopter landing areas as required by chapter II-2 of the Convention.

**2 Definitions**

2.1 *D-value* means the largest dimension of the helicopter used for assessment of the helideck when its rotors are turning. It establishes the required area of foam application.

2.2 *Deck integrated foam nozzles* are foam nozzles recessed into or edge mounted on the helideck.

2.3 *Foam-making branch pipes* are air-aspirating nozzles in tube shape for producing and discharging foam, usually in straight stream only.

2.4 *Helicopter landing area* is as defined in SOLAS regulation II-2/3.57.

2.5 *Helideck* is as defined in SOLAS II-2/3.26.

2.6 *Hose reel foam station* is a hose reel fitted with a foam-making branch pipe and non-collapsible hose, together with fixed foam proportioner and fixed foam concentrate tank, mounted on a common frame.

2.7 *Monitor foam station* is a foam monitor, either self-inducing or together with separate fixed foam proportioner, and fixed foam concentrate tank, mounted on a common frame.



2.8 *Obstacle free sector* is the take-off and approach sector which totally encompasses the safe landing area and extends over a sector of at least 210°, within which only specified obstacles are permitted.

2.9 *Limited obstacle sector* is a 150° sector outside the take-off and approach sector that extends outward from a helideck where objects of limited height are permitted.

### 3 Engineering specifications for helidecks and helicopter landing areas

3.1 The system shall be capable of manual release, and may be arranged for automatic release.

3.2 For helidecks the foam system shall contain at least two fixed foam monitors or deck integrated foam nozzles. In addition, at least two hose reels fitted with a foam-making branch pipe and non-collapsible hose sufficient to reach any part of the helideck shall be provided. The minimum foam system discharge rate shall be determined by multiplying the D-value area by 6 l/min/m<sup>2</sup>. The minimum foam system discharge rate for deck integrated foam nozzle systems shall be determined by multiplying the overall helideck area by 6 l/min/m<sup>2</sup>. Each monitor shall be capable of supplying at least 50% of the minimum foam system discharge rate, but not less than 500 l/min. The minimum discharge rate of each hose reel shall be at least 400 l/min. The quantity of foam concentrate shall be adequate to allow operation of all connected discharge devices for at least 5 min.

3.3 Where foam monitors are installed, the distance from the monitor to the farthest extremity of the protected area shall be not more than 75% of the monitor throw in still air conditions.

3.4 For helicopter landing areas, at least two portable foam applicators or two hose reel foam stations shall be provided, each capable of discharging a minimum foam solution discharge rate, in accordance with the following table.

Category	Helicopter overall length (D-value)	Minimum foam solution discharge rate (l/min)
H1	up to but not including 15 m	250
H2	from 15 m up to but not including 24 m	500
H3	from 24 m up to but not including 35 m	800

The quantity of foam concentrate shall be adequate to allow operation of all connected discharge devices for at least 10 min. For tankers fitted with a deck foam system, the Administration may consider an alternative arrangement, taking into account the type of foam concentrate to be used.

3.5 Manual release stations capable of starting necessary pumps and opening required valves, including the fire main system, if used for water supply, shall be located at each monitor and hose reel. In addition, a central manual release station shall be provided at a protected location. The foam system shall be designed to discharge foam with nominal flow and at design pressure from any connected discharge devices within 30 s of activation.

3.6 Activation of any manual release station shall initiate the flow of foam solution to all connected hose reels, monitors, and deck integrated foam nozzles.

3.7 The system and its components shall be designed to withstand ambient temperature changes, vibration, humidity, shock impact and corrosion normally encountered on the open deck, and shall be manufactured and tested to the satisfaction of the Administration.

3.8 A minimum nozzle throw of at least 15 m shall be provided with all hose reels and monitors discharging foam simultaneously. The discharge pressure, flow rate and discharge pattern of deck integrated foam nozzles shall be to the satisfaction of the Administration, based on tests that demonstrate the nozzle's capability to extinguish fires involving the largest size helicopter for which the helideck is designed.

3.9 Monitors, foam-making branch pipes, deck integrated foam nozzles and couplings shall be constructed of brass, bronze or stainless steel. Piping, fittings and related components, except gaskets, shall be designed to withstand exposure to temperatures up to 925°C.

3.10 The foam concentrate shall be demonstrated effective for extinguishing aviation fuel spill fires and shall conform to performance standards not inferior to those acceptable to the Organization. Where the foam storage tank is on the exposed deck, freeze protected foam concentrates shall be used, if appropriate, for the area of operation.

3.11 Any foam system equipment installed within the take-off and approach obstacle-free sector shall not exceed a height of 0.25 m. Any foam system equipment installed in the limited obstacle sector shall not exceed the height permitted for objects in this area.

3.12 All manual release stations, monitor foam stations, hose reel foam stations, hose reels and monitors shall be provided with a means of access that does not require travel across the helideck or helicopter landing area.

3.13 Oscillating monitors, if used, shall be pre-set to discharge foam in a spray pattern and have a means of disengaging the oscillating mechanism to allow rapid conversion to manual operation.

3.14 If a foam monitor with flow rate up to 1,000 l/min is installed, it shall be equipped with an air-aspirating nozzle. If a deck integrated nozzle system is installed, then the additionally installed hose reel shall be equipped with an air-aspirating handline nozzle (foam branch pipes). Use of non-air-aspirating foam nozzles (on both monitors and the additional hose reel) is permitted only where foam monitors with a flow rate above 1,000 l/min are installed. If only portable foam applicators or hose reel stations are provided, these shall be equipped with an air-aspirating handline nozzle (foam branch pipes).

## 第 MSC.410 (97) 號決議

(2016 年 11 月 25 日通過)

### 《國際消防安全系統規則》(消防規則) 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 28 (b) 條，

注意到第 MSC.98 (73) 號決議通過的《國際消防安全系統規則》(“消防規則”)，根據《1974 年國際海上人命安全公約》(“本公約”) 第 II-2 章已成為強制性文件，

還注意到本公約第 VIII (b) 條和第 II-2/3.22 條關於《消防規則》的修正程序，

在其第九十七屆會議上，審議了按本公約第 VIII (b) (i) 條提出和分發的《消防規則》修正案，

1 按本公約第 VIII (b) (iv) 條，通過《消防規則》修正案，其文本載於本決議附件中；

2 按本公約第 VIII (b) (vi) (2) (bb) 條，決定該修正案應於 2019 年 7 月 1 日被視為獲得接受，除非在該日期之前，有三分之一以上的本公約締約國政府或其合計商船總噸位不少於世界商船總噸位 50% 的締約國政府，已通知秘書長反對該修正案；

3 提請本公約締約國政府注意，按本公約第 VIII (b) (vii) (2) 條，該修正案在按上述第 2 段獲得接受後，應於 2020 年 1 月 1 日生效；

4 要求秘書長，按本公約第 VIII (b) (v) 條，將本決議及其附件中所含修正案文本的核正無誤的副本送交所有本公約締約國政府；

5 還要求秘書長將本決議及其附件的副本送交非本公約締約國政府的本組織各會員國。

## 附件

## 《國際消防安全系統規則》（消防規則）修正案

## 第13章

## 脫險通道的安排

在第 2.1.2.2.2.1 項中，第二種情況的文字由以下替代：

“第二種情況：公共處所中的旅客佔據最大容量的四分之三；三分之一的船員分布在公共處所；服務處所由三分之一的船員佔據；以及船員起居處所由三分之一的船員佔據。”

**RESOLUTION MSC.410(97)**  
**(adopted on 25 November 2016)**

**AMENDMENTS TO THE INTERNATIONAL CODE**  
**FOR FIRE SAFETY SYSTEMS (FSS CODE)**

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 ("the FSS Code"), which has become mandatory under chapter II-2 of the International Convention for the Safety of Life at Sea, 1974 ("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-seventh 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 FSS Code 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 said amendments shall be deemed to have been accepted on 1 July 2019 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% of the gross tonnage of the world's merchant fleet, have notified the Secretary-General of 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 January 2020 upon their acceptance in accordance with paragraph 2 above;

4 REQUESTS the Secretary-General, for the purposes of 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 REQUESTS ALSO 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**  
**(FSS CODE)**

**CHAPTER 13**  
**ARRANGEMENT OF MEANS OF ESCAPE**

In paragraph 2.1.2.2.1, the text of case 2 is replaced with the following:

"Case 2: Passengers in public spaces occupied to 3/4 of maximum capacity, 1/3 of the crew distributed in public spaces; service spaces occupied by 1/3 of the crew; and crew accommodation occupied by 1/3 of the crew."