

我謹榮幸地代表中華人民共和國政府確認，同意上述照會內容。

順致最崇高的敬意。

中華人民共和國國務院

(簽署)

副總理兼外交部長

一九九七年二月四日於北京

Em nome do Governo da República Popular da China, tenho a honra de confirmar a concordância quanto ao conteúdo da *supra* referida Nota.

Aproveito esta oportunidade para reiterar os protestos da minha mais elevada consideração,

Conselho de Estado da República Popular da China, Vice-Primeiro-Ministro e Ministro dos Negócios Estrangeiros

Qian Qichen

(Assinatura)

Pequim, 4 de Fevereiro de 1997

第 25/2017 號行政長官公告

國際海事組織海上安全委員會於二零一四年五月二十二日在第九十三屆會議上，透過第MSC.367(93)號決議通過了《國際消防安全系統規則》(FSS規則)修正案，該修正案於二零一六年一月一日在國際法律秩序上生效，包括對中華人民共和國及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.367(93)號決議的中文及英文正式文本。

FSS規則公佈於二零一五年三月六日第九期《澳門特別行政區公報》第二組第二副刊。

二零一七年五月十日發佈。

行政長官 崔世安

第MSC.367(93)號決議

(2014年5月22日通過)

《國際消防安全系統規則》(FSS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，

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

Aviso do Chefe do Executivo n.º 25/2017

Considerando que, em 22 de Maio de 2014, na sua 93.ª sessão, o Comité de Segurança Marítima da Organização Marítima Internacional, através da resolução MSC.367(93), 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 República Popular da China e a sua Região Administrativa Especial de Macau, em 1 de Janeiro de 2016;

O Chefe do Executivo manda publicar, nos termos do n.º 1 do artigo 6.º da Lei n.º 3/1999 (Publicação e formulário dos diplomas), a resolução MSC.367(93) do Comité de Segurança Marítima da Organização Marítima Internacional, que contém as referidas emendas, nos seus textos autênticos em línguas chinesa e inglesa.

O Código FSS encontra-se publicado no 2.º Suplemento do *Boletim Oficial da Região Administrativa Especial de Macau* n.º 9, II Série, de 6 de Março de 2015.

Promulgado em 10 de Maio de 2017.

O Chefe do Executivo, *Chui Sai On*.

RESOLUTION MSC.367(93)

(adopted on 22 May 2014)

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 (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 (SOLAS), 1974 (hereinafter referred to as «the Convention»),

還注意到公約第VIII (b) 條和第II-2/3.22條關於FSS規則的修正程序，

在其第93屆會議上審議了按公約第VIII (b) (i) 條提出和分發的FSS規則修正案，

1 按公約第VIII (b) (iv) 條規定，通過FSS規則的修正案，其文本載於本決議附件；

2 按公約第VIII (b) (vi) (2) (bb) 條規定，決定該修正案於2015年7月1日須視為已被接受，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數不少於世界商船總噸數50%的締約國政府通報其反對該修正案；

3 提請各締約國政府注意，按公約第VIII (b) (vii) (2) 條規定，該修正案在按上述2被接受後，將於2016年1月1日生效；

4 要求秘書長按公約第VIII (b) (v) 條規定，將本決議及其附件中修正案文本的核准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成員。

附件

《國際消防安全系統規則》(FSS規則) 修正案

第15章

惰性氣體系統

現有第15章由下文替代：

“1 適用範圍

本章詳細規定了公約第II-2章所要求的惰性氣體系統的技術要求。

2 技術要求

2.1 定義

就本章而言：

2.1.1 液貨艙係指載運閃點不超過60°C的液貨或液貨殘餘物的液貨艙，包括污油水艙。

2.1.2 惰性氣體系統包括使用煙道氣體的惰性氣體系統、惰性氣體發生器和氮氣發生器，係指惰性氣體裝置和惰性

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-third 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 amendments shall be deemed to have been accepted on 1 July 2015 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 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 January 2016 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 (FSS CODE)

**CHAPTER 15
INERT GAS SYSTEMS**

The text of existing chapter 15 is replaced by the following:

“1 Application

This chapter details the specifications for inert gas systems as required by chapter II-2 of the Convention.

2 Engineering specifications

2.1 Definitions

For the purposes of this chapter:

2.1.1 *Cargo tanks* means those cargo tanks, including slop tanks, which carry cargoes, or cargo residues, having a flashpoint not exceeding 60°C.

2.1.2 *Inert gas system* includes inert gas systems using flue gas, inert gas generators, and nitrogen generators and means the inert gas plant and inert gas distribution to-

氣體分配以及防止貨物氣體回流至機器處所的裝置、固定和手提式測量儀器及控制裝置。

2.1.3 氣體安全處所係指氣體進入會產生易燃性或毒性危險的處所。

2.1.4 除氣係指液艙中碳氫化合物或其他可燃蒸氣的含量低於燃燒下限 (LFL) 的1%，含氧量至少為21%，並且無毒性氣體存在的情況。

2.2 對所有系統的要求

2.2.1 一般要求

2.2.1.1 對公約第II-2章所提到的惰性氣體系統，其設計、構造和試驗均應使主管機關滿意。其設計應能使並保持相關液貨艙內的空氣不能燃燒。

2.2.1.2 該系統應能：

.1 使空液貨艙惰化並在港內停泊和海上航行時保持艙內任一部分空氣的含氧量（按體積計）不超過8%，並保持正壓，但當艙內必須除氣時除外；

.2 使在正常作業時不需空氣進入艙內，但當艙內必須除氣時除外；

.3 驅除空液貨艙內的碳氫化合物或其他可燃蒸氣，使隨後除氣作業不會在艙內產生可燃空氣；

.4 至少以船舶最大卸貨速率的125%（按體積計）向液貨艙輸送惰性氣體。對於化學品船和化學品/成品油船，主管機關可接受輸送能力較低的惰性氣體系統，但受該系統保護的液貨艙的最大卸貨速率應限制在不超過惰性氣體輸送量的80%；和

.5 以所需的任一流速向液貨艙輸送惰性氣體時，含氧量不超過5%（按體積計）。

2.2.1.3 惰性氣體系統中使用的材料應適合其預定用途。特別是可能受到氣體和/或液體腐蝕的部件，應由耐腐蝕材料製成或者襯有橡膠、玻璃纖維環氧樹脂或其他等效塗層材料。

2.2.1.4 惰性氣體的來源可以是：

.1 來自主鍋爐或輔鍋爐的經處理的煙道氣體；或

.2 來自燃油或燃氣的氣體發生器的氣體；或

.3 來自氮氣發生器的氣體。

gether with means for preventing backflow of cargo gases to machinery spaces, fixed and portable measuring instruments and control devices.

2.1.3 *Gas-safe space* is a space in which the entry of gases would produce hazards with regard to flammability or toxicity.

2.1.4 *Gas-free* is a condition in a tank where the content of hydrocarbon or other flammable vapour is less than 1% of the lower flammable limit (LFL), the oxygen content is at least 21%, and no toxic gases are present.

2.2 Requirements for all systems

2.2.1 General

2.2.1.1 The inert gas system referred to in chapter II-2 of the Convention shall be designed, constructed and tested to the satisfaction of the Administration. It shall be designed to be capable of rendering and maintaining the atmosphere of the relevant cargo tanks non-flammable.

2.2.1.2 The system shall be capable of:

.1 inerting empty cargo tanks and maintaining the atmosphere in any part of the tank with an oxygen content not exceeding 8% by volume and at a positive pressure in port and at sea except when it is necessary for such a tank to be gas-free;

.2 eliminating the need for air to enter a tank during normal operations except when it is necessary for such a tank to be gas-free;

.3 purging empty cargo tanks of hydrocarbon or other flammable vapours, so that subsequent gas-freeing operations will at no time create a flammable atmosphere within the tank;

.4 delivering inert gas to the cargo tanks at a rate of at least 125% of the maximum rate of discharge capacity of the ship expressed as a volume. For chemical tankers and chemical/product tankers, the Administration may accept inert gas systems having a lower delivery capacity provided that the maximum rate of discharge of cargoes from cargo tanks being protected by the system is restricted to not more than 80% of the inert gas capacity; and

.5 delivering inert gas with an oxygen content of not more than 5% by volume to the cargo tanks at any required rate of flow.

2.2.1.3 Materials used in inert gas systems shall be suitable for their intended purpose. In particular, those components which may be subjected to corrosive action of the gases and/or liquids are to be either constructed of corrosion-resistant material or lined with rubber, glass fibre epoxy resin or other equivalent coating material.

2.2.1.4 The inert gas supply may be:

.1 treated flue gas from main or auxiliary boilers, or

.2 gas from an oil or gas-fired gas generator, or

.3 gas from nitrogen generators.

主管機關可以接受系統使用來自一個或多個各自獨立的氣體發生器或其他來源或其任何組合的惰性氣體，但應達到等效的安全水準。此類系統應儘量符合本章的要求。不得允許系統使用儲備的二氧化碳，除非主管機關確信因系統本身所產生的靜電而着火的危險已降至最小程度。

2.2.2 安全措施

2.2.2.1 惰性氣體系統的設計應使其作用在任一液貨艙的最大壓力不超過該液貨艙的試驗壓力。

2.2.2.2 惰性氣體系統及其部件的自動關閉應根據所達到的預定極限值進行調整，並考慮到2.2.4、2.3.2和2.4.2的規定。

2.2.2.3 每一發生器設備的排放出口應裝有合適的盲斷裝置。

2.2.2.4 系統的設計應能確保當含氧量超過5%（按體積計）時，應自動將惰性氣體排向空氣。

2.2.2.5 應裝設能使惰性氣體裝置的運轉在開始卸貨以前達到穩定的裝置。如果使用鼓風機除氣，其空氣進口應裝有盲斷裝置。

2.2.2.6 如果安裝了一個雙聯阻斷和泄放閥，系統應確保在失電時，阻斷閥自動關閉，泄放閥自動開啟。

2.2.3 系統部件

2.2.3.1 止回裝置

2.2.3.1.1 應至少裝設兩個止回裝置，以防止蒸氣和液體回流至惰性氣體裝置，或回流至任何氣體安全處所。

2.2.3.1.2 第一個止回裝置應為濕、半濕或乾型的甲板水封或雙聯截止和泄放閥。可以接受中間設有一個透氣閥的兩個串聯截止閥，但：

.1 該透氣閥的操作應自動執行。應直接在操作過程中獲得開啟/關閉信號，例如惰性氣體流動或壓差；和

.2 應設有閥門操作故障報警，例如在操作狀態為“鼓風機停轉”和“供氣閥開啟”時報警。

2.2.3.1.3 第二個止回裝置應為止回閥或能防止蒸氣和液體回流的等效裝置，安裝在甲板水封（或等效裝置）與惰性氣體總管通向液貨艙的第一個接頭之間。其應設有可靠的關閉裝置。作為此類可靠的關閉裝置的替代，可以在止回閥

The Administration may accept systems using inert gases from one or more separate gas generators or other sources or any combination thereof, provided that an equivalent level of safety is achieved. Such systems shall, as far as practicable, comply with the requirements of this chapter. Systems using stored carbon dioxide shall not be permitted unless the Administration is satisfied that the risk of ignition from generation of static electricity by the system itself is minimized.

2.2.2 Safety measures

2.2.2.1 The inert gas system shall be so designed that the maximum pressure which it can exert on any cargo tank will not exceed the test pressure of any cargo tank.

2.2.2.2 Automatic shutdown of the inert gas system and its components parts shall be arranged on predetermined limits being reached, taking into account the provisions of paragraphs 2.2.4, 2.3.2 and 2.4.2.

2.2.2.3 Suitable shutoff arrangements shall be provided on the discharge outlet of each generator plant.

2.2.2.4 The system shall be designed to ensure that if the oxygen content exceeds 5% by volume, the inert gas shall be automatically vented to atmosphere.

2.2.2.5 Arrangements shall be provided to enable the functioning of the inert gas plant to be stabilized before commencing cargo discharge. If blowers are to be used for gas-freeing, their air inlets shall be provided with blanking arrangements.

2.2.2.6 Where a double block and bleed valve is installed, the system shall ensure upon loss of power, the block valves are automatically closed and the bleed valve is automatically open.

2.2.3 System components

2.2.3.1 Non-return devices

2.2.3.1.1 At least two non-return devices shall be fitted in order to prevent the return of vapour and liquid to the inert gas plant, or to any gas-safe spaces.

2.2.3.1.2 The first non-return device shall be a deck seal of the wet, semi-wet, or dry type or a double block and bleed arrangement. Two shutoff valves in series with a venting valve in between, may be accepted provided:

.1 the operation of the valve is automatically executed. Signal(s) for opening/closing is (are) to be taken from the process directly, e.g. inert gas flow or differential pressure; and

.2 alarm for faulty operation of the valves is provided, e.g. the operation status of «blower stop» and «supply valve(s) open» is an alarm condition.

2.2.3.1.3 The second non-return device shall be a non-return valve or equivalent capable of preventing the return of vapours and liquids and fitted between the deck water seal (or equivalent device) and the first connection from the inert gas main to a cargo tank. It shall be provided with positive means of closure. As an alternative to positive means of closure, an additional valve having such

和通向液貨艙的第一個接頭之間另外設置一個具有此類關閉功能的閘門，以將甲板水封或等效裝置與通向液貨艙的惰性氣體總管隔離。

2.2.3.1.4 如果設有水封，應能由兩台獨立的泵供水，每台均應能始終保持足夠的供水量。水封低水位聽覺和視覺報警器應始終保持運行。

2.2.3.1.5 水封（或等效裝置）及其相關附件的佈置應能防止蒸氣和液體回流，並確保水封在操作工況下正常運行。

2.2.3.1.6 應有確保防止水封凍結的措施，所採取的措施不能由於過熱而損壞水封的完整性。

2.2.3.1.7 每一相關的供水和泄水管以及每一通向氣體安全處所的透氣或壓力傳感管，也應裝設環流水管或其他經認可的裝置。應有防止此類環流水管被真空抽空的措施。

2.2.3.1.8 任何水封或等效裝置以及環流水管裝置均應能防止蒸氣和液體在壓力等於液貨艙試驗壓力時回流至惰性氣體裝置。

2.2.3.1.9 止回裝置應位於甲板上的貨物區域。

2.2.3.2 惰性氣體管系

2.2.3.2.1 在2.2.3.1條所要求的止回裝置的前方，惰性氣體總管可分成兩個或兩個以上支管。

2.2.3.2.2 惰性氣體總管應裝有支管通向液貨艙。惰性氣體支管應裝有截止閥或等效控制裝置來隔離每一液貨艙。如安裝截止閥，其應設有鎖緊裝置。控制系統應至少向2.2.4所要求的控制板提供有關此類閥操作狀態的明確信息。

2.2.3.2.3 未經惰化的每一液貨艙應能通過下列方式與惰性氣體總管隔離：

- .1 卸去短管、閥或其他管段，並將管端封閉；或
- .2 設置兩個串聯的雙環法蘭，並設有探測這兩個雙環法蘭間管內有無滲漏的裝置；或
- .3 至少提供同等保護且使主管機關滿意的等效佈置。

2.2.3.2.4 當液貨艙與惰性氣體總管隔離時，應有保護液貨艙免受因溫度變化和/或貨物作業而引起的超壓或真空影響的措施。

means of closure may be provided between the non-return valve and the first connection to the cargo tanks to isolate the deck water seal, or equivalent device, from the inert gas main to the cargo tanks.

2.2.3.1.4 A water seal, if fitted, shall be capable of being supplied by two separate pumps, each of which shall be capable of maintaining an adequate supply at all times. The audible and visual alarm on the low level of water in the water seal shall operate at all times.

2.2.3.1.5 The arrangement of the water seal, or equivalent devices, and its associated fittings shall be such that it will prevent backflow of vapours and liquids and will ensure the proper functioning of the seal under operating conditions.

2.2.3.1.6 Provision shall be made to ensure that the water seal is protected against freezing, in such a way that the integrity of seal is not impaired by overheating.

2.2.3.1.7 A water loop or other approved arrangement shall also be fitted to each associated water supply and drain pipe and each venting or pressure-sensing pipe leading to gas-safe spaces. Means shall be provided to prevent such loops from being emptied by vacuum.

2.2.3.1.8 Any water seal, or equivalent device, and loop arrangements shall be capable of preventing return of vapours and liquids to an inert gas plant at a pressure equal to the test pressure of the cargo tanks.

2.2.3.1.9 The non-return devices shall be located in the cargo area on deck.

2.2.3.2 Inert gas lines

2.2.3.2.1 The inert gas main may be divided into two or more branches forward of the non-return devices required by paragraph 2.2.3.1.

2.2.3.2.2 The inert gas main shall be fitted with branch piping leading to the cargo tank. Branch piping for inert gas shall be fitted with either stop valves or equivalent means of control for isolating each tank. Where stop valves are fitted, they shall be provided with locking arrangements. The control system shall provide unambiguous information of the operational status of such valves to at least the control panel required in paragraph 2.2.4.

2.2.3.2.3 Each cargo tank not being inerted shall be capable of being separated from the inert gas main by:

- .1 removing spool-pieces, valves or other pipe sections, and blanking the pipe ends; or
- .2 arrangement of two spectacle flanges in series with provisions for detecting leakage into the pipe between the two spectacle flanges; or
- .3 equivalent arrangements to the satisfaction of the Administration, providing at least the same level of protection.

2.2.3.2.4 Means shall be provided to protect cargo tanks against the effect of overpressure or vacuum caused by thermal variations and/or cargo operations when the cargo tanks are isolated from the inert gas mains.

2.2.3.2.5 管系的設計應能在所有正常工況下防止貨物或水在管路內積聚。

2.2.3.2.6 應設有使惰性氣體總管能與惰性氣體外部供給相連接的裝置。該裝置應由一個容納名義管徑250mm的螺栓法蘭構成，通過一閥與惰性氣體總管隔離，且位於止回閥的前方。法蘭的設計應符合為設計船舶貨物管系的其他外部接頭而採用的標準中的適當級別。

2.2.3.2.7 如果在惰性氣體總管與貨物管系之間裝有連接管，考慮到在兩個系統之間可能存在較大的壓差，則應設有保證有效隔離的裝置。該裝置應由兩個截止閥組成，並在兩閥之間裝有能使該處所安全透氣的設備，或者用帶盲板的短管組成的設備。

2.2.3.2.8 將惰性氣體總管和貨物總管隔開且位於貨物總管一側的閥，應為帶有可靠關閉裝置的止回閥。

2.2.3.2.9 惰性氣體管系不應穿過起居、服務和控制站處所。

2.2.3.2.10 對於兼裝船，用於把裝有油或殘油的污水水艙與其他液艙隔離的裝置應由盲板法蘭組成，當載運油類以外的貨物時，此類法蘭應一直保持在原位，但本組織制定的指南中有關部分另有規定者除外。

2.2.4 指示器和報警器

2.2.4.1 惰性氣體系統的運行狀態應在控制板上顯示。

2.2.4.2 當供送惰性氣體時，應有儀錶連續顯示和固定地記錄：

- .1 止回裝置前方惰性氣體總管的壓力；和
- .2 惰性氣體的含氧量。

2.2.4.3 如設有貨物控制室，顯示和記錄裝置應放置在貨物控制室內。如未設貨物控制室，這些裝置應放置在負責貨物作業的高級船員容易到達的位置。

2.2.4.4 此外，還應裝設儀錶：

- .1 於駕駛室內，始終顯示2.2.4.2.1所述的壓力以及兼裝船污水水艙內的壓力（當這些污水水艙與惰性氣體總管隔離時）；和
- .2 於機器控制室或機器處所內，顯示2.2.4.2.2所述的含氧量。

2.2.3.2.5 Piping systems shall be so designed as to prevent the accumulation of cargo or water in the pipelines under all normal conditions.

2.2.3.2.6 Arrangements shall be provided to enable the inert gas main to be connected to an external supply of inert gas. The arrangements shall consist of a 250 mm nominal pipe size bolted flange, isolated from the inert gas main by a valve and located forward of the non-return valve. The design of the flange should conform to the appropriate class in the standards adopted for the design of other external connections in the ship's cargo piping system.

2.2.3.2.7 If a connection is fitted between the inert gas main and the cargo piping system, arrangements shall be made to ensure an effective isolation having regard to the large pressure difference which may exist between the systems. This shall consist of two shutoff valves with an arrangement to vent the space between the valves in a safe manner or an arrangement consisting of a spool-piece with associated blanks.

2.2.3.2.8 The valve separating the inert gas main from the cargo main and which is on the cargo main side shall be a non-return valve with a positive means of closure.

2.2.3.2.9 Inert gas piping systems shall not pass through accommodation, service and control station spaces.

2.2.3.2.10 In combination carriers, the arrangement to isolate the slop tanks containing oil or oil residues from other tanks shall consist of blank flanges which will remain in position at all times when cargoes other than oil are being carried except as provided for in the relevant section of the guidelines developed by the Organization.

2.2.4 Indicators and alarms

2.2.4.1 The operation status of the inert gas system shall be indicated in a control panel.

2.2.4.2 Instrumentation shall be fitted for continuously indicating and permanently recording, when inert gas is being supplied:

- .1 the pressure of the inert gas mains forward of the non-return devices; and
- .2 the oxygen content of the inert gas.

2.2.4.3 The indicating and recording devices shall be placed in the cargo control room where provided. But where no cargo control room is provided, they shall be placed in a position easily accessible to the officer in charge of cargo operations.

2.2.4.4 In addition, meters shall be fitted:

- .1 in the navigating bridge to indicate at all times the pressure referred to in paragraph 2.2.4.2.1 and the pressure in the slop tanks of combination carriers, whenever those tanks are isolated from the inert gas main; and
- .2 in the machinery control room or in the machinery space to indicate the oxygen content referred to in paragraph 2.2.4.2.2.

2.2.4.5 聽覺和視覺報警器

2.2.4.5.1 應基於所設計的系統裝設聽覺和視覺報警器，以顯示：

- .1 含氧量超過5% (按體積計)；
- .2 2.2.4.2所述的顯示裝置的電源故障；
- .3 氣體壓力低於水位計上的100mm。報警裝置應能確保兼裝船污水水艙內的壓力始終得到監測；
- .4 氣體壓力高；和
- .5 自動控制系統的電源故障。

2.2.4.5.2 2.2.4.5.1.1、2.2.4.5.1.3和2.2.4.5.1.5所要求的報警器應安裝在機器處所和貨物控制室內(如設此室)，但在每種情況下，報警器均應安裝在負責船員能立即收到警報的位置。

2.2.4.5.3 應裝設1個獨立於2.2.4.5.1.3所要求的報警系統的聽覺報警系統或液貨泵應自動關閉，均在惰性氣體總管內達到預定的低壓限值時動作。

2.2.4.5.4 應在設有惰性氣體系統的(各)處所的適當位置安裝2個氧氣傳感器。如果氧氣水平降至低於19%，這些感測器應觸發報警，警報應在處所內外都能看見和聽見，並應安裝在負責船員能立即收到的位置。

2.2.5 使用說明書

船上應備有詳細的使用說明書，其內容包括操作、安全和維修要求以及與惰性氣體系統及其應用到液貨艙系統相關的職業健康的危害。該說明書應包括對惰性氣體系統發生故障或失效時所應遵循的程序進行指導。

2.3 對煙道氣體和惰性氣體發生器系統的要求

除2.2的規定外，對於使用煙道氣體或惰性氣體發生器的惰性氣體系統還應適用本節規定。

2.3.1 系統要求

2.3.1.1 惰性氣體發生器

2.3.1.1.1 惰性氣體發生器應裝有2台燃油泵。應備有足量的供惰性氣體發生器使用的合適燃料。

2.3.1.1.2 惰性氣體發生器應位於液貨艙區域以外。裝有惰性氣體發生器的處所應不能直接通向起居、服務或控制站

2.2.4.5 Audible and visual alarms

2.2.4.5.1 Audible and visual alarms shall be provided, based on the system designed, to indicate:

- .1 oxygen content in excess of 5% by volume;
- .2 failure of the power supply to the indicating devices as referred to in paragraph 2.2.4.2;
- .3 gas pressure less than 100 mm water gauge. The alarm arrangement shall be such as to ensure that the pressure in slop tanks in combination carriers can be monitored at all times;
- .4 high gas pressure; and
- .5 failure of the power supply to the automatic control system.

2.2.4.5.2 The alarms required in paragraphs 2.2.4.5.1.1, 2.2.4.5.1.3 and 2.2.4.5.1.5 shall be fitted in the machinery space and cargo control room, where provided, but in each case in such a position that they are immediately received by responsible members of the crew.

2.2.4.5.3 An audible alarm system independent of that required in paragraph 2.2.4.5.1.3 or automatic shutdown of cargo pumps shall be provided to operate on predetermined limits of low pressure in the inert gas main being reached.

2.2.4.5.4 Two oxygen sensors shall be positioned at appropriate locations in the space or spaces containing the inert gas system. If the oxygen level falls below 19%, these sensors shall trigger alarms, which shall be both visible and audible inside and outside the space or spaces and shall be placed in such a position that they are immediately received by responsible members of the crew.

2.2.5 Instruction manuals

Detailed instruction manuals shall be provided on board, covering the operations, safety and maintenance requirements and occupational health hazards relevant to the inert gas system and its application to the cargo tank system. The manuals shall include guidance on procedures to be followed in the event of a fault or failure of the inert gas system.

2.3 Requirements for flue gas and inert gas generator systems

In addition to the provisions in paragraph 2.2, for inert gas systems using flue gas or inert gas generators, the provisions of this section shall apply.

2.3.1 System requirements

2.3.1.1 Inert gas generators

2.3.1.1.1 Two fuel oil pumps shall be fitted to the inert gas generator. Suitable fuel in sufficient quantity shall be provided for the inert gas generators.

2.3.1.1.2 The inert gas generators shall be located outside the cargo tank area. Spaces containing inert gas generators shall have no direct access to accommodation service

處所，但可以位於機器處所內。如其不是位於機器處所內，則其所在艙室應通過氣密的鋼質艙壁和/或甲板與起居、服務和控制站處所隔開。該艙室應有足夠的正壓型機械通風。

2.3.1.2 氣體調節閥

2.3.1.2.1 在惰性氣體總管上應裝設1個氣體調節閥。該閥應能按2.2.2.2的要求自動進行關閉。該閥還應能自動調節通向液貨艙的惰性氣體的流量，除非設有自動控制惰性氣體流速的裝置。

2.3.1.2.2 氣體調節閥應裝在惰性氣體總管通過的最前面的氣體安全處所的前艙壁處。

2.3.1.3 冷卻和洗滌裝置

2.3.1.3.1 應設有裝置來有效冷卻2.2.1.2所規定的氣體量並清除其中固體顆粒和硫的燃燒產物。冷卻水裝置應做到始終足量供水，不會妨礙船上任何重要用途的供水。此外應設有替代的冷卻水供水裝置。

2.3.1.3.2 應裝設過濾器或等效裝置，以儘量減少被帶到惰性氣體鼓風機裡去的水量。

2.3.1.4 鼓風機

2.3.1.4.1 應至少裝設2台鼓風機，其應能向液貨艙至少輸送2.2.1.2所要求的惰性氣體量。如果帶有惰性氣體發生器的系統能向液貨艙輸送2.2.1.2所要求的氣體總量，則主管機關可允許只設1台鼓風機，但船上應備有鼓風機及其原動機的足夠備件，以便船員在鼓風機及其原動機發生故障時進行檢修。

2.3.1.4.2 當惰性氣體發生器配有正排量鼓風機時，應設有壓力釋放裝置以防止在鼓風機排出端產生超壓。

2.3.1.4.3 當設置兩台鼓風機時，惰性氣體系統所需總風量應由兩台鼓風機平均分擔，且在任何情況下一台鼓風機的風量不得小於所需總風量的1/3。

2.3.1.5 惰性氣體隔離閥

對於使用煙道氣體的系統，在鍋爐煙道與煙道氣體洗滌器之間的惰性氣體總管上應裝設煙道氣體隔離閥。這些閥應設有表明閥開閉狀態的指示器，並應採取措施使它們保持氣密和使閥座避免煙灰污染。應設有裝置來保證相應的煙道氣體隔離閥開啟時，鍋爐吹灰器不能工作。

or control station spaces, but may be located in machinery spaces. If they are not located in machinery spaces, such a compartment shall be separated by a gastight steel bulkhead and/or deck from accommodation, service and control station spaces. Adequate positive-pressure-type mechanical ventilation shall be provided for such a compartment.

2.3.1.2 Gas regulating valves

2.3.1.2.1 A gas regulating valve shall be fitted in the inert gas main. This valve shall be automatically controlled to close, as required in paragraph 2.2.2.2. It shall also be capable of automatically regulating the flow of inert gas to the cargo tanks unless means are provided to automatically control the inert gas flow rate.

2.3.1.2.2 The gas regulating valve shall be located at the forward bulkhead of the forward most gas-safe space through which the inert gas main passes.

2.3.1.3 Cooling and scrubbing arrangement

2.3.1.3.1 Means shall be fitted which will effectively cool the volume of gas specified in paragraph 2.2.1.2 and remove solids and sulphur combustion products. The cooling water arrangements shall be such that an adequate supply of water will always be available without interfering with any essential services on the ship. Provision shall also be made for an alternative supply of cooling water.

2.3.1.3.2 Filters or equivalent devices shall be fitted to minimize the amount of water carried over to the inert gas blowers.

2.3.1.4 Blowers

2.3.1.4.1 At least two inert gas blowers shall be fitted and be capable of delivering to the cargo tanks at least the volume of gas required by paragraph 2.2.1.2. For systems fitted with inert gas generators the Administration may permit only one blower if that system is capable of delivering the total volume of gas required by paragraph 2.2.1.2 to the cargo tanks, provided that sufficient spares for the blower and its prime mover are carried on board to enable any failure of the blower and its prime mover to be rectified by the ship's crew.

2.3.1.4.2 Where inert gas generators are served by positive displacement blowers, a pressure relief device shall be provided to prevent excess pressure being developed on the discharge side of the blower.

2.3.1.4.3 When two blowers are provided, the total required capacity of the inert gas system shall be divided evenly between the two and in no case is one blower to have a capacity less than 1/3 of the total required.

2.3.1.5 Inert gas isolating valves

For systems using flue gas, flue gas isolating valves shall be fitted in the inert gas mains between the boiler uptakes and the flue gas scrubber. These valves shall be provided with indicators to show whether they are open or shut, and precautions shall be taken to maintain them gastight and keep the seatings clear of soot. Arrangements shall be made to ensure that boiler soot blowers cannot be operated when the corresponding flue gas valve is open.

2.3.1.6 防止煙道氣體泄漏

2.3.1.6.1 洗滌器和鼓風機連同有關管系和附件的設計和安裝位置應予以特別考慮，以防止煙道氣體泄漏到圍閉處所內。

2.3.1.6.2 為能安全進行維護保養，在煙道氣體隔離閥與洗滌器之間，或在洗滌器的煙氣入口處，應另設1個水封或防止煙氣泄漏的其他有效設備。

2.3.2 指示器和報警器

2.3.2.1 除滿足2.2.4.2的要求外，還應設有裝置在系統工作的任何時候連續指示系統排氣端惰性氣體的溫度。

2.3.2.2 除滿足2.2.4.5的要求外，還應裝設聽覺和視覺報警器以指示：

- .1 燃燒油的惰性氣體發生器的燃油供給不足；
- .2 發生器的電源故障；
- .3 冷卻和洗滌裝置的水壓低或水的流速低；
- .4 冷卻和洗滌裝置內的水位高；
- .5 氣體溫度高；
- .6 惰性氣體鼓風機故障；和
- .7 水封內的水位低。

2.4 對氮氣發生系統的要求

除2.2的規定外，對於使用氮氣發生器的系統還應適用本節規定。

2.4.1 系統要求

2.4.1.1 系統應設有一個或多個壓縮機來產生足夠的正壓，以能輸送2.2.1.2所要求的氣體總量。

2.4.1.2 應裝有供氣處理系統，以除去壓縮空氣中的水分、顆粒和油跡。

2.4.1.3 空氣壓縮機和氮氣發生器可安裝在機艙或一個單獨艙室內。就消防而言，該單獨艙室及所安裝的任何設備的處所應視作“其他機器處所”。如為氮氣發生器提供一個單獨艙室，該艙室應設有獨立的機械抽吸通風系統，每小時換氣6次。該艙室應不能直接通向起居處所、服務處所和控制站。

2.3.1.6 Prevention of flue gas leakage

2.3.1.6.1 Special consideration shall be given to the design and location of scrubber and blowers with relevant piping and fittings in order to prevent flue gas leakages into enclosed spaces.

2.3.1.6.2 To permit safe maintenance, an additional water seal or other effective means of preventing flue gas leakage shall be fitted between the flue gas isolating valves and scrubber or incorporated in the gas entry to the scrubber.

2.3.2 Indicators and alarms

2.3.2.1 In addition to the requirements in paragraph 2.2.4.2, means shall be provided for continuously indicating the temperature of the inert gas at the discharge side of the system, whenever it is operating.

2.3.2.2 In addition to the requirements of paragraph 2.2.4.5, audible and visual alarms shall be provided to indicate:

- .1 insufficient fuel oil supply to the oil-fired inert gas generator;
- .2 failure of the power supply to the generator;
- .3 low water pressure or low water flow rate to the cooling and scrubbing arrangement;
- .4 high water level in the cooling and scrubbing arrangement;
- .5 high gas temperature;
- .6 failure of the inert gas blowers; and
- .7 low water level in the water seal.

2.4 Requirements for nitrogen generator systems

In addition to the provisions in paragraph 2.2, for inert gas systems using nitrogen generators, the provisions of this section shall apply.

2.4.1 System requirements

2.4.1.1 The system shall be provided with one or more compressors to generate enough positive pressure to be capable of delivering the total volume of gas required by paragraph 2.2.1.2.

2.4.1.2 A feed air treatment system shall be fitted to remove free water, particles and traces of oil from the compressed air.

2.4.1.3 The air compressor and nitrogen generator may be installed in the engine-room or in a separate compartment. A separate compartment and any installed equipment shall be treated as an “Other machinery space” with respect to fire protection. Where a separate compartment is provided for the nitrogen generator, the compartment shall be fitted with an independent mechanical extraction ventilation system providing six air changes per hour. The compartment is to have no direct access to accommodation spaces, service spaces and control stations.

2.4.1.4 如安裝了氮氣接收器或緩衝櫃，其可安裝在一個專用艙室內、裝有空氣壓縮機和發生器的單獨艙室內、機器處所內或貨物區域內。如果氮氣接收器或緩衝櫃安裝在圍蔽處所內，應佈置成只能從開敞甲板出入，且出入門應向外開啟。應為該艙室應提供充足且獨立的抽吸式機械通風。

2.4.2 指示器和報警器

2.4.2.1 除滿足2.2.4.2的要求外，還應設有儀錶連續指示氮氣發生器抽吸端空氣的溫度和壓力。

2.4.2.2 除滿足2.2.4.5的要求外，還應裝設聽覺和視覺報警器以指示：

- .1 電加熱器故障（如設有）；
- .2 壓縮機的低供氣壓力或低流量；
- .3 空氣溫度高；和
- .4 水氣分離器自動泄水管的冷凝水位高。”

二零一七年五月十八日於行政長官辦公室

辦公室主任 柯嵐

2.4.1.4 Where a nitrogen receiver or a buffer tank is installed, it may be installed in a dedicated compartment, in a separate compartment containing the air compressor and the generator, in the engine room, or in the cargo area. Where the nitrogen receiver or a buffer tank is installed in an enclosed space, the access shall be arranged only from the open deck and the access door shall open outwards. Adequate, independent mechanical ventilation, of the extraction type, shall be provided for such a compartment.

2.4.2 Indicators and alarms

2.4.2.1 In addition to the requirements in paragraph 2.2.4.2, instrumentation is to be provided for continuously indicating the temperature and pressure of air at the suction side of the nitrogen generator.

2.4.2.2 In addition to the requirements in paragraph 2.2.4.5, audible and visual alarms shall be provided to include:

- .1 failure of the electric heater, if fitted;
- .2 low feed-air pressure or flow from the compressor;
- .3 high air temperature; and
- .4 high condensate level at automatic drain of water separator.”

Gabinete do Chefe do Executivo, aos 18 de Maio de 2017. —
A Chefe do Gabinete, *O Lam*.

行政會

批示摘錄

摘錄自行政長官於二零一七年四月十二日作出的批示：

根據第12/2015號法律第二十四條第三款（二）項及第四款的規定，冼嘉宜在行政會秘書處擔任第一職階首席技術員之長期行政任用合同修改為不具期限的行政任用合同，自二零一七年四月十日起生效。

摘錄自行政長官於二零一七年四月二十六日作出的批示：

根據第14/2009號法律第十四條第一款（二）項以及第12/2015號法律第四條的規定，以附註形式修改石碧珠在行政會秘書處擔任職務之不具期限的行政任用合同第三條款，轉為收取相等於第一職階首席技術輔導員，薪俸點350點，自二零一七年四月二十六日起生效。

二零一七年五月十六日於行政會秘書處

秘書長 柯嵐

CONSELHO EXECUTIVO

Extractos de despachos

Por despacho de S. Ex.^a o Chefe do Executivo, de 12 de Abril de 2017:

Sin Ka I — alterado o seu contrato administrativo de provimento de longa duração para contrato administrativo de provimento sem termo com referência à categoria de técnico principal, 1.º escalão, nesta Secretaria do Conselho Executivo, nos termos do artigo 24.º, n.ºs 3, alínea 2), e 4, da Lei n.º 12/2015, a partir de 10 de Abril de 2017.

Por despacho de S. Ex.^a o Chefe do Executivo, de 26 de Abril de 2017:

Shi, Susan — alterada, por averbamento, a cláusula 3.ª do seu contrato administrativo de provimento sem termo com referência à categoria de adjunto-técnico principal, 1.º escalão, índice 350, nesta Secretaria do Conselho Executivo, nos termos do artigo 14.º, n.º 1, alínea 2), da Lei n.º 14/2009, conjugado com o artigo 4.º da Lei n.º 12/2015, a partir de 26 de Abril de 2017.

Secretaria do Conselho Executivo, aos 16 de Maio de 2017.
— A Secretária-geral, *O Lam*.