

### CHAPTER 17 - SPECIAL REQUIREMENTS

21 In paragraph 17.20.3.1, in the first sentence, the words "or other material acceptable to the Administration" are replaced by the words "in accordance with recognized standards," and the second sentence is deleted.

22 In paragraph 17.20.14, in the first sentence, the words "filling limits" are replaced by the words "loading limits".

### CHAPTER 19 - SUMMARY OF MINIMUM REQUIREMENTS

23 In column f of the table, for the product "Butadiene", the entry "F" is replaced by the entry "F+T".

#### 第 51/2015 號行政長官公告

中華人民共和國是國際海事組織的成員國及一九七四年十一月一日訂於倫敦的《國際海上人命安全公約》的締約國；

國際海事組織海上安全委員會於一九九四年五月二十三日透過第MSC.32(63)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)的修正案，且有關修正案自一九九九年十二月二十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MSC.32(63)號決議的中文及英文文本。

二零一五年五月六日發佈。

行政長官 崔世安

#### Aviso do Chefe do Executivo n.º 51/2015

Considerando que a República Popular da China é um Estado Membro da Organização Marítima Internacional e um Estado Contratante da Convenção Internacional para a Salvaguarda da Vida Humana no Mar, concluída em Londres em 1 de Novembro de 1974;

Considerando igualmente que, em 23 de Maio de 1994, o Comité de Segurança Marítima da Organização Marítima Internacional, através da resolução MSC.32(63), 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 20 de Dezembro de 1999;

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.32(63), que contém as referidas emendas, nos seus textos em línguas chinesa e inglesa.

Promulgado em 6 de Maio de 2015.

O Chefe do Executivo, *Chui Sai On*.

## 第 MSC.32 (63) 號決議

1994 年 5 月 23 日通過

### 通過《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

海上安全委員會，

憶及《國際海事組織公約》關於本委員會職責的第 28 (b) 條，

還憶及委員會據以通過《國際散裝運輸液化氣體船舶構造和設備規則》(《國際氣規》) 的第 MSC.5 (48) 號決議，

又憶及經修正的《1974 年國際海上人命安全公約》(《安全公約》) 關於《國際氣規》修正程序的第 VIII (b) 條及第 VII/11.1 條，

希望使《國際氣規》跟上最新的發展需要，

在其第六十三次會議上審議了按照《安全公約》第 VIII (b) (i) 條提議並分發的該規則的修正案，

1. 按照《安全公約》第 VIII (b) (iv) 條通過該規則的修正案，其案文載於本決議的附件中；

2. 按照《安全公約》第 VIII (b) (vi) (2) (bb) 條決定：這些修正案在 1998 年 1 月 1 日應視為已被接受，除非在該日期前，多於三分之一的《安全公約》締約政府或其合計商船隊不小於世界商船隊總噸位的百分之五十的締約政府已通知反對這些修正案；

3. 請締約政府注意，按照《安全公約》第 VIII (b) (vii) (2) 條，這些修正案在按上述第 2 段被接受後，應於 1998 年 7 月 1 日生效；
4. 要求秘書長按照《安全公約》第 VIII (b) (v) 條，將本決議和載於附件中的修正案案文的核證副本分發給《安全公約》的所有締約政府；
5. 還要求秘書長將本決議及其附件的副本分發給非屬《安全公約》締約政府的本組織會員。

## 附件

# 《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

### 有關適用範圍的修正案

1 現有的第 1.1.2 和 1.1.3 款由下述者取代：

“1.1.2 除另有明文規定者外，本規則適用於在 1998 年 7 月 1 日或以後鋪放龍骨或處於下述階段的船舶：

- .1 開始了可認同為船舶的建造；和
- .2 該船業已開始的裝配量至少為 50 噸或所有結構材料估算質量的 1%，以少者為準；

1998 年 7 月 1 日前建造的船舶要符合 1983 年 6 月 17 日通過的第 MSC.5 (48) 號決議，但以 1992 年 12 月 11 日通過的第 MSC.30 (61) 號決議的修正案為準。

1.1.3 不論建造日期，凡在 1998 年 7 月 1 日或以後建造的氣體運輸船應作為從改建開始之日建造的氣體運輸船對待。”

### 有關存儲容量限度的修正案

2 現有的第 15 章由下述者取代：

#### “第 15 章

#### 液貨艙的存儲容量限度

15.1 通則

15.1.1 除 15.1.3 所許可者外，任何液貨艙的存儲容量限度（FL）不得高於在基準溫度時的 98%。

15.1.2 液貨艙最大許可裝載限度（LL）應按下列公式來確定：

$$LL = FL \frac{\rho_R}{\rho_L}$$

式中：

LL = 以百分比表示的裝載限度，係指與液艙的裝載容積有關的最大允許液體容積；

FL = 在 15.1.1 或 15.1.3 中規定的存儲容量限度；

$\rho_R$  = 基準溫度下的貨物相對密度；和

$\rho_L$  = 裝載溫度和裝載壓力下的貨物相對密度。

15.1.3 主管機關可根據液艙的形狀、減壓閥的佈置；液位和溫度計量儀的精度和裝載溫度與相應於減壓閥設定壓力下的貨物蒸氣壓力的溫度之間的溫差，可允許在基準溫度下存儲容量限度高於 15.1.1 中所規定的 98% 的限度，但應保持 8.2.17 中規定的狀況。

15.1.4 僅就本章而言，“基準溫度”係指：

- .1 當未配備第 7 章所述的貨物蒸氣壓力/溫度控制器時：相應於在減壓閥設定的壓力下的貨物蒸氣壓力的溫度；
- .2 當配備第 7 章所述貨物蒸氣壓力/溫度控制器時：裝貨終止時、運輸期間或卸貨時的貨物溫度，以最高者為準。如果該基準溫度會造成在貨物達到相應於在 8.2 所要求的減壓閥

設定壓力下的貨物蒸氣壓力的溫度之前液艙已裝滿液體，則應安裝符合 8.3 要求的額外減壓系統。

15.1.5 主管機關可允許 C 型液艙按下述公式裝載，但液艙透氣系統須按 8.2.18 得到核准：

$$LL = FL \frac{\rho_R}{\rho_L}$$

式中：

LL = 15.1.2 中規定的裝載限度；

FL = 15.1.1 或 15.1.3 中規定的存儲容量限度；

$\rho_R$  = 在 7.1.2 中規定的環境設計溫度狀況下，在裝貨終止時、運輸期間或卸貨時，貨物可達到的最高溫度下的貨物相對密度；和

$\rho_L$  = 同 15.1.2 中規定者。

本款不適用於需要 1G 型船舶的物品。

## 15.2 向船長提供的資料

在由主管機關核准的清單上應註明對於可運輸的每種物品、可採用的每種裝貨溫度和可適用的最高基準溫度，每個液貨艙的最大許可裝載限度。在清單上還應註明減壓閥（包括 8.3 所求的那些閥門）已設的設定壓力。此清單的副本應由船長永久保存在船上。

15.3 第 15 章適用於不論何日建造的所有船舶。”

3 在現有 8.2.17 款末尾加上下述字樣：

“at the maximum allowable filling limit (FL)” ，

“在最大許可存儲容量限度 (FL)” 。

4 在現有的 8.2.17 款後增加下述新的第 8.2.18 款：

“8.2.18 應使用本組織制訂的指南，證明按照 15.1.5 裝載的液艙上的透氣系統的適應性。就本款而言，透氣系統係指：

- .1 液艙出口和減壓閥的管路；
- .2 減壓閥；
- .3 從減壓閥至向大氣進行排放的位置的管路，包括連接其他液艙的連接裝置和管路。

本款適用於不論何日建造的所有船舶。”

#### 有關液貨艙透氣系統的修正案

5 現有第 8.2.3 款由下述者取代：

“8.2.3 一般而言，減壓閥的設定壓力不應高於在設計液艙時採用的蒸氣壓力。但當裝有兩個或更多減壓閥時，構成不超過總減壓能力 50%的閥門的設定壓力可比最大容許減壓設定值高 5%。”

6 在現有 8.2.4 款中增加下述句子：

“閥門應由熔點高於 925°C 的材料製作。如果其使用將對閥門的總體作業有重大改善，則應考慮內部部件和密封裝置使用低熔點材料。

7 現有 8.2.9 款由下述者取代：

“8.2.9 裝在液貨艙上的每一減壓閥應與透氣系統連接，該系統的構造應使氣體排放不受阻礙並在出口處使氣體垂直向上排放，且其佈置應使水和雪進入透氣系統的可能性減至最低程度。透氣出口在風雨甲板之上的高度不應小於  $B/3$  或 6 米，取其大者；在工作區域、縱向步橋、甲板貯放櫃和液貨管線之上的高度不小於 6 米。”

8 在 8.2.16 款中增加下述句子：

“從液艙至減壓閥出口的透氣管路中的壓降不應超過閥門設定壓力的 3%。對不平衡的減壓閥，當透氣管線遇到 8.5.2 中所述的火情時，排放管路中的背壓在減壓閥出口處不應超過表計壓力的 10%。”



RESOLUTION MSC.32(63)  
adopted on 23 May 1994

ADOPTION OF AMENDMENTS TO THE INTERNATIONAL CODE FOR  
THE CONSTRUCTION AND EQUIPMENT OF SHIPS CARRYING  
LIQUEFIED GASES IN BULK (IGC CODE)

THE MARITIME SAFETY COMMITTEE,

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

RECALLING ALSO resolution MSC.5(48), by which the Committee adopted the International Code for the Construction and Equipment of Ships Carrying Liquefied Gases in Bulk (IGC Code),

RECALLING FURTHER article VIII(b) and regulation VII/11.1 of the International Convention for the Safety of Life at Sea (SOLAS), 1974, as amended, concerning the procedure for amending the IGC Code,

BEING DESIROUS of keeping the IGC Code up to date,

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

1. ADOPTS, in accordance with article VIII(b)(iv) of the SOLAS Convention, amendments to the 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 SOLAS Convention, that the amendments shall be deemed to have been accepted on 1 January 1998 unless, prior to that date, more than one third of the Contracting Governments to the SOLAS Convention, or Contracting Governments the combined merchant fleets of which constitute not less than fifty 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 SOLAS Convention, the amendments shall enter into force on 1 July 1998 upon their acceptance in accordance with paragraph 2 above;
4. REQUESTS the Secretary-General, in conformity with article VIII(b)(v) of the SOLAS 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 SOLAS Convention;
5. FURTHER REQUESTS the Secretary-General to transmit copies of the resolution and its Annex to Members of the Organization which are not Contracting Governments to the SOLAS Convention.

## ANNEX

## AMENDMENTS TO THE INTERNATIONAL CODE FOR THE CONSTRUCTION AND EQUIPMENT OF SHIPS CARRYING LIQUEFIED GASES IN BULK (IGC CODE)

Amendments related to application

- 1 Existing paragraphs 1.1.2 and 1.1.3 are replaced by the following:

"1.1.2 Unless expressly provided otherwise, the Code applies to ships the keels of which are laid or which are at a stage at which:

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

on or after 1 July 1998. Ships constructed before 1 July 1998 are to comply with resolution MSC.5(48) adopted on 17 June 1983 subject to amendments by resolution MSC.30(61) adopted on 11 December 1992.

1.1.3 A ship, irrespective of the date of construction, which is converted to a gas carrier on or after 1 July 1998, should be treated as a gas carrier constructed on the date on which such conversion commences."

Amendments related to filling limits

- 2 The existing chapter 15 is replaced by the following:

## "CHAPTER 15

## FILLING LIMITS FOR CARGO TANKS

## 15.1 General

15.1.1 No cargo tanks should have a higher filling limit (FL) than 98% at the reference temperature, except as permitted by 15.1.3.

15.1.2 The maximum loading limit (LL) to which a cargo tank may be loaded should be determined by the following formula:

$$LL = FL \frac{\rho_R}{\rho_L}$$

where:

LL = loading limit expressed as a percentage, being the maximum allowable liquid volume relative to the tank volume to which the tank may be loaded;

FL = filling limit as specified in 15.1.1 or 15.1.3;

- PR = relative density of cargo at the reference temperature; and
- PL = relative density of cargo at the loading temperature and pressure.

15.1.3 The Administration may allow a higher filling limit (FL) than the limit of 98% specified in 15.1.1 at the reference temperature, taking into account the shape of the tank, arrangements of pressure relief valves, accuracy of level and temperature gauging and the difference between the loading temperature and the temperature corresponding to the vapour pressure of the cargo at the set pressure of the pressure relief valves, provided the conditions specified in 8.2.17 are maintained.

15.1.4 For the purposes of this chapter only, "reference temperature" means:

- .1 the temperature corresponding to the vapour pressure of the cargo at the set pressure of the pressure relief valves when no cargo vapour pressure/temperature control as referred to in chapter 7 is provided;
- .2 the temperature of the cargo upon termination of loading, during transport, or at unloading, whichever is the greatest, when a cargo vapour pressure/temperature control as referred to in chapter 7 is provided. If this reference temperature would result in the cargo tank becoming liquid full before the cargo reaches a temperature corresponding to the vapour pressure of the cargo at the set pressure of the relief valves required in 8.2, an additional pressure relieving system complying with 8.3 should be fitted.

15.1.5 The Administration may allow type C tanks to be loaded according to the following formula, provided that the tank vent system has been approved in accordance with 8.2.18:

$$LL = FL \frac{PR}{PL}$$

where:

- LL = loading limit as specified in 15.1.2;
- FL = filling limit as specified in 15.1.1 or 15.1.3;
- PR = relative density of cargo at the highest temperature which the cargo may reach upon termination of loading, during transport, or at unloading, under the ambient design temperature conditions described in 7.1.2; and
- PL = as specified in 15.1.2.

This paragraph does not apply to products requiring a type 1G ship.

## 15.2 Information to be provided to the master

The maximum allowable loading limits for each cargo tank should be indicated for each product which may be carried, for each loading temperature which may be applied and for the applicable maximum reference temperature, on a list to be approved by the Administration. Pressures at which the pressure relief valves, including those valves required by 8.3, have been set should also be stated on the list. A copy of the list should be kept permanently on board by the master.

15.3 Chapter 15 applies to all ships regardless of the date of construction."

3 The following words are added at the end of existing paragraph 8.2.17:

"at the maximum allowable filling limit (FL)".

4 The following new paragraph 8.2.18 is added after existing paragraph 8.2.17:

"8.2.18 The adequacy of the vent system fitted on tanks loaded in accordance with 15.1.5 is to be demonstrated using the guidelines developed by the Organization. A relevant certificate should be permanently kept on board the ship. For the purposes of this paragraph, vent system means:

- .1 the tank outlet and the piping to the pressure relief valve;
- .2 the pressure relief valve;
- .3 the piping from the pressure relief valve to the location of discharge to the atmosphere and including any interconnections and piping which joins other tanks.

This paragraph may apply to all ships regardless of the date of construction."

### Amendments related to cargo tank vent systems

5 The existing paragraph 8.2.3 is replaced by the following:

"8.2.3 In general, the setting of the pressure relief valves should not be higher than the vapour pressure which has been used in the design of the tank. However, where two or more pressure relief valves are fitted, valves comprising not more than 50% of the total relieving capacity may be set at a pressure up to 5% above MARVS."

6 The following sentences are added to existing paragraph 8.2.4:

"Valves should be constructed of materials with a melting point above 925°C. Consideration should be given to lower melting point materials for internal parts and seals if their use will yield a significant improvement in the general operation of the valve."

7 The existing paragraph 8.2.9 is replaced by the following:

"8.2.9 Each pressure relief valve installed on a cargo tank should be connected to a venting system, which should be so constructed that the discharge of gas will be unimpeded and directed vertically upwards at the exit, and so arranged as to minimize the possibility of water or snow entering the vent system. The height of vent exits should be not less than B/3 or 6 m, whichever is the greater, above the weather deck and 6 m above the working area, the fore and aft gangway, deck storage tanks and cargo liquid lines."

8 The following sentences are added to existing paragraph 8.2.16:

"The pressure drop in the vent line from the tank to the pressure relief valve inlet should not exceed 3% of the valve set pressure. For unbalanced pressure relief valves the back pressure in the discharge line should not exceed 10% of the gauge pressure at the relief valve inlet with the vent lines under fire exposure as referred to in 8.5.2."

#### 第 52/2015 號行政長官公告

#### Aviso do Chefe do Executivo n.º 52/2015

中華人民共和國是國際海事組織的成員國及一九七四年十一月一日訂於倫敦的《國際海上人命安全公約》(下稱“公約”)的締約國;

國際海事組織海上安全委員會於一九八三年六月十七日對公約第VII章作出修正時,將有關國際散裝運輸液化氣體船舶構造和設備規則的規定作為公約的強制性規定,並透過第MSC.5(48)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);

國際海事組織海上安全委員會於一九九二年十二月十一日透過第MSC.30(61)號決議通過了上指規則的修正案,該修正案自一九九九年十二月二十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MSC.30(61)號決議的中文及英文文本。

二零一五年五月六日發佈。

行政長官 崔世安

Considerando que a República Popular da China é um Estado Membro da Organização Marítima Internacional e um Estado Contratante da Convenção Internacional para a Salvaguarda da Vida Humana no Mar, concluída em Londres em 1 de Novembro de 1974, adiante designada por Convenção;

Considerando igualmente que, em 17 de Junho de 1983, o Comité de Segurança Marítima da Organização Marítima Internacional procedeu a emendas ao capítulo VII da Convenção para tornar as disposições relativas ao Código Internacional para a Construção e Equipamento de Navios que Transportam Gases Liquefeitos a Granel obrigatórias nos termos da Convenção, e que, através da sua resolução MSC. 5(48), adoptou o Código Internacional para a Construção e Equipamento de Navios que Transportam Gases Liquefeitos a Granel (Código IGC);

Considerando ainda que, em 11 de Dezembro de 1992, o Comité de Segurança Marítima da Organização Marítima Internacional, através da sua resolução MSC. 30(61), adoptou emendas ao referido Código, e que tais emendas são aplicáveis na Região Administrativa Especial de Macau desde 20 de Dezembro de 1999;

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. 30(61), que contém as referidas emendas, nos seus textos em línguas chinesa e inglesa.

Promulgado em 6 de Maio de 2015.

O Chefe do Executivo, *Chui Sai On*.