澳門特別行政區

行 政 長 官 辦 公 室

第 78/2014 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》（下稱“公約”）的締約國；

國際海事組織海上安全委員會於一九八九年四月十一日透過第MSC.13（57）號決議通過了公約的修正案；

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；

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.13（57）號決議的中文及英文正式文本。

二零一四年十月三十日發佈。

行政長官　崔世安

REGIÃO ADMINISTRATIVA ESPECIAL DE MACAU

GABINETE DO CHEFE DO EXECUTIVO

Aviso do Chefe do Executivo n.º 78/2014

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 11 de Abril de 1989, o Comité de Segurança Marítima da Organização Marítima Internacional, através da resolução MSC.13(57), adoptou emendas à Convenção;

Considerando ainda 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, tal como emendada, na Região Administrativa Especial de Macau, a partir de 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.13(57), que contém as referidas emendas, nos seus textos autênticos em línguas chinesa e inglesa.

Promulgado em 30 de Outubro de 2014.

O Chefe do Executivo, *Chui Sai On*.

海安會第 MSC.13（57）號決議

（1989 年 4 月 11 日通過）

通過《1974 年國際海上人命安全公約》的修正案

海上安全委員會，

注意到《國際海事組織公約》關於本委員會職能的第 28（b）條，

進而注意到《1974 年國際海上人命安全公約》（以下簡稱《公約》）關於修正公約附則（除第 I 章外）的程序的第 VIII（b）條，

在其第五十七屆會議上審議了根據《公約》第 VIII（b）（i）條建議並散發的《公約》修正案，

1. 根據《公約》第 VIII（b）（iv）條，通過本《公約》修正案，其文本載於本決議的附件中；

2. 根據《公約》第 VIII（b）（vi）（2）（bb）條，確定，在 1991 年 7 月 31 日之前，如無三分之一以上的締約國政府或商船合計噸數不少於世界商船總噸數百分之五十的締約國表示反對，則該修正案應視為在該日期已被接受；

3. 提請締約國注意，根據《公約》第 VIII（b）（vii）（2）條，該修正案一經按上文第 2 段得到接受，即應於 1992 年 2 月 1 日生效；

4. 要求秘書長按照《公約》第 VIII（b）（v）條，將本決議及其附件中的修正案文本的核正無誤的副本發送給所有《1974 年國際海上人命安全公約》締約國政府；

5. 並要求秘書長將本決議的副本發送給本組織成員國中的非《公約》締約國政府。

附件

經修正的《1974 年國際海上人命安全公約》的修正案

第 II-1 章

構造-分艙和穩性、機電設備

第 11 條

原標題改為：

“貨船尖艙和機器處所的艙壁及尾軸管”。

將下列文字加在標題後面：

“（本條第 8 和 9 段適用於 1992 年 2 月 1 日及其後建造的船舶）”。

將下列新的第 8 和 9 段加在第 7 段後面：

“8. 應設置艙壁將機器處所與其前、後部的載貨和載客處所分開，且直至乾舷甲板形成水密。

9. 尾軸管應圍蔽在具有適度體積的一個（或多個）水密處所內，主管機關可自行決定是否要求採取儘量減少尾軸管裝置破損時船舶浸水危險的其他措施。”

第 12 條

客船雙層底

將第 5 段第 3 行的“規則第 III／2 條”改為“規則第 III／3.16 條”。

第 12-1 條

將下列新的第 II-1／12-1 條加在第 12 條後面：

“非液貨船雙層底”

（本條適用於 1992 年 2 月 1 日及其後建造的船舶）

1 在對船舶的設計及正常作業適當可行的情況下，應儘量自防撞艙壁延伸至尾尖艙壁設置雙層底。

2 凡須設置雙層底時，其高度應經主管機關同意，其內底應延伸至船舷，以保護船底至舭部彎曲處。

3 設於雙層底內的貨艙污水阱，不應向下延伸至超過所需的深度。但准許船舶軸隧後端的阱延伸至外底。其他的阱，如其佈置能與符合本條規定的雙層底具有同等保護作用，則主管機關可與同意設置。

4 專供裝載液體的水密分艙內，如主管機關認為該艙的船底破損不致損害船舶安全時，可不設雙層底”。

第 15 條

本條的原文改為：

“客船水密艙壁上的開口

（本條適用於 1992 年 2 月 1 日及其後建造的船舶）

1 水密艙壁開口的數量應在適應船舶設計及正常作業的情況下減至最少，這些開口均應備有可靠的關閉設備。

2.1 凡管子、排水管和電纜等通過水密分艙艙壁時，應設有保證該艙壁水密完整性的裝置。

2.2 不構成管系組成部分的閥不得設在水密分艙艙壁上。

2.3 鉛和其他易溶材料，不得用於穿過水密分艙艙壁的裝置，因為發生火災時這種裝置的損壞將會損害艙壁的水密完整性。

3.1 門、人孔或出入口不得設於：

.1 限界線以下的防撞艙壁；

.2 分隔相鄰貨艙或貨艙與固定式或備用煤艙的水密橫艙壁，但第 10.1 段和第 16 條所規定者除外。

3.2 除第 3.3 段所規定者外，在限界線以下的防撞艙上僅可通過一根管子，以處理首尖艙內的液體，但該管子應裝有能在艙壁甲板上操作的截止閥，其閥體應於首尖艙內裝設防撞艙壁上。但若在各種航行狀態下隨時可以到達閥的位置，且閥設在非貨艙內，主管機關可以授權在防撞艙壁後面裝設這種閥。

3.3 如首尖艙經分隔裝載兩種不同的液體，而主管機關認為除裝設第二根管子外無其他切實可行的替代辦法，且已考慮在首尖艙內增加分艙以保持船舶安全，則主管機關可允許在限界線以下的防撞艙壁上穿過兩根管子，每把管子均應按上述 3.2 的要求裝設。

4.1 裝於固定和備用煤艙之間艙壁上的水密門，應是隨時可以到達的。但第 9.4 段所規定的甲板間煤艙門除外。

4.2 應適當佈置隔板或採取其他措施，以防煤炭妨礙煤艙水密門的關閉。

5 在滿足本條第 11 段的條件下，在主、輔推進機械，包括推進所需的鍋爐及一切固定煤艙的處所內，其每一主橫艙壁上，除通往煤艙及軸隧的門外，只准設置一扇門。如裝有兩根或更多的軸，各軸隧之間應以互通的通道連接。當裝有兩根軸時，在機器處所與軸隧間只准設一扇門；當裝設的軸為兩根以上時，則只准設兩扇門。所有這類門均應為滑動式，且其門檻應儘可能高。由艙壁甲板上方操縱這些門的手動裝置，應設於機器處所以外。

6.1 除第 10.1 段及第 16 條規定者外，水密門均應是符合第 7 段要求的動力式滑動門，當船舶正浮時，應能從駕駛室內的集中控制台以不超過 60 秒的時間同時關閉。

6.2 任何動力式滑動水密門，在船舶向任何一舷橫傾 15°時，均應能以動力或手動方式關閉。還應考慮當水通過開口，施加一個相當於門檻中點以上至少一米水柱的靜壓頭時，可能作用於該門任何一側的各種力。

6.3 水密門的控制裝置，包括液壓管和電纜，應儘可能接近安裝該門的艙壁，以儘量減少因船舶破損而殃及它們的可能性。當船舶破損範圍在第 2 條定義的船寬的五分之一（在最深分艙載重線平面上垂直船體中心線量計）時，水密門及其控制裝置的位置應不會妨礙對船舶無破損部分的水密門進行操作。

6.4 所有動力式滑動水密門均應設有指示裝置，它應在所有遙控位置顯示這些門的啟閉狀態。遙控位置只應設在第 7.1.5 段所要求的駕駛台和第 7.1.4 段所要求的在艙壁甲板上進行手動操作的地方。

7.1 每一動力式滑動水密門：

.1 應能垂向或水平移動；

.2 除滿足第 11 段的規定外，開口最大淨寬度一般應限制在 1.2 米。但若考慮了包括下列內容的其他安全措施，主管機關可以允許只增大到它認為對船舶有效作業所必需的程度：

.1 為防止泄漏，應特別考慮門及其關閉裝置的強度，

.2 該門應裝在 B／5 破損區之外，

.3 當船舶出海時，該門應保持關閉，主管機關認為絕對必要時開啟一段有限時間除外；

.3 應安裝採用電力、液壓或主管機關可以接受的任何其他形式的動力啟閉該門的必要裝置；

.4 應裝有單獨的手動裝置。應能在門的任何一側以手動方式將門開啟或關閉，此外，還應能夠從艙壁甲板以上易於到達的位置用全周手柄動作或主管機關可以接受並能達到同樣安全程度的其他動作關閉該門。在所有的操作位置，均應清晰地標明旋轉或其他動作的方向。當船舶正浮時，使用手動裝置完全關閉該門所需的時間應不超過 90 秒；

.5 應裝有在門的兩側均能以動力啟閉該門和從駕駛室集中控制台以動力關閉該門的控制裝置；

.6 應裝有一個音響警報器，其聲音須有別於該區域內的任何其他警報器。當門以動力遙控方式關閉時，即在門開始移動之前至少 5 秒但不超過 10 秒發出聲響。並持續發聲至門完全關閉時為止。在手動遙控時，音響警報器僅在門移動過程中

發聲即可。此外，在旅客逗留區域和高環境噪聲區域，主管機關可要求在門邊增加斷續性視覺信號，作為對音響信號的補充，以及

.7 應有一個大致統一的動力關閉速度。當船舶正浮時。從門開始移動到完全關閉所需的時間，在任何情況下不得少於 20 秒或超過 40 秒。

7.2 動力式滑動水密門所使用的電力，應由應急配電板直接供應，或通過位於艙壁甲板以上的專用配電板供應，有關的控制器，指示器和警報器電路，應由應急配電板直接供電。並且在主電源或應急電源發生故障時，均能按第 42.3.1.3 條的要求，由臨時應急電源自動供電。

7.3 動力式滑動水密門應具有下列裝置之一：

.1 帶有兩個獨立動力源的集中控制的液壓系統。每一動力源須由一台原動機和一台泵組成，能夠同時關閉所有的門。此外，就整個裝置而言，應設有液力蓄壓器，其容量須足夠在 15°不利橫傾下操縱所有的門至少三次，即關閉-開啓-關閉。當液力蓄壓器處於泵開動時的壓力下，該工作循環亦應能進行。在選擇所使用的工質時，應考慮該裝置工作時可能遇到的溫度。動力操縱系統在設計上應儘量減少因液壓管系的個別故障而對一扇以上的門的操作造成不利影響的可能性。液壓系統中為動力操縱系統服務的液壓，工質儲櫃應設有低位警報器，液力蓄壓器應設有監測所儲能量損失情況的低氣壓警報器或其他有效裝置。它們均應是聲光警報器，並應位於駕駛室中的集中操縱台上；或者

.2 每一扇門帶有獨立的液壓系統，每一動力源包括能夠啟開該門的一台原動機和一台泵。此外，還應設有液壓儲壓器，其容量須足夠在 15°不利橫傾下操縱該門至少三次，即關閉-開啟-關閉。當蓄壓器處於泵開動時的壓力下，該工作循環亦應能進行。在選擇所用的工質時，應考慮該裝置工作時可能遇到的溫度。應在駕駛室集中控制台上安裝一組液力蓄力器低氣壓警報器或監測儲備能量損失情況的其他有效裝置。還應在每一就地操縱位置安裝儲備損失情況指示器；或者

.3 每一扇門上設有獨立的電氣系統，每一動力源應包括能開啟和關閉該門的一台電動機。在主電源或應急電源發生故障時，應能按第 42.4.2 條的要求，由臨時應急電源自動供電，並具有足夠容量，能在 15°不利橫傾下操縱該門至少三次，即關閉-開啟-關閉。

第 7.3.1、7.3.2 和 7.3.3 段所述的系統應配備如下：

動力式滑動水密門的動力系統，應與任何其他動力系統分開。除液壓傳動裝置之外，電力或液壓操縱系統的個別故障應不妨礙對任何門的手動操縱。

7.4 應在艙壁每一側地面以上至少 1.6 米處安裝控制手柄，且其佈置應使通過該門的人員可以使兩個手柄都保持在開啟位置，不致意外地開動關閉裝置。手柄在開門和關門時的運動方向應和門的運動方向一致，並應有明顯的指示標誌。

7.5 水密門的電氣設備和部件儘可能位於艙壁甲板之上和危險區域和處所之外。

7.6 必須安裝在艙壁甲板之下的電氣元件，其外殼應備有適當的防護，以防進水※。

※ 參閱國際電工委員會第 529，1976 號出版物的下述規定：

.1 電動機，有關電路和控制元件；達 IP × 7 級防護標準；

.2 門的位置指示器和有關電路元件；達 IP × 8 級防護標準；

.3 門的運動警告信號器；達 IP × 6 級防護標準。

如主管機關認為達到等效防護標準，可以對電氣外殼作出其他安排。達 IP × 8 級防護的外殼的水壓試驗應以在浸水 36 小時期間元件所在位置可能產生的壓力為基礎。

7.7 電源、控制器、指示器和報警器電路均應得到保護，以防一扇門的電路故障引起任何其他門的電路發生故障。一扇門的警報器或指示器的電路短路或其他故障應不致引起該門操作失靈。電路的佈置應做到即使位於艙壁甲板以下的電氣設備浸水，也不致使該門開啟。

7.8 動力式滑動水密門的動力操縱或控制系統的個別電氣故障應不致使關閉着的門開啟。應在電路上儘可能接近第 7.3 段所要求的每一個馬達之處持續地監測電源供應的情況。任何失電故障均應在駕駛室的集中控制台觸發聲光警報信號。

8.1 駕駛室的集中控制台應有一個帶有兩種控制模式的“模式轉換”開關：一是“就地控制”模式，使用之後應使任一扇門可以就地開啟或關閉，但不會自動關閉；一是“閉門”模式，它應能自動關閉任何開着的門。“閉門”模式應使門能夠就地開啟，且就地控制裝置

一釋放，即能自動重新關閉。“模式轉換”開關一般應處於“就地控制”模式。“閉門”模式只在應急狀態或試驗時才使用。應對“模式轉換”開關的可靠性給予特別的注意。

8.2 駕駛室的集中控制台應備有表示每扇門的位置的示意圖，並帶有視覺指示器，以表明各門的啟閉狀態。應以紅燈表示門完全開啟，而綠燈表示完全關閉。當門正被遙控關閉時，紅燈應閃光以表示其在中間位置。指示電路應與每扇門的控制電路分開。

8.3 應不能從集中控制台遙控開啟任何門。

9.1 除第 9.2、9.3 和 9.4 段中規定在航行中可以開啟的門外，在航行期間所有的水密門均應保持關閉狀態。第 11 段所允許的寬度超過 1.2 米的水密門只能在該段規定的情況下方可開啟。根據本段的規定開啟的任何門應隨時能立即關閉。

9.2 在航行中，為使旅客或船員得以通過，或在緊靠門處工作必需開門時，水密門可以開啟。當穿行結束或需要開門進行的工作完成時，必須立即將門關閉。

9.3 在航行中，某些特定的水密門，只在確屬必要時，即確認對輪機的安全有效的操作或對旅客平時不受限制地出入整個旅客區域有必要時，才能允許保持開啟狀態。主管機關只有在認真考慮對船舶操作和殘存能力的影響之後才能作出這種決定。允許保持此種開啓狀態的水密門應在船舶穩性資料中標明，並應隨時能立即關閉。

9.4 安裝在艙壁甲板以下甲板間的燃煤艙之間的滑動式水密門，平艙時有時可以在海上開啓。這些門的開啓和關閉應記入主管機關規定的航海日誌中。

10.1 當主管機關認為必要時，可以在分隔甲板間貨物處所的水密艙壁上安裝結構符合要求的水密門。此種門可以是鉸鏈式、滾動式或滑動式門，但不應是遙控的。它們應安裝在最高位置上並儘可能遠離船殼板。但在任何情況下，其外側垂直邊緣至船殼板之間的距離均應不小於第 2 條定義的船寬的五分之一，該距離由最深分艙載重線平面上垂直於船體中心線量計。

10.2 此種門應在航行之前關閉，並應在航行之中保護關閉狀態；船舶停港時的開門時間和離港前的關門時間應記入航海日誌，任何此種門如果在航行中可以進出，則應安裝防止未經批准擅自開門的裝置。當申請安裝此種門時，其數量和佈置應經主管機關的特別考慮。

11 除機器處所外，艙壁上不得裝設可移動式板門。此種可移式板門在船舶離港前應一直保持在原位，在航行中，除船長認為緊急需要外，亦不應挪動，拆下和重裝任何此種可移式板門時應採取必要的預防措施，以確保連接處水密。主管機關可允許在每一主橫艙壁上，用不超過一扇大於第 7.1.2 段所規定的動力式滑動水密門代替這些可移式板門，條件是這些門在船舶離港前關閉，且在航行中，除船長認為緊急需要時外，亦保持關閉。這些門無須達到第 7.1.4 段關於使用手動裝置在 90 秒內完全關閉的要求。無論船舶出海或停港，開啓和關閉這些門的時間均應記入航海日誌。

12.1 當從船員艙室通往鍋爐艙的以及為管系或任何其他目的設置的圍壁通道或隧道須穿過主水密橫艙時，它們應是水密的，並應符合第 19 條的要求。出海時用作過道的這類圍壁或隧道，應通過延伸圍壁使其至少一端的出入口的水密性高度足以允許在限界線以上通過。該圍壁通道或隧道的另一端出入口可為根據其在船上所處位置而

要求的那種水密門。此種圍壁通道或隧道不應穿過防撞艙壁以後的第一道分艙艙壁。

12.2 如建議設置穿過主水密橫艙壁的隧道，應經主管機關特殊考慮。

12.3 當與冷藏貨以及透氣或強力通風管道相連的圍壁通道要通過一道以上的水密艙壁時，這些開口處的關閉裝置應是動力操縱的，並應能在位於艙壁甲板以上的集中位置進行關閉。”

第 16 條

載運貨車和伴同人員的客船

第 2 段中參閱的“第 15.12 條”改為“第 15.10 條”。

第 21 條

艙底排水設備

將下列文字加在標題後面：

“（本條第 1.6 和 2.9 段適用於 1992 年 2 月 1 日及其後建造的船舶）”

將下列新的第 1.6 段加在第 1.5 段後面：

“1.6 應為客船艙壁甲板和貨船乾舷甲板上的圍壁貨物處所設置疏水裝置，但若主管機關認為，由於任何船舶或任何級別船舶的任何特定艙室的尺寸或內部分隔不會因為免除了疏水裝置而損害船舶安全時，可以允許免除其中的疏水裝置。

1.6.1 當量至上述艙壁甲板或乾舷甲板的乾舷使船舶橫傾超過 5° 甲板邊緣才浸水時，應用一組足夠數量和適當尺寸的泄水孔，把水直接排出舷外，對於客船，其安裝應符合第 17 條的要求，對於貨船，其安裝應符合現行《國際載重線公約》有關泄水孔、進水孔和排水孔的要求。

1.6.2 當乾舷使船舶橫傾 5°或不足 5°上述艙壁甲板或乾舷甲板上的邊緣便浸水時，艙壁甲板或乾舷甲板上的圍蔽貨物處所的疏水應通到一個或多個具有足夠容量、設有高水位報警裝置和把水排出舷外的適當裝置的處所中，此外還應確保：

.1 泄水孔的數量、尺寸和佈置能防止這些處所過度積水；

.2 本條要求的客船或貨船（視情況而定）的艙底排水裝置考慮到任何固定式壓力水霧滅火系統的需要；

.3 被石油或其他危險物質污染的水不被排到機器處所或可能有着火源的其他處所；和

.4 當圍蔽貨物處所由二氧化碳滅火系統保護時，該甲板泄水孔裝有防止窒息氣體漏逸的裝置。

第 2.9 段“D”的定義改為：

“D 係指量至艙壁甲板的船舶型深（米），但若艙壁甲板上的圍壁貨物處所按第 1.6.2 段的要求內部排水，且其長度延伸至整個船長時，D 應量至艙壁甲板的上一層甲板。當圍壁貨物處所的長度不足整個船長時，D 應量至艙壁甲板的型深加上 1h／L，其中 1 和 h 分別是圍蔽貨物處所的總長度和高度（米）”。

第 23-1 條

將下列新的第 23-1 條加在第 23 條之後：

“乾貨船破損控制

（本條適用於 1992 年 2 月 1 日及其後建造的船舶）

1. 駕駛室中應固定設置或隨時準備一張示意圖，以清晰地表明各層甲板及貨艙的水密艙室的邊界，邊界上的開口包括關閉裝置及其所有控制設備的位置、以及用來校正浸水引起的傾斜的裝置，作為值班高級船員的指南。此外，還應為船上高級船員提供載有上述資料的小冊子。

2. 所有滑動門和水密艙壁上的鉸鏈門都應配有指示器。應在駕駛室內顯示這些門的啟閉狀態。此外，船殼板上和主管機關認為若任其打開或不牢固鎖閉會導致嚴重進水的其他開口也應配有這種指示器。

3.1 在一般安全須知中應列出主管機關認為在船舶正常營運時保持水密完整性所必需的設備、條件和操作程序。

3.2 在特別安全須知中應列出主管機關認為對於船舶和船員的生存至關重要的各種事項，即關閉裝置、貨物繫固和警報器的音響等等。”

第 42 條

客船應急電源

將下列文字加在標題之後：

“（本條第 2.6.1 段和 4.2 段適用於 1992 年 2 月 1 日及其後建造的船舶）”

刪去第 2.6.1 段的第二句。

第 4.2 段的原文改為：

“4.2 按第 15.7.3.3 條要求操縱水密門的所需動力，除非備有儲備能量的臨時獨立電源，否則不必全部同時操作。按第 15.7.2 條要求為控制器、指示器和警報器電路供電半小時。”

第 II-2 章

構造-防火、探火和滅火

第 4 條

消防泵、消防總管、消火栓和消防水帶

將下列文字加在標題之後：

“（本條第 3.3.2.5 段適用於 1992 年 2 月 1 日及其後建造的船舶）”

將第 3.3.2.5 段的原文改為：

“.2.5 該泵總吸頭和實際淨吸頭應使船舶在航行時可能遇到的所有橫傾、縱傾、橫搖和縱搖情況下均能滿足本條第 3.3.2、3.3.2.1、3.3.2.2 和 4.2 段的要求。”

在第 7.1 段“的”與“材料”之間加上“不易腐”。

在第 7.1 段中，將下列新的句子加在第一句後面：

“在 1992 年 2 月 1 日及其後建造的船舶上，和在 1992 年 2 月 1 日以前建造的船舶更換現有的消防水帶時，均應配備不易腐材料消防水帶。”

第 13-1 章

將下列新的第 13-1 條加在第 13 條之後：

“取樣探煙系統

（本條適用於 1992 年 2 月 1 日及其後建造的船舶）

1 一般要求

1.1 本條文中凡出現“系統”一詞時，均指“取樣探煙系統”。

1.2 任何系統應能始終持續作業，只有按順序掃描原理工作的系統可以除外，但兩次掃描同一位置的間隔期應能使總感應時間符合主管機關的要求。

1.3 應對操作該系統所需電源的失電進行監測，任何失電應在控制板上和駕駛室觸發聲光信號，這一信號應區別於探煙指示信號。

1.4 該系統使用的電氣設備應有備用電源。

1.5 控制板應位於駕駛室或主防火控制站內。

1.6 在探測到煙氣或其他燃燒產物時，應在控制板上和駕駛室觸發聲光信號。

1.7 應在控制板上或其附近顯示清晰的信息，指明涉及的處所。

1.8 取樣管裝置應能迅速識別失火的位置。

1.9 應為該系統的試驗和維修提供適用的說明書和備件。

1.10 應定期試驗該系統的功能，使主管機關滿意。該系統的型式應能進行正確動作的試驗，並且無須更換任何部件便能恢復到正常的監測狀態。

1.11 該系統在設計、構造和安裝上應能防止任何有毒或易燃物質或滅火劑泄漏至任何居住和服務處所、控制站或機器處所。

2 安裝要求

2.1 在需要探煙的每一圍壁處所至少應裝有一個聚煙器。但是，當設計為裝載油或冷藏貨物的處所間或裝載需要煙氣取樣系統的貨物的貨油時，可以在這種艙室中為該系統設置隔離聚煙器的裝置，這種裝置應使主管機關滿意。

2.2 聚煙器的位置應使其能發揮最好性能，甲板頂部區域的任何部位聚煙器的水平距離均應不超過 12 米。如果該系統用於可能使用機械通風的處所，在考慮聚煙器的位置時，應注意到通風的影響。

2.3 聚煙器應在不易受到衝擊或機械損壞之處。

2.4 連接到每一取樣點的聚煙器不得超過四個。

2.5 來自不同的圍壁處的聚煙器不得聯接到同一取樣點。

2.6 取樣管應能自動排煙，並得到適當的保護以免受貨物作業的衝擊或損壞。

3 設計要求

3.1 該系統和設備的設計，應適於承受船上通常出現的電壓波動和瞬變、環境溫度變化、振動、潮濕、震動、衝擊和腐蝕，並能避免點燃可燃氣體和空氣混合物的可能性。

3.2 感應元件應經核證，在感應室內的煙氣密度使清晰度的減弱超過每米 6.65%之前開始工作。

3.3 應配有兩台取樣機，風機的功率應足以在保護區域正常的通風狀況下工作，且其總感應時間應使主管機關滿意。

3.4 控制板應能觀察到各個取樣管內的煙氣。

3.5 應配備監測通過取樣管的氣流的裝置，其設計應儘可能確保從相連的每一聚煙器中取出的量相同。

3.6 取樣管內的內徑至少為 12 毫米，但當取樣管與固定式氣體滅火系統共同使用時，管子的內徑應足以讓滅火氣體及時排放。

3.7 應配有定期用壓縮空氣清洗取樣管的裝置。

第 15 條

燃油、潤滑油和其他易燃油類的佈置

將下列文字加在標題之後：

“（本條第 2.6 和第 3 段適用於 1992 年 2 月 1 日及其後建造的船舶）”。

第 2.6 段的原文改為：

“.6 應配備安全有效的裝置，以確定任何燃料艙（櫃）內的存油量。

.6.1 當使用測油管時，它們不得終止於任何有點燃測油管溢油危險的處所，尤其不得終止於旅客或船員處所。測油管一般不得終止於機器處所，但主管機關如認為這一要求不可行，則於滿足下列所有要求後，可以允許測油管終止於機器處所：

.6.1.1 增配一隻符合本條第.6.2 分段要求的油位測量表；

.6.1.2 測油管終止於遠離有點燃危險之處，否則應採取預防措施，例如安裝有效的擋板，以防止測油管終端溢油時燃油接觸着火源；

.6.1.3 測油管的終端裝有自閉盲斷裝置，在盲斷裝置下方有一小直徑自閉檢查旋塞，用以確定盲斷裝置打開前没有燃油。應採取措施確保從檢查旋塞溢出的任何燃油都不會引起燃燒。

.6.2 可以用其他油位測量計代替測油管，這些裝置（如本條.6.1.1 段規定者）應符合下列條件：

.6.2.1 在客船上，當這些裝置應無須在櫃頂以下穿孔，且在出現故障或裝油過多時，燃油不會溢出；

.6.2.2 在貨船上，當這些裝置出現故障或裝油過多時，燃油應不會溢出，禁止使用圓管形玻璃油位計。主管機關可允許使用在油位計和油櫃之間設有自閉閥的平板玻璃油位計。

.6.3 第 6.2.1 或.6.2.2 段規定的裝置須經主管機關認可，並應保持良好狀態，以確保在使用時具有準確功能。”

第 3 段的原文改為：

“3 壓力潤滑系統的潤滑油的儲藏、分配和使用的佈置應確保船舶和船上人員的安全。在 A 類機器處所（以及可行的其他機器處所）中的裝置至少應符合第 2.1、2.4、2.5、2.6、2.7 和 2.8 段的規定。但是：

.1 不排除在潤滑系統中使用經試驗表明具有適度耐火能力的窺流窗；

.2 可以批准在機器處所使用測油管，如果測油管裝有適當的關閉裝置，則不必符合第 2.6.1.1 和 2.6.1.3 段的要求。”

第 18 條

雜項

將下列文字加在標題後面：

“（本條第 2.4 和 8 段適用於 1992 年 2 月 1 日及其後建造的船舶。本條第 7 段適用於所有船舶）”。

將下列新的第 2.4 段加在第 2.3 段後面：

“2.4 為保護裝載原油和閃點不超過 60°C 的石油產品的液貨艙，防止火焰蔓延到貨物，在熱力作用下易於失效的材料，不應用於閥門、配件、貨艙口蓋，貨物透氣管和貨物管系”。

將下列新的第 7 段和第 8 段加在第 6 段的後面：

“7 應設置經主管機關認可的適當滅火裝置以保護油漆間和易燃液體間。

8. 直升飛機甲板應為鋼質或等效於鋼質的防火結構。如直升飛機甲板下面為較大失火危險處所，則絕緣標準應符合主管機關的要求。每一直升飛機設施均應有操作手冊，包括說明書和安全措施、核查清單、操作程序以及設備要求。如果主管機關允許使用鋁或其他不等效於鋼的低溶點金屬結構，則應達到下述規定：

.1 如果平台懸伸於船舷之外，每當船舶或平台失火之後，應對平台進行一次結構分析，以確定其是否適於繼續使用。

.2 如果平台位於船舷甲板室或類似結構之上，應滿足下述條件：

.2.1 平台下面的甲板室頂和圍壁應無開口；

.2.2 平台下面的窗子均應安裝鋼質百葉窗；

.2.3 所要求的消防設備應經主管機關認可；

.2.4 平台上或其附近每次發生火災之後，應對平台進行一次結構分析，以確定其是否適於繼續使用。”

第 26 條

載客超過 36 人的客船艙壁及甲板的耐火完整性

將下列文字加在標題後面：

“（本條第 2.2（7）和 2.2（13）段適用於 1992 年 2 月 1 日及其後建造的船舶）”。

第 2.2（7）段的第三句原文改為：

“起居處所內面積小於 4 平方米的獨立小間和小儲物間（其中不存放易燃液體）”。

在 2.2（13）後面增加下列句子：

“除有儲藏易燃液體設備的處所之外的面積大於 4 平方米的小間和儲藏室。”

第 27 條

載客不超過 36 人的客船艙壁及甲板的耐火完整性

將下列文字加在標題後面：

“（本條第 2.（5）和 2.（9）段適用於 1992 年 2 月 1 日及其後建造的船舶）”

將 2.（5）和 2.（9）段改為：

“（5）較小失火危險的服務處所

除有儲藏易燃液體設備的處所之外的面積小於 4 平方米的小間和儲藏室以及乾燥間和洗衣間。”

“（9）較大失火危險的服務處所

廚房，設有烹調設備的配膳室，油漆間和燈具間，面積為 4 平方米或以上的小間和儲藏室，儲藏易燃液體的處所，以及不屬於機器處所一部分的工作間。”

第 38 條

除特種處所外的用於載運油箱中備有自用燃料的機動車輛的裝貨處所的保護

將下列文字加在標題後面：

“（本條第 1 段適用於 1992 年 2 月 1 日及其後建造的船舶）。”

將第 1 段修改如下：

“1 固定探火

應配備符合第 13 條要求的固定探火和失火報警系統或符合第 13-1 條要求的取樣探煙系統，該系統的設計和佈置應與第 3 段所述的通風要求一起考慮。”

第 40 條

防火巡邏、探火、失火報警和廣播系統

將下列文字加在標題後面：

“（本條第 2 段適用於 1992 年 2 月 1 日及其後建造的船舶）。”

將現有的第 2 段改為：

“2 在主管機關認為不能到達的任何載貨處所內，應配備符合第 13 條要求的固定探火和失火報警系統或符合第 13-1 條要求的取樣探煙系統，但如證明船舶航程短，適用本要求不合理，並經主管機關同意者除外。”

第 44 條

艙壁和甲板的耐火完整性

將下列文字加在標題後面：

“（本條第 2.（5）和 2.（9）段適用於 1992 年 2 月 1 日及其後建造的船舶）。”

將第 2.（5）和 2.（9）段原文改為：

“（5）較小失火危險的服務處所

除有儲藏易燃液體設備的處所之外的面積小於 4 平方米的小間和儲藏室，以及乾燥間和洗衣間。”

“（9）較大失火危險的服務處所

廚房，設有烹調設備的配膳室，油漆間和燈具間，面積為 4 平方米或以上的小間和儲藏易燃液體的處所，以及不屬於機器處所一部分的工作間。”

第 50 條

構造細節

將下列文字加在標題後面：

“（本條第 3.2 和 3.3 段適用於 1992 年 2 月 1 日及其後建造的船舶）。”

將 3.2 段原文改為：

“3.2 如起居處所和服務處所內的艙壁、襯板和天花板為不燃材料，在該區域內可以裝有厚度限制在發熱值不超過 45 兆焦耳／平方米的可燃鑲片 。”

將下列新的 3.3 段加在 3.2 段後面：

“3.3 以不燃艙壁，天花板和襯板為邊界的任何起居處所和服務處所內的可燃貼面、嵌條、裝潢和鑲片的總體積，應不超過牆壁和天花板總面積上厚 2.5 毫米的鑲片的體積。”

將原第 3.3 段改為第 3.4 段。

第 53 條

裝貨處所內的防火裝置

將下列文字加在標題後面：

“（本條第 2.1 和 3 段適用於 1992 年 2 月 1 日及其後建造的船舶）。”

第 1.2 段第 1 行末的“木料”和“不燃”之間的“和”字改為“，”。

在第 1.2 段末尾增加一個星號，並加上下列腳註：

“※參閱《固體散裝貨物安全實用規則》－應急表編號 B14，關於煤的條目”。

將 2.1 段原文改為：

“2.1 應配備符合第 13 條要求的固定探火和失火報警系統，該固定探火系統應能迅速探出剛剛發生的火情，探測器的型式、間隔和位置應使主管機關滿意並要考慮通風以及其他有關因素的影響。該系統安裝後應在正常的通風情況下進行測試，其總感應時間應使主管機關滿意。”

將第 3 段原文改為：

“3 滾裝裝貨處所以外的載運油箱中裝有自用燃料的機動車輛的裝貨處所

滾裝裝貨處所以外的載運油箱中裝有自用燃料的機動車輛的裝貨處所應符合本條第 2 段的要求。但可允許用符合第 13-1 條要求的取樣探煙系統代替本條第 2.1 段的要求，且無須符合本條第 2.2.4 段的要求。”

第 54 條

載運危險貨物船舶的特殊要求

將下列文字加在標題後面：

“（本條第 2.3 段適用於 1992 年 2 月 1 日及其後建造的船舶）。”

將第 1.1 段原文及其腳註改為：

“1.1 除應符合第 53 條對貨船和第 37、※38 與 39 條對客船的相應要求以外，本條第 1.2 段所指載運危險貨物的船舶類型和裝貨處所尚應符合本條的相應要求，但載運有限數量※※的危險貨物時除外，除非這種要求由於遵守本章其他條文的規定已得到滿足。船舶類型和載運危險貨物的方式在本條第 1.2 段和表 54.1 中列出，出現在第 1.2 段各項的序號已列於該表的頂行。1992 年 2 月 1 日及其後建造的 500 總噸以下的貨船應符合本條的要求，但主管機關可以降低這些要求，而降低了的要求應記錄在第 3 段所指的合格證件中。”

將第 2.3 段原文改為：

“2.3 探測系統

滾裝貨物處所內應裝設符合第 13 條要求的固定式探火和失火報警系統。所有其他類型的貨物處所應裝設符合第 13 條要求的固定式探火和失火報警系統或者符合第 13-1 條的取樣探煙系統，如裝設取樣探煙系統，為防止有毒煙氣漏入有人處所，應特別注意第 13-1.1.11 條的要求。”

※ 與本條要求相關的操作方法參見《國際海上危險貨物運輸規則》（IMDG 規則）總論第 17 節。

※※ “有限數量”一詞的定義參見《國際海上危險貨物運輸規則》（IMDG 規則）總論第 18 節。

第 55 條

適用範圍

將第 5 段原文改為：

“5 第 60 條關於惰性氣體系統的要求不必適用於：

.1 所有在 1986 年 7 月 1 日及其前、後建造的載運第 1 段規定的貨物而又符合本組織制定的化學品液貨船惰性氣體系統要求※的化學品液貨船；或

.2 所有在 1986 年 7 月 1 日之前建造的、載運原油或石油產品而又符合本組織制定的關於載運石油產品的化學品液貨船惰性氣體系統要求※※的化學品液貨船；或

※ 參閱本組織通過的大會 A.567（14）號決議《化學品液貨船惰性氣體系統規則》

※※參閱本組織通過的大會 A.473（XII）號決議《關於載運石油產品的化學品液貨船惰性氣體系統的暫行規定》

.3 所有在 1986 年 7 月 1 日及其前、後建造的，載運第 1 段規定的貨物而又裝有與第 5.1 或 5.2 段的要求相當的液貨艙惰性氣體裝置的液化氣體船；或

.4 載運除原油或石油產品以外的易燃貨物，如《散裝運輸危險化學品船舶構造與設備規則》第 VI 和第 VII 章或《國際散裝運輸危險化學品船舶構造與設備規則》第 17 和 18 章所列貨物的化學品液貨船和液化氣體船：

.4.1 1986 年 7 月 1 日之前建造者；或

.4.2 於 1986 年 7 月 1 日及其後建造者，但其液貨艙容積不得超過 3,000 立方米，洗艙機噴咀排量不得超過 17.5 立方米／小時，在一個貨艙內同時使用的所有洗艙機的總排量不得超過 110 立方米／小時。

第 56 條

各處所的位置和分隔

將本條原文改為：

“（本條文適用於 1992 年 2 月 1 日及其後建造的船舶）。

1 機器處所應位於貨油艙和污油水艙的後方，也應位於貨油泵艙和隔離空艙的後方，但不必位於燃油艙的後方。任何機器處所均應以隔離空艙、貨油泵艙、燃油艙或壓載艙同貨油艙和污油水艙隔開。凡設有向相鄰於貨油艙和污油水艙的處所加壓載水的泵及其附件的泵艙和設有燃油駁運泵的泵艙，均應認為與條內的貨油泵艙等效。這些泵艙所具有的安全標準應與貨油泵艙所要求者相同。然而，泵艙的下部可以凹入 A 類機器處所，以便安置泵，其條件是凹入部分的頂板高度一般不超過龍骨以上三分之一型深，但對於載重量不超過 25,000 噸的船舶，在證明這一高度會由於進入壁凹部分和妥善佈置管系的原因而不切實際時，主管機關可以允許凹入部分超過上述高度，但不超過龍骨以上一半型深。

2 起居處所，貨油主控制站、控制站和服務處所（獨立的起貨設備儲藏室除外）均應位於所有貨油艙、污油水艙和用於隔開貨油艙或污油水艙與機器處所的隔離空艙的後方而不必位於燃油艙和壓載艙的後方，但應佈置成不致因甲板或艙壁的個別故障導致貨油艙的蒸氣

或煙霧進入起居處所、貨油主控制站、控制站或服務處所。在確定這些處所的位置時，不必計及本條第 1 段所述的壁凹部分。

3 但是，當主管機關認為必要時，可允許起居處所、貨油主控制站、控制站和服務處所位於貨油艙、污油水艙以及隔離貨油艙和污油水艙與機器處所的隔離空艙的前方而不必為於燃油儲存艙和壓載艙的前方。除 A 類以外的機器處所，如以隔離空艙、貨油泵艙、燃油艙或壓載艙同貨油艙和污油水艙隔開，可以允許位於貨油艙和污油水艙之前。所有上述的處所應具備符合主管機關要求的等效安全標準和適當的滅火裝置。起居處所、貨油主控制站、控制站和服務處所的佈置應不致因甲板或艙壁的個別故障而導致貨油艙的蒸氣或煙霧進入這些處所。此外，當主管機關認為對船舶安全或航行有必要時，可以允許設有功率大於 375 千瓦且不作為主推進機械的內燃機的機器處所位於貨物區域的前方，但其佈置應符合本段的規定。

4 僅適用於混裝船：

.1 除污油水艙在乾貨航程中可能載有污油水，且其限界面為船殼、主貨物甲板、貨油泵艙艙壁或燃油艙者外，污油水艙應以隔離空艙圍隔。這些隔離空艙不得向雙層底、管遂、泵艙或其他封閉處所開口。應設置向這些隔離空艙注水和從中排水的裝置。當污油水艙的限界面為貨泵艙艙壁時，該貨泵艙不得向雙層底、管遂或其他圍壁處所開口，但可以允許設有氣密螺栓蓋的開孔。

.2 應提供設施以切斷連接泵艙和本條第 4.1 段所述污油水艙的管系。切斷設施應包括一隻閥、其後接裝雙環盲板法蘭或具有適當盲板法蘭的短管。此項裝置應鄰接於污油水艙，但若

此種佈置不合理或不可行時，可以設置在泵艙內緊靠管路穿過艙壁之處。應設有併入裝貨總管的獨立的泵及管系裝置，以便當船舶從事於乾貨運輸時將污油水艙內的污物直接經開敞甲板向岸上排放。

.3 污油水艙的艙口和洗艙孔只允許設在開敞甲板上，並應配備關閉裝置。這些關閉裝置應有鎖緊設施，並由負責的高級船員控制，但有螺栓固定的蓋板且螺栓間距保證水密者可以除外。

.4 如設有邊貨油艙時，甲板下的貨油管系應設在這些邊艙內。但主管機關可允許貨油管系設在能充分清洗和通風的特別導管內，其佈置應使主管機關滿意。若未設邊貨油艙，則甲板下的貨油管系應設在特別導管內。

5 如有必要把駕駛室佈置在貨油區域上方，則此處所只能用於駕駛目的，並用一個高度至少為 2 米的開敞空間使之與貨油艙甲板隔開。此外，這種駕駛室的防火還應符合本部分第 58.1 和 58.2 條對控制處所的要求，以及本部分中可適用的其他規定。

6 應設有使甲板上的溢油與起居和服務區域隔開的設施。該設施可以是一個有適當高度並延伸至兩舷的連續固定擋板。對於具有尾部裝油設施的船舶，此項擋油佈置應予特別考慮。

7 圍壁起居處所的上層建築和甲板室的外部限界面包括支承這些起居處所的任何懸伸甲板、其整個面向貨物區城的部分及距此端面 3 米之內的外側面，應隔熱至“A-60”級標準。對於這種上層建築和甲板室的兩側，此項分隔應達到主管機關認為必要的高度。

8.1 除下面第 8.2 段所允許者外，通往起居處所、服務處所、控制站和機器處所的入口、空氣進口和開口不得面向貨物區域。它們應位於下面向貨物區域的端艙壁上，或位於上層建築或甲板室的外側，距離上層建築或甲板室面向貨物區域的端壁至少為船長的 4%，但不少於 3 米處。然而，這個距離毋須超過 5 米。

8.2 主管機關可允許在面向貨物區域或第 8.1 段所規定的 5 米限制範圍內的限界面圍壁上裝設通往主貨物控制站和諸如食品庫、儲藏室和小間等服務處所的門，但這些處所不得直接或間接通往任何其他包含或用作下列艙室的處所：起居處所、控制站、諸如廚房、配膳室、工作間等服務處所或有蒸氣着火源的類似處所。處所的限界面應隔熱至“A-60”級標準，但面向貨物區域的限界面除外。在上述第 8.1 段規定的限制範圍之內，為便於拆移機器，可以設置用螺栓緊固的板門。只要駕駛室的門窗設計成能保證駕駛室迅速而有效地達到氣密，它們就可以位於上述第 8.1 段所規定的限制範圍之內。

8.3 面向貨物區域和在第 8.1 段所指的限制範圍內上層建築及甲板室側壁上的窗和舷窗應為固定（不能開啟）型。在主甲板上第一層的這種窗和舷窗應裝有鋼質或其他等效材料制成的內蓋。

第 58 條

艙壁和甲板的耐火完整性

將下列文字加在標題後面：

“（本條第 2.（5）和 2.（9）段適用於 1992 年 2 月 1 日及其後建造的船舶）。”

將第 2.（5）和 2.（9）段原文改為：

“（5）較小失火危險的服務處所

無儲藏易燃液體設備而面積小於 4 平方米的小間和儲藏室，以及乾燥間和洗衣間”

“（9）較大失火危險的服務處所

廚房、設有烹調設備的配膳室、油漆間和燈具間，面積為 4 平方米或以上的小間和儲藏室，儲藏易燃液體的處所，以及不屬於機器處所一部分的工作間。”

第 59 條

透氣、清除、除氣和通風

將下列文字加在標題後面：

“（本條第 2 段適用於 1992 年 2 月 1 日及其後建造的船舶）。”

將第 2 段原文改為：

“2 貨艙清除和／或除氣※

清除和／或除氣裝置應能最大限度地減少由於易燃蒸氣散發到空氣中或貨艙中具有易燃混合物所造成的危險性。因此：

.1 當船舶裝有惰性氣體系統時，應根據第 62.13 條的規定，首先清除貨艙，直至室艙內碳氫化合物蒸氣的體積濃度減少到 2%以下。然後，才能在貨油艙甲板平面上進行除氣作業。

.2 當船舶未安裝惰性氣體系統時，則在開始時排除易燃蒸氣的工作應該這樣來進行：

2.1 通往第 1.9 段所述的透氣口；或者

2.2 通往貨油艙甲板平面以上至少 2 米的出口，在除氣作業過程中保持至少 30 米／秒的垂直噴射速度；或者

2.3 通往貨油艙甲板平面以上至少 2 米的出口、以至少 20 米／秒的垂直噴射速度並用適當的裝置加以保護，防止火焰進入。

當出口處易燃蒸氣的濃度降至可燃下限的 30%時，除氣工作才可在貨油艙甲板平面上繼續進行。

第 62 條

惰性氣體系統

將下列文字加在標題後面：

“（本條第 19.1 和 19.2 段適用於 1992 年 2 月 1 日及其後建造的船舶）。”

將第 19.1 段第 1 行原文改為：

“對於煙氣式和惰性氣體發生器式的惰性氣體系統，均應裝設聲光警報器，以顯示：”。

將第 19.2 段前 2 行原文改為：

“對於惰性氣體發生器式的惰性氣體系統，還應增設聲光警報器，以顯示：”。

※ 參閱經修訂的“防火焰進入液貨艙裝置的設計，試驗和佈置標準

“（MSC／Circ.373／Rev.1）和經修訂的“設計液貨艙透氣和除氣裝置應考慮的諸因素”（MSC／Circ.450／Rev.1）”。

第 III 章

救生設備與佈置

第 41 條

救生艇的一般要求

將第 8.18 段原文改為：

“印在防水卡片上，或裝在防水容器內的第 V／16 條所述的救生信號圖解說明表 1 張”。

第 48 條

放艇與登乘設備

將第 1.4 段原文中的“o”改為“y”（僅西班牙文本）。

第 IV 章

第 13 條

裝於機動救生艇上無線電設備

將原標題改為“救生艇上的無線電設備”。

將第（a）段第一行中的“第 III 章第 14 條”改為“第 III／6.2.2 條”。

將第(h)段第二行中的“第 III 章第 14 條”改為“第 III／41.8.29 條”。

第 14 條

救生艇筏的手提式無線電設備

將第（a）段第 1 行中的“第 III 章第 13 條”改為“第 III／6.2.1 條”。

第 V 章

航行安全

第 3 條

危險通報內所需的情報

將第（a）（iii），（b）（ii）和（e）（i）分段括號內的“格林威治平時”改為“世界協調時”。

在“舉例”中的各“格林威治平時”改為“世界協調時”。

第 9 條

誤用遇險信號

將本條原文改為：

“除表示正有船舶、飛機或人遇險外，禁止使用國際遇險信號及任何與國際遇險信號可能混淆的信號。”

第 12 條

船載導航設備

將第（f）段原文改為：

“（f） 具有應急操舵位置的船舶，至少應配備一台電話或其他通信設備，用以向這些位置傳遞航向信息。此外，於 1992 年 2 月 1 日及其後建造的 500 總噸及以上的船舶應裝設向應急操舵位置提供視覺羅經讀數的設備。”

第 13 條

配 員

將第 V／13 條原文重新編號為第（a）段。

增加下列新的第（b）段：

“（b）應為本公約第 I 章所適用的所有船舶提供一個由主管機關頒發的適當的安全定員文件或等效文件，作為符合第（a）段規定所需的最低安全定員的證明。”

第 16 條

救生信號

將本條原文改為：

“救生站，海上救助單位和從事搜救作業的飛機同遇險船舶和人員，或同指揮船舶進行通信時，以及遇險船舶或人員同救生站、海上救助單位和從事搜救作業的飛機通信時，應使用救生信號※。凡適用本章的船舶應備有說明各種救生信號的圖解說明表，以供該船值班駕駛員隨時取用。

第 VII 章

危險貨物運輸

第 7 條

將本條原文改為：

“客船上的爆炸品※※

1 客船上可以裝載任何數量的第 1.4 分類 S 配裝類爆炸品。此外不得裝載其他爆炸品，但下列情況除外：

.1 救生用的爆炸物品，每種船上此種物品的淨爆炸品總質量不超過 50 千克，或

.2 C，D 和 E 配裝類爆炸物品，每艘船上淨爆炸品總質量不超過 10 千克；

.3 不要求特殊儲存的 G 配裝類爆炸物品，每艘船上淨爆炸品總質量不超過 10 千克；

.4 B 配裝類爆炸品，每艘船上淨爆炸品總質量不超過 5 千克。

2 儘管第 1 段有規定，如果在客船上採取了主管機關認可的特別安全措施，仍然可以增加裝運的爆炸品的數量和種類。

※ 這些救生信號見於“商船搜救手冊”（MERSAR）（經修訂的大會第 A.229（VII）號決議），“國際海事組織搜救手冊”（IMOSAR）（經修訂的大會第 A.439（XI）號決議的說明，以及根據大會第 A.80（IV）決議修訂的“國際信號規則”的圖解。

※※參閱《國際海上危險貨物運輸規則》（IMDG 規則）中的第 1 類。

RESOLUTION MSC.13(57)
(adopted on 11 April 1989)

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

THE MARITIME SAFETY COMMITTEE,

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

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

HAVING CONSIDERED at its fifty-seventh 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 31 July 1991 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 February 1992 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 International Convention for the Safety of Life at Sea, 1974;

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 INTERNATIONAL CONVENTION FOR THE SAFETY OF LIFE AT SEA, 1974, AS AMENDED

Chapter II-1

CONSTRUCTION - SUBDIVISION AND STABILITY MACHINERY AND ELECTRICAL INSTALLATIONS

Regulation 11

The existing heading is replaced by the following:

"Peak and machinery space bulkheads and stern tubes in cargo ships".

The following text is inserted after the heading:

"(Paragraphs 8 and 9 of this regulation apply to ships constructed on or after 1 February 1992)".

The following new paragraphs 8 and 9 are added after paragraph 7:

"8 Bulkheads shall be fitted separating the machinery space from cargo and passenger spaces forward and aft and made watertight up to the freeboard deck.

9 Stern tubes shall be enclosed in a watertight space (or spaces) of moderate volume. Other measures to minimize the danger of water penetrating into the ship in case of damage to stern tube arrangements may be taken at the discretion of the Administration".

Regulation 12

Double bottoms in passenger ships

In paragraph 5 the words "regulation III/2" in the third line is replaced by "regulation III/3.16".

Regulation 12-1

The following new regulation II-1/12-1 is added after regulation 12:

"Double bottoms in cargo ships other than tankers

(This regulation applies to ships constructed on or after 1 February 1992)

1 A double bottom shall be fitted extending from the collision bulkhead to the afterpeak bulkhead, as far as this is practicable and compatible with the design and proper working of the ship.

2 Where a double bottom is required to be fitted, its depth shall be to the satisfaction of the Administration and the inner bottom shall be continued out to the ship's side in such a manner as to protect the bottom to the turn of the bilge.

3 Small wells constructed in the double bottom, in connection with the drainage arrangements of holds, shall not extend in depth more than necessary. A well extending to the outer bottom, may, however, be permitted at the after end of the shaft tunnel of the ship. Other wells may be permitted by the Administration if it is satisfied that the arrangements give protection equivalent to that afforded by a double bottom complying with this regulation.

4 A double bottom need not be fitted in way of watertight compartments used exclusively for the carriage of liquids, provided the safety of the ship in the event of bottom damage is not, in the opinion of the Administration, thereby impaired".

Regulation 15

The existing text of this regulation is replaced by the following:

"Openings in watertight bulkheads in passenger ships

(This regulation applies to ships constructed on or after 1 February 1992)

1 The number of openings in watertight bulkheads shall be reduced to the minimum compatible with the design and proper working of the ship; satisfactory means shall be provided for closing these openings.

2.1 Where pipes, scuppers, electric cables, etc., are carried through watertight subdivision bulkheads, arrangements shall be made to ensure the watertight integrity of the bulkheads.

2.2 Valves not forming part of a piping system shall not be permitted in watertight subdivision bulkheads.

2.3 Lead or other heat sensitive materials shall not be used in systems which penetrate watertight subdivision bulkheads, where deterioration of such systems in the event of fire would impair the watertight integrity of the bulkheads.

3.1 No doors, manholes, or access openings are permitted:

.1 in the collision bulkhead below the margin line;

.2 in watertight transverse bulkheads dividing a cargo space from an adjoining cargo space or from a permanent or reserve bunker, except as provided in paragraph 10.1 and in regulation 16.

3.2 Except as provided in paragraph 3.3, the collision bulkhead may be pierced below the margin line by not more than one pipe for dealing with fluid in the forepeak tank, provided that the pipe is fitted with a screwdown valve capable of being operated from above the bulkhead deck, the valve chest being secured inside the forepeak to the collision bulkhead. The Administration

may, however, authorize the fitting of this valve on the after side of the collision bulkhead provided that the valve is readily accessible under all service conditions and the space in which it is located is not a cargo space.

3.3 If the forepeak is divided to hold two different kinds of liquids the Administration may allow the collision bulkhead to be pierced below the margin line by two pipes, each of which is fitted as required by paragraph 3.2, provided the Administration is satisfied that there is no practical alternative to the fitting of such a second pipe and that, having regard to the additional subdivision provided in the forepeak, the safety of the ship is maintained.

4.1 Watertight doors fitted in bulkheads between permanent and reserve bunkers shall always be accessible, except as provided in paragraph 9.4 for between-deck bunker doors.

4.2 Satisfactory arrangements shall be made by means of screens or otherwise to prevent the coal from interfering with the closing of watertight bunker doors.

5 Subject to paragraph 11, not more than one door, apart from the doors to bunkers and shaft tunnels, may be fitted in each main transverse bulkhead within spaces containing the main and auxiliary propulsion machinery including boilers serving the needs of propulsion and all permanent bunkers. Where two or more shafts are fitted, the tunnels shall be connected by an intercommunicating passage. There shall be only one door between the machinery space and the tunnel spaces where two shafts are fitted and only two doors where there are more than two shafts. All these doors shall be of the sliding type and shall be so located as to have their sills as high as practicable. The hand gear for operating these doors from above the bulkhead deck shall be situated outside the spaces containing the machinery.

6.1 Watertight doors, except as provided in paragraph 10.1 or regulation 16, shall be power-operated sliding doors complying with the requirements of paragraph 7 capable of being closed simultaneously from the central operating console at the navigating bridge in not more than 60 seconds with the ship in the upright position.

6.2 The means of operation whether by power or by hand of any power-operated sliding watertight door shall be capable of closing the door with the ship listed to 15° either way. Consideration shall also be given to the forces which may act on either side of the door as may be experienced when water is flowing through the opening applying a static head equivalent to a water height of at least 1 m above the sill on the centreline of the door.

6.3 Watertight door controls, including hydraulic piping and electric cables, shall be kept as close as practicable to the bulkhead in which the doors are fitted, in order to minimize the likelihood of them being involved in any damage which the ship may sustain. The positioning of watertight doors and their controls shall be such that if the ship sustains damage within one fifth of the breadth of the ship, as defined in regulation 2, such distance being measured at right angles to the centreline at the level of the deepest subdivision load line, the operation of the watertight doors clear of the damaged portion of the ship is not impaired.

6.4 All power-operated sliding watertight doors shall be provided with means of indication which will show at all remote operating positions whether the doors are open or closed. Remote operating positions shall only be at the navigating bridge as required by paragraph 7.1.5 and, at the location where hand operation above the bulkhead deck is required by paragraph 7.1.4.

7.1 Each power-operated sliding watertight door:

.1 shall have a vertical or horizontal motion;

.2 shall, subject to paragraph 11, be normally limited to a maximum clear opening width of 1.2 m. The Administration may permit larger doors only to the extent considered necessary for the effective operation of the ship provided that other safety measures, including the following, are taken into consideration:

.1 special consideration shall be given to the strength of the door and its closing appliances in order to prevent leakages;

.2 the door shall be located outside the damage zone B/5;

.3 the door shall be kept closed when the ship is at sea, except for limited periods when absolutely necessary as determined by the Administration;

.3 shall be fitted with the necessary equipment to open and close the door using electric power, hydraulic power, or any other form of power that is acceptable to the Administration;

.4 shall be provided with an individual hand-operated mechanism. It shall be possible to open and close the door by hand at the door itself from either side, and in addition, close the door from an accessible position above the bulkhead deck with an all round crank motion or some other movement providing the same degree of safety acceptable to the Administration. Direction of rotation or other movement is to be clearly indicated at all operating positions. The time necessary for the complete closure of the door, when operating by hand gear, shall not exceed 90 seconds with the ship in the upright position;

.5 shall be provided with controls for opening and closing the door by power from both sides of the door and also for closing the door by power from the central operating console at the navigating bridge;

.6 shall be provided with an audible alarm, distinct from any other alarm in the area, which will sound whenever the door is closed remotely by power and which shall sound for at least five seconds but no more than ten seconds before the door begins to move and shall continue sounding until the door is completely closed. In the case of remote hand operation it is sufficient for the audible alarm to sound only when the door is moving. Additionally, in passenger areas and areas of high ambient noise the Administration may require the audible alarm to be supplemented by an intermittent visual signal at the door; and

.7 shall have an approximately uniform rate of closure under power. The closure time, from the time the door begins to move to the time it reaches the completely closed position, shall in no case be less than 20 seconds or more than 40 seconds with the ship in the upright position.

7.2 The electrical power required for power-operated sliding watertight doors shall be supplied from the emergency switchboard either directly or by a dedicated distribution board situated above the bulkhead deck. The associated control, indication and alarm circuits shall be supplied from the emergency switchboard either directly or by a dedicated distribution board situated above the bulkhead deck and be capable of being automatically supplied by the transitional source of emergency electrical power required by regulation 42.3.1.3 in the event of failure of either the main or emergency source of electrical power.

7.3 Power-operated sliding watertight doors shall have either:

.1 a centralized hydraulic system with two independent power sources each consisting of a motor and pump capable of simultaneously closing all doors. In addition, there shall be for the whole installation hydraulic accumulators of sufficient capacity to operate all the doors at least three times, i.e. closed-open-closed, against an adverse list of 15°. This operating cycle shall be capable of being carried out when the accumulator is at the pump cut-in pressure. The fluid used shall be chosen considering the temperatures liable to be encountered by the installation during its service. The power operating system shall be designed to minimize the possibility of having a single failure in the hydraulic piping adversely affect the operation of more than one door. The hydraulic system shall be provided with a low-level alarm for hydraulic fluid reservoirs serving the power-operated system and a low gas pressure alarm or other effective means of monitoring loss of stored energy in hydraulic accumulators. These alarms are to be audible and visual and shall be situated on the central operating console at the navigating bridge; or

.2 an independent hydraulic system for each door with each power source consisting of a motor and pump capable of opening and closing the door. In addition, there shall be a hydraulic accumulator of sufficient capacity to operate the door at least three times, i.e. closed-open-closed, against an adverse list of 15°. This

operating cycle shall be capable of being carried out when the accumulator is at the pump cut-in pressure. The fluid used shall be chosen considering the temperatures liable to be encountered by the installation during its service. A low gas pressure group alarm or other effective means of monitoring loss of stored energy in hydraulic accumulators shall be provided at the central operating console on the navigating bridge. Loss of stored energy indication at each local operating position shall also be provided; or

.3 an independent electrical system and motor for each door with each power source consisting of a motor capable of opening and closing the door. The power source shall be capable of being automatically supplied by the transitional source of emergency electrical power as required by regulation 42.4.2 - in the event of failure of either the main or emergency source of electrical power and with sufficient capacity to operate the door at least three times, i.e. closed-open-closed against an adverse list of 15°.

For the systems specified in 7.3.1, 7.3.2 and 7.3.3, provision should be made as follows:

Power systems for power-operated watertight sliding doors shall be separate from any other power system. A single failure in the electric or hydraulic power-operated systems excluding the hydraulic actuator shall not prevent the hand operation of any door.

7.4 Control handles shall be provided at each side of the bulkhead at a minimum height of 1.6 m above the floor and shall be so arranged as to enable persons passing through the doorway to hold both handles in the open position without being able to set the power closing mechanism in operation accidentally. The direction of movement of the handles in opening and closing the door shall be in the direction of door movement and shall be clearly indicated.

7.5 As far as practicable, electrical equipment and components for watertight doors shall be situated above the bulkhead deck and outside hazardous areas and spaces.

7.6 The enclosures of electrical components necessarily situated below the bulkhead deck shall provide suitable protection against the ingress of water.*

7.7 Electric power, control, indication and alarm circuits shall be protected against fault in such a way that a failure in one door circuit will not cause a failure in any other door circuit. Short circuits or other faults in the alarm or indicator circuits of a door shall not result in a loss of power operation of that door. Arrangements shall be such that leakage of water into the electrical equipment located below the bulkhead deck will not cause the door to open.

7.8 A single electrical failure in the power operating or control system of a power-operated sliding watertight door shall not result in a closed door opening. Availability of the power supply should be continuously monitored at a point in the electrical circuit as near as practicable to each of the motors required by paragraph 7.3. Loss of any such power supply should activate an audible and visual alarm at the central operating console at the navigating bridge.

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* Reference is made to the following IEC publication 529 : 1976:

.1 electrical motors, associated circuits and control components; protected to IP x 7 standard;

.2 door position indicators and associated circuit components; protected to IP x 8 standard; and

.3 door movement warning signals; protected to IP x 6 standard.

Other arrangements for the enclosures of electrical components may be fitted provided the Administration is satisfied that an equivalent protection is achieved. The water pressure testing of the enclosures protected to IP x 8 shall be based on the pressure that may occur at the location of the component during flooding for a period of 36 hours.

8.1 The central operating console at the navigating bridge shall have a "master mode" switch with two modes of control: a "local control" mode which shall allow any door to be locally opened and locally closed after use without automatic closure, and a "doors closed" mode which shall automatically close any door that is open. The "doors closed" mode shall permit doors to be opened locally and shall automatically reclose the doors upon release of the local control mechanism. The "master mode" switch shall normally be in the "local control" mode. The "doors closed" mode shall only be used in an emergency or for testing purposes. Special consideration shall be given to the reliability of the "master mode" switch.

8.2 The central operating console at the navigating bridge shall be provided with a diagram showing the location of each door, with visual indicators to show whether each door is open or closed. A red light shall indicate a door is fully open and a green light shall indicate a door is fully closed. When the door is closed remotely the red light shall indicate the intermediate position by flashing. The indicating circuit shall be independent of the control circuit for each door.

8.3 It shall not be possible to remotely open any door from the central operating console.

9.1 All watertight doors shall be kept closed during navigation except that they may be opened during navigation as specified in paragraphs 9.2, 9.3 and 9.4. Watertight doors of width of more than 1.2 m permitted by paragraph 11 may only be opened in the circumstances detailed in that paragraph. Any door which is opened in accordance with this paragraph shall be ready to be immediately closed.

9.2 A watertight door may be opened during navigation to permit the passage of passengers or crew, or when work in the immediate vicinity of the door necessitates it being opened. The door must be immediately closed when transit through the door is complete or when the task which necessitated it being open is finished.

9.3 Certain watertight doors may be permitted to remain open during navigation only if considered absolutely necessary; that is, being open is determined essential to the safe and effective operation of the ship's

machinery or to permit passengers normally unrestricted access throughout the passenger area. Such determination shall be made by the Administration only after careful consideration of the impact on ship operations and survivability. A watertight door permitted to remain thus open shall be clearly indicated in the ship's stability information and shall always be ready to be immediately closed.

9.4 Sliding watertight doors fitted between bunkers in the between-decks below the bulkhead deck may sometimes be open at sea for the purpose of trimming coal. The opening and closing of these doors shall be recorded in such log book as may be prescribed by the Administration.

10.1 If the Administration is satisfied that such doors are essential, watertight doors of satisfactory construction may be fitted in watertight bulkheads dividing cargo between deck spaces. Such doors may be hinged, rolling or sliding doors but shall not be remotely controlled. They shall be fitted at the highest level and as far from the shell plating as practicable, but in no case shall the outboard vertical edges be situated at a distance from the shell plating which is less than one fifth of the breadth of the ship, as defined in regulation 2, such distance being measured at right angles to the centreline at the level of the deepest subdivision load line.

10.2 Such doors shall be closed before the voyage commences and shall be kept closed during navigation; the time of opening such doors in port and of closing them before the ship leaves port shall be entered in the log book. Should any of the doors be accessible during the voyage, they shall be fitted with a device which prevents unauthorized opening. When it is proposed to fit such doors, the number and arrangements shall receive the special consideration of the Administration.

11 Portable plates on bulkheads shall not be permitted except in machinery spaces. Such plates shall always be in place before the ship leaves port, and shall not be removed during navigation except in case of urgent necessity at the discretion of the master. The times of removal and replacement of any such portable plates shall be recorded in the log book, and the necessary precautions shall be taken in replacing them to ensure that the joints are

watertight. The Administration may permit not more than one power-operated sliding watertight door in each main transverse bulkhead larger than those specified in paragraph 7.1.2 to be substituted for these portable plates, provided these doors are closed before the ship leaves port and remain closed during navigation except in case of urgent necessity at the discretion of the master. These doors need not meet the requirements of paragraph 7.1.4 regarding complete closure by hand-operated gear in 90 seconds. The time of opening and closing these doors, whether the ship is at sea or in port, shall be recorded in the log book.

12.1 Where trunkways or tunnels for access from crew accommodation to the stokehold, for piping, or for any other purpose are carried through main transverse watertight bulkheads, they shall be watertight and in accordance with the requirements of regulation 19. The access to at least one end of each such tunnel or trunkway, if used as a passage at sea, shall be through a trunk extending watertight to a height sufficient to permit access above the margin line. The access to the other end of the trunkway or tunnel may be through a watertight door of the type required by its location in the ship. Such trunkways or tunnels shall not extend through the first subdivision bulkhead abaft the collision bulkhead.

12.2 Where it is proposed to fit tunnels piercing main transverse watertight bulkheads, these shall receive the special consideration of the Administration.

12.3 Where trunkways in connection with refrigerated cargo and ventilation or forced draught trunks are carried through more than one watertight bulkhead, the means of closure at such openings shall be operated by power and be capable of being closed from a central position situated above the bulkhead deck".

Regulation 16

Passenger ships carrying goods vehicles and accompanying personnel

The reference to "regulation 15.12" in paragraph 2 is replaced by reference to "regulation 15.10".

Regulation 21

Bilge pumping arrangements

The following text is inserted after the heading:

"(Paragraphs 1.6 and 2.9 of this regulation apply to ships constructed on or after 1 February 1992)".

The following new paragraph 1.6 is added after paragraph 1.5:

"1.6 Provisions shall be made for the drainage of enclosed cargo spaces situated on the bulkhead deck of a passenger ship and on the freeboard deck of a cargo ship, provided that the Administration may permit the means of drainage to be dispensed with in any particular compartment of any ship or class of ship if it is satisfied that by reason of size or internal subdivision of those spaces the safety of the ship is not thereby impaired.

1.6.1 Where the freeboard to the bulkhead deck or the freeboard deck, respectively, is such that the deck edge is immersed when the ship heels more than 5°, the drainage shall be by means of a sufficient number of scuppers of suitable size discharging directly overboard, fitted in accordance with the requirements of regulation 17 in the case of a passenger ship and the requirements for scuppers, inlets and discharges of the International Convention on Load Lines in force in the case of a cargo ship.

1.6.2 Where the freeboard is such that the edge of the bulkhead deck or the edge of the freeboard deck, respectively, is immersed when the ship heels 5° or less, the drainage of the enclosed cargo spaces on the bulkhead deck or on the freeboard deck, respectively, shall be led to a suitable space, or spaces, of adequate capacity, having a high water level alarm and provided with suitable arrangements for discharge overboard. In addition it shall be ensured that:

.1 the number, size and disposition of the scuppers are such as to prevent unreasonable accumulation of free water;

.2 the pumping arrangements required by this regulation for passenger ships or cargo ships, as applicable, take account of the requirements for any fixed pressure water-spraying fire-extinguishing system;

.3 water contaminated with petrol or other dangerous substances is not drained to machinery spaces or other spaces where sources of ignition may be present; and

.4 where the enclosed cargo space is protected by a carbon dioxide fire-extinguishing system the deck scuppers are fitted with means to prevent the escape of the smothering gas".

The definition of "D" in paragraph 2.9 is replaced by the following:

"D is the moulded depth of the ship to the bulkhead deck (metres) provided that, in a ship having an enclosed cargo space on the bulkhead deck which is internally drained in accordance with the requirements of paragraph 1.6.2 and which extends for the full length of the ship, D shall be measured to the next deck above the bulkhead deck. Where the enclosed cargo spaces cover a lesser length, D shall be taken as the moulded depth to the bulkhead deck plus lh/L where l and h are the aggregate length and height respectively of the enclosed cargo spaces (metres)".

Regulation 23-1

The following new regulation 23-1 is added after regulation 23:

"Damage control in dry cargo ships

(This regulation applies to ships constructed on or after 1 February 1992)

1 There shall be permanently exhibited or readily available on the navigating bridge, for the guidance of the officer in charge of the ship, a plan showing clearly for each deck and hold the boundaries of the watertight compartments, the openings therein with the means of closure and position of any controls thereof, and the arrangements for the correction of any list due to flooding. In addition, booklets containing the aforementioned information shall be made available to the officers of the ship.

2 Indicators shall be provided for all sliding doors and for hinged doors in watertight bulkheads. Indication showing whether the doors are open or closed shall be given on the navigating bridge. In addition, shell doors and other openings which, in the opinion of the Administration, could lead to major flooding if left open or not properly secured, shall be provided with such indicators.

3.1 General precautions shall consist of a listing of equipment, conditions and operational procedures, considered by the Administration to be necessary to maintain watertight integrity under normal ship operations.

3.2 Specific precautions shall consist of a listing of elements (i.e. closures, security of cargo, sounding of alarms, etc.) considered by the Administration to be vital to the survival of the ship and its crew".

Regulation 42

Emergency sources of electrical power in passenger ships

The following text is inserted after the heading:

"(Paragraphs 2.6.1 and 4.2 of this regulation apply to ships constructed on or after 1 February 1992)".

The second sentence in paragraph 2.6.1 is deleted.

The existing text of paragraph 4.2 is replaced by the following:

"4.2 Power to operate the watertight doors, as required by regulation 15.7.3.3, but not necessarily all of them simultaneously, unless an independent temporary source of stored energy is provided. Power to the control, indication and alarm circuits as required by regulation 15.7.2 for half an hour".

CHAPTER II-2

CONSTRUCTION - FIRE PROTECTION, FIRE DETECTION AND FIRE EXTINCTION

Regulation 4

Fire pumps, fire mains, hydrants and hoses

The following text is inserted after the heading:

"(Paragraph 3.3.2.5 of this regulation applies to ships constructed on or after 1 February 1992)".

The existing text of paragraph 3.3.2.5 is replaced by the following:

"2.5 The total suction head and the net positive suction head of the pump shall be such that the requirements of paragraphs 3.3.2, 3.3.2.1, 3.3.2.2 and 4.2 of this regulation shall be obtained under all conditions of list, trim, roll and pitch likely to be encountered in service".

In paragraph 7.1 between "of" and "material" in the first line the word "non-perishable" is inserted.

In paragraph 7.1, the following new sentence is inserted after the first sentence:

"Fire hoses of non-perishable material shall be provided in ships constructed on or after 1 February 1992, and on ships constructed before 1 February 1992 when the existing fire hoses are replaced".

Regulation 13-1

The following new regulation 13-1 is added after regulation 13:

"Sample extraction smoke detection systems

(This regulation applies to ships constructed on or after 1 February 1992)

1 General requirements

1.1 Wherever in the text of this regulation the word "system" appears, it shall mean "sample extraction smoke detection system".

1.2 Any required system shall be capable of continuous operation at all times except that systems operating on a sequential scanning principle may be accepted, provided that the interval between scanning the same position twice gives an overall response time to the satisfaction of the Administration.

1.3 Power supplies necessary for the operation of the system shall be monitored for loss of power. Any loss of power shall initiate a visual and audible signal at the control panel and the navigating bridge which shall be distinct from a signal indicating smoke detection.

1.4 An alternative power supply for the electrical equipment used in the operation of the system shall be provided.

1.5 The control panel shall be located on the navigating bridge or in the main fire control station.

1.6 The detection of smoke or other products of combustion shall initiate a visual and audible signal at the control panel and the navigating bridge.

1.7 Clear information shall be displayed on or adjacent to the control panel designating the spaces covered.

1.8 The sampling pipe arrangements shall be such that the location of the fire can be readily identified.

1.9 Suitable instructions and component spares shall be provided for the testing and maintenance of the system.

1.10 The functioning of the system shall be periodically tested to the satisfaction of the Administration. The system shall be of a type that can be tested for correct operation and restored to normal surveillance without the renewal of any component.

1.11 The system shall be designed, constructed and installed so as to prevent the leakage of any toxic or flammable substances or fire-extinguishing media into any accommodation and service space, control station or machinery space.

2 Installation requirements

2.1 At least one smoke accumulator shall be located in every enclosed space for which smoke detection is required. However, where a space is designed to carry oil or refrigerated cargo alternatively with cargoes for which a smoke sampling system is required, means may be provided to isolate the smoke accumulators in such compartments for the system. Such means shall be to the satisfaction of the Administration.

2.2 Smoke accumulators shall be located for optimum performance and shall be spaced so that no part of the overhead deck area is more than 12 m measured horizontally from an accumulator. Where systems are used in spaces which may be mechanically ventilated, the position of the smoke accumulators shall be considered having regard to the effects of ventilation.

2.3 Smoke accumulators shall be positioned where impact or physical damage is unlikely to occur.

2.4 Not more than four accumulators shall be connected to each sampling point.

2.5 Smoke accumulators from more than one enclosed space shall not be connected to the same sampling point.

2.6 Sampling pipes shall be self-draining and suitably protected from impact or damage from cargo working.

3 Design requirements

3.1 The system and equipment shall be suitably designed to withstand supply voltage variations and transients, ambient temperature changes, vibration, humidity, shock, impact and corrosion normally encountered in ships and to avoid the possibility of ignition of flammable gas air mixture.

3.2 The sensing unit shall be certified to operate before the smoke density within the sensing chamber exceeds 6.65% obscuration per metre.

3.3 Duplicate sample extraction fans shall be provided. The fans shall be of sufficient capacity to operate with the normal conditions or ventilation in the protected area and shall give an overall response time to the satisfaction of the Administration.

3.4 The control panel shall permit observation of smoke in the individual sampling pipe.

3.5 Means shall be provided to monitor the airflow through the sampling pipes so designed as to ensure that as far as practicable equal quantities are extracted from each interconnected accumulator.

3.6 Sampling pipes shall be a minimum of 12 mm internal diameter except when used in conjunction with fixed gas fire-extinguishing systems when the minimum size of pipe should be sufficient to permit the fire-extinguishing gas to be discharged within the appropriate time.

3.7 Sampling pipes shall be provided with an arrangement for periodically purging with compressed air".

Regulation 15

Arrangements for oil fuel, lubricating oil and other flammable oils

The following text is inserted after the heading:

"(Paragraphs 2.6 and 3 of this regulation apply to ships constructed on or after 1 February 1992)".

The existing text of paragraph 2.6 is replaced by the following:

".6 Safe and efficient means of ascertaining the amount of oil fuel contained in any oil fuel tank shall be provided.

.6.1 Where sounding pipes are used, they shall not terminate in any space where the risk of ignition of spillage from the sounding pipe might arise. In particular, they shall not terminate in passenger or crew spaces. As a general rule, they shall not terminate in machinery spaces. However, where the Administration considers that these latter requirements are impracticable, it may permit termination of sounding pipes in machinery spaces on condition that all the following requirements are met:

.6.1.1 in addition, an oil-level gauge is provided meeting the requirements of subparagraph .6.2;

.6.1.2 the sounding pipes terminate in locations remote from ignition hazards unless precautions are taken such as the fitting of effective screens to prevent the oil fuel in the case of spillage through the terminations of the sounding pipes from coming into contact with a source of ignition;

.6.1.3 the termination of sounding pipes are fitted with self-closing blanking devices and with a small-diameter self-closing control cock located below the blanking device for the purpose of ascertaining before the blanking device is opened that oil fuel is not present. Provision shall be made so as to ensure that any spillage of oil fuel through the control cock involves no ignition hazard.

.6.2 Other oil-level gauges may be used in place of sounding pipes. Such means, like the means provided in subparagraph .6.1.1, are subject to the following conditions:

.6.2.1 in passenger ships, such means shall not require penetration below the top of the tank and their failure or overfilling of the tanks shall not permit release of fuel;

.6.2.2 in cargo ships, the failure of such means or overfilling of the tank shall not permit release of fuel into the space. The use of cylindrical gauge glasses is prohibited. The Administration may permit the use of oil-level gauges with flat glasses and self-closing valves between the gauges and fuel tanks.

6.3 Means prescribed in .6.2.1 or .6.2.2 which are acceptable to the Administration shall be maintained in the proper condition to ensure their continued accurate functioning in service".

The existing text of paragraph 3 is replaced by the following:

"3 The arrangements for the storage, distribution and utilization of oil used in pressure lubrication systems shall be such as to ensure the safety of the ship and persons on board. The arrangements made in machinery spaces of category A, and whenever practicable in other machinery spaces, shall at least comply with the provisions of paragraphs 2.1, 2.4, 2.5, 2.6, 2.7 and 2.8, except that:

.1 this does not preclude the use of sight-flow glasses in lubricating systems provided that they are shown by test to have a suitable degree of fire resistance;

.2 sounding pipes may be authorized in machinery spaces; the requirements of paragraphs 2.6.1.1 and 2.6.1.3 need not be applied on condition that the sounding pipes are fitted with appropriate means of closure".

Regulation 18

Miscellaneous items

The following text is inserted after the heading:

"(Paragraphs 2.4 and 8 of this regulation apply to ships constructed on or after 1 February 1992. Paragraph 7 of this regulation applies to all ships)".

The following new paragraph 2.4 is added after paragraph 2.3:

"2.4 For the protection of cargo tanks carrying crude oil and petroleum products having a flashpoint not exceeding 60°C, materials readily rendered ineffective by heat shall not be used for valves, fittings, tank opening covers, cargo vent piping, and cargo piping so as to prevent the spread of fire to the cargo".

The following new paragraphs 7 and 8 are added after paragraph 6:

"7 Paint lockers and flammable liquid lockers shall be protected by an appropriate fire-extinguishing arrangement approved by the Administration.

8 Helicopter decks shall be of a steel or steel equivalent fire-resistant construction. If the space below the helicopter deck is a high fire risk space, the insulation standard shall be to the satisfaction of the Administration. Each helicopter facility shall have an operations manual, including a description and a checklist of safety precautions, procedures, and equipment requirements. If the Administration permits aluminium or other low melting metal construction that is not made equivalent to steel, the following provisions shall be satisfied:

.1 If the platform is cantilevered over the side of the ship, after each fire on the ship or on the platform, the platform shall undergo a structural analysis to determine its suitability for further use.

.2 If the platform is located above the ship's deckhouse or similar structure, the following conditions shall be satisfied:

.2.1 the deckhouse top and bulkheads under the platform shall have no openings;

.2.2 all windows under the platform shall be provided with steel shutters;

.2.3 the required fire-fighting equipment shall be to the satisfaction of the Administration;

.2.4 after each fire on the platform or in close proximity, the platform shall undergo a structural analysis to determine its suitability for further use".

Regulation 26

Fire integrity of bulkheads and decks in ships carrying more than 36 passengers

The following text is inserted after the heading:

"(Paragraphs 2.2(7) and 2.2(13) of this regulation apply to ships constructed on or after 1 February 1992)".

The existing text of the third sentence in paragraph 2.2(7) is replaced by the following:

"Isolated lockers and small store-rooms in accommodation spaces having areas less than 4 m^2 (in which flammable liquids are not stowed)".

The following sentence is added at the end of paragraph 2.2(13):

"Lockers and store-rooms having areas greater than 4 m^2, other than those spaces that have provisions for the storage of flammable liquids".

Regulation 27

Fire integrity of bulkheads and decks in ships carrying not more than 36 passengers

The following text is inserted after the heading:

"(Paragraph 2.(5) and 2.(9) of this regulation apply to ships constructed on or after 1 February 1992)".

The existing text of paragraphs 2.(5) and 2.(9) are replaced by the following:

"(5) Service spaces (low risk)

Lockers and store-rooms not having provisions for the storage of flammable liquids and having areas less than 4 m^2 and drying rooms and laundries".

"(9) Service spaces (high risk)

Galleys, pantries containing cooking appliances, paint and lamp rooms, lockers and store-rooms having areas of 4 m^2 or more, spaces for the storage of flammable liquids, and workshops other than those forming part of the machinery spaces".

Regulation 38

Protection of cargo spaces, other than special category spaces, intended for the carriage of motor vehicles with fuel in their tanks for their own propulsion

The following text is inserted after the heading:

"(Paragraph 1 of this regulation applies to ships constructed on or after 1 February 1992)".

The existing text of paragraph 1 is replaced by the following:

"1 Fixed Fire Detection

There shall be provided a fixed fire detection and fire alarm system complying with the requirements of regulation 13 or a sample extraction smoke detection system complying with the requirements of regulation 13-1. The design and arrangements of this system shall be considered in conjunction with the ventilation requirements referred to in paragraph 3".

Regulation 40

Fire patrols, detection, alarms and public address systems

The following text is inserted after the heading:

"(Paragraph 2 of this regulation applies to ships constructed on or after 1 February 1992)".

The existing text of paragraph 2 is replaced by the following:

"2 A fixed fire detection and fire alarm system complying with the requirements of regulation 13 or a sample extraction smoke detection system complying with the requirements of regulation 13-1 shall be provided in any cargo space which, in the opinion of the Administration, is not accessible, except where it is shown to the satisfaction of the Administration that the ship is engaged on voyages of such short duration that it would be unreasonable to apply this requirement".

Regulation 44

Fire integrity of bulkheads and decks

The following text is inserted after the heading:

"(Paragraphs 2.(5) and 2.(9) of this regulation apply to ships constructed on or after 1 February 1992)".

The existing text of paragraphs 2.(5) and 2.(9) is replaced by the following:

"(5) Service spaces (low risk)

Lockers and store-rooms not having provisions for the storage of flammable liquids and having areas less than 4 m^2 and drying rooms and laundries".

"(9) Service spaces (high risk)

Galleys, pantries containing cooking appliances, paint and lamp rooms, lockers and store-rooms having areas of 4 m^2 or more, spaces for the storage of flammable liquids, and workshops other than those forming part of the machinery spaces".

Regulation 50

Details of construction

The following text is inserted after the heading:

"(Paragraphs 3.2 and 3.3 of this regulation apply to ships constructed on or after 1 February 1992)".

The existing text of paragraph 3.2 is replaced by the following:

"3.2 Where non-combustible bulkheads, linings and ceilings are fitted in accommodation and service spaces they may have a combustible veneer with a calorific value not exceeding 45 MJ/m^2 of the area for the thickness used".

The following new paragraph 3.3 is added after paragraph 3.2:

"3.3 The total volume of combustible facings, mouldings, decorations and veneers in any accommodation and service space bounded by non-combustible bulkheads, ceilings and linings shall not exceed a volume equivalent to a 2.5 mm veneer on the combined area of the walls and ceilings".

The existing paragraph 3.3 is renumbered paragraph 3.4.

Regulation 53

Fire protection arrangements in cargo spaces

The following text is inserted after the heading:

(Paragraphs 2.1 and 3 of this regulation apply to ships constructed on or after 1 February 1992)".

In paragraph 1.2 the word "and" between "timber" and "non-combustible" in the third line is replaced by ",".

An asterisk is added at the end of paragraph 1.2 and the following text of a footnote is inserted:

"* Reference is made to the Code of Safe Practice for Solid Bulk Cargoes - Emergency Schedule B14, entry for coal".

The existing text of paragraph 2.1 is replaced by the following:

"2.1 There shall be provided a fixed fire detection and fire alarm system complying with the requirements of regulation 13. The fixed fire detection system shall be capable of rapidly detecting the onset of fire. The type of detectors and their spacing and location shall be to the satisfaction of the Administration taking into account the effects of ventilation and other relevant factors. After being installed, the system shall be tested under normal ventilation conditions and shall give an overall response time to the satisfaction of the Administration".

The existing text of paragraph 3 is replaced by the following:

"3 Cargo spaces, other than ro-ro cargo spaces, intended for the carriage of motor vehicles with fuel in their tanks for their own propulsion

Cargo spaces, other than ro-ro spaces intended for the carriage of motor vehicles with fuel in their tanks for their own propulsion shall comply with the requirements of paragraph 2 except that in lieu of the requirements of

paragraph 2.1 a sample extraction smoke detection system complying with the requirements of regulation 13-1 may be permitted and paragraph 2.2.4 need not be complied with".

Regulation 54

Special requirements for ships carrying dangerous goods

The following text is inserted after the heading:

"(Paragraph 2.3 of this regulation applies to ships constructed on or after 1 February 1992)".

The existing text of paragraph 1.1 and footnote is replaced by the following:

"1.1 In addition to complying with the requirements of regulation 53 for cargo ships and with the requirements of regulations 37*, 38 and 39 for passenger ships as appropriate, ship-types and cargo spaces, referred to in paragraph 1.2, intended for the carriage of dangerous goods shall comply with the requirements of this regulation, as appropriate, except when carrying dangerous goods in limited quantities** unless such requirements have already been met by compliance with the requirements elsewhere in this chapter. The types of ships and modes of carriage of dangerous goods are referred to in paragraph 1.2 and in table 54.1, where the numbers appearing in paragraph 1.2 are referred to in the top line. Cargo ships of less than 500 tons gross tonnage constructed on or after 1 February 1992 shall comply with this regulation, but Administrations may reduce the requirements and such reduced requirements shall be recorded in the document of compliance referred to in paragraph 3.

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* Reference is made to section 17 of the General Introduction to the International Maritime Dangerous Goods Code (IMDG Code) for operational measures in association with the requirements of this regulation.

** Reference is made to section 18 of the General Introduction to the International Maritime Dangerous Goods Code (IMDG Code) for a definition of the term 'limited quantities'".

The existing text of paragraph 2.3 is replaced by the following:

"2.3 Detection system

Ro-ro cargo spaces shall be fitted with a fixed fire detection and fire alarm system complying with the requirements of regulation 13. All other types of cargo spaces shall be fitted with either a fixed fire detection and fire alarm system complying with the requirements of regulation 13 or a sample extraction smoke detection system complying with the requirements of regulation 13-1. If a sample extraction smoke detection system is fitted, particular attention shall be made to regulation 13-1.1.11 in order to prevent the leakage of toxic fumes into occupied areas".

Regulation 55

Application

The existing text of paragraph 5 is replaced by the following:

"5 The requirements for inert gas systems of regulation 60 need not be applied to:

.1 chemical tankers constructed before, on or after 1 July 1986 when carrying cargoes described in paragraph 1, provided that they comply with the requirements for inert gas systems on chemical tankers developed by the Organization*; or

.2 chemical tankers constructed before 1 July 1986, when carrying crude oil or petroleum products, provided that they comply with the requirements for inert gas systems on chemical tankers carrying petroleum products developed by the Organization**; or

.3 gas carriers constructed before, on or after 1 July 1986 when carrying cargoes described in paragraph 1, provided that they are fitted with cargo tank inerting arrangements equivalent to those specified in paragraph 5.1 or 5.2; or

.4 chemical tankers and gas carriers when carrying flammable cargoes other than crude oil or petroleum products such as cargoes listed in chapters VI and VII of the Code for the Construction and Equipment of Ships Carrying Dangerous Chemicals in Bulk or chapters 17 and 18 of the International Code for the Construction and Equipment of Ships Carrying Dangerous Chemicals in Bulk:

.4.1 if constructed before 1 July 1986; or

.4.2 if constructed on or after 1 July 1986, provided that the capacity of tanks used for their carriage does not exceed 3,000 m^3 and the individual nozzle capacities of tank washing machines do not exceed 17.5 m^3/h and the total combined throughput from the number of machines in use in a cargo tank at any one time does not exceed 110 m^3/h.

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* Reference is made to Regulation for Inert Gas Systems on Chemical Tankers adopted by the Organization by resolution A.567(14).

** Reference is made to Interim Regulation for Inert Gas Systems on Chemical Tankers Carrying Petroleum Products, adopted by the Organization by resolution A.473(XII)".

Regulation 56

Location and separation of spaces

The existing text of this regulation is replaced by the following:

"(This regulation applies to ships constructed on or after 1 February 1992)

1 Machinery spaces shall be positioned aft of cargo tanks and slop tanks; they shall also be situated aft of cargo pump-rooms and cofferdams, but not necessarily aft of the oil fuel bunker tanks. Any machinery space shall be

isolated from cargo tanks and slop tanks by cofferdams, cargo pump-rooms, oil fuel bunker tanks or ballast tanks. Pump-rooms containing pumps and their accessories for ballasting those spaces situated adjacent to cargo tanks and slop tanks and pumps for oil fuel transfer shall be considered as equivalent to a cargo pump-room within the context of this regulation, provided that such pump-rooms have the same safety standard as that required for cargo pump-rooms. However, the lower portion of the pump-room may be recessed into machinery spaces of category A to accommodate pumps, provided that the deck head of the recess is in general not more than one third of the moulded depth above the keel, except that in the case of ships of not more than 25,000 tonnes deadweight, where it can be demonstrated that for reasons of access and satisfactory piping arrangements this is impracticable, the Administration may permit a recess in excess of such height, but not exceeding one half of the moulded depth above the keel.

2 Accommodation spaces, main cargo control stations, control stations and service spaces (excluding isolated cargo handling gear lockers) shall be positioned aft of all cargo tanks, slop tanks, and spaces which isolate cargo or slop tanks from machinery spaces but not necessarily aft of the oil fuel bunker tanks and ballast tanks, but shall be arranged in such a way that a single failure of a deck or bulkhead shall not permit the entry of gas or fumes from the cargo tanks into an accommodation space, main cargo control stations, control station, or service spaces. A recess provided in accordance with paragraph 1 need not be taken into account when the position of these spaces is being determined.

3 However, where deemed necessary, the Administration may permit accommodation spaces, main cargo control stations, control stations, and service spaces forward of the cargo tanks, slop tanks and spaces which isolate cargo and slop tanks from machinery spaces, but not necessarily forward of oil fuel bunker tanks or ballast tanks. Machinery spaces, other than those of category A, may be permitted forward of the cargo tanks and slop tanks provided they are isolated from the cargo tanks and slop tanks by cofferdams, cargo pump-rooms, oil fuel bunker tanks or ballast tanks. All of the above spaces shall be subject to an equivalent standard of safety and appropriate

availability of fire-extinguishing arrangements being provided to the satisfaction of the Administration. Accommodation spaces, main cargo control spaces, control stations and service spaces shall be arranged in such a way that a single failure of a deck or bulkhead shall not permit the entry of gas or fumes from the cargo tanks into such spaces. In addition, where deemed necessary for the safety or navigation of the ship, the Administration may permit machinery spaces containing internal combustion machinery not being main propulsion machinery having an output greater than 375 kW to be located forward of the cargo area provided the arrangements are in accordance with the provisions of this paragraph.

4 In combination carriers only:

.1 The slop tanks shall be surrounded by cofferdams except where the boundaries of the slop tanks where slop may be carried on dry cargo voyages are the hull, main cargo deck, cargo pump-room bulkhead or oil fuel bunker tank. These cofferdams shall not be open to a double bottom, pipe tunnel, pump-room or other enclosed space. Means shall be provided for filling the cofferdams with water and for draining them. Where the boundary of a slop tank is the cargo pump-room bulkhead the pump-room shall not be open to the double bottom, pipe tunnel or other enclosed space; however, openings provided with gastight bolted covers may be permitted.

.2 Means shall be provided for isolating the piping connecting the pump-room with the slop tanks referred to in paragraph 4.1. The means of isolation shall consist of a valve followed by a spectacle flange or a spool piece with appropriate blank flanges. This arrangement shall be located adjacent to the slop tanks, but where this is unreasonable or impracticable, it may be located within the pump-room directly after the piping penetrates the bulkhead. A separate pumping and piping arrangement incorporating a manifold shall be provided for discharging the contents of the slop tanks directly to the open deck for disposal to shore reception facilities when the ship is in the dry cargo mode.

.3 Hatches and tank cleaning openings to slop tanks shall only be permitted on the open deck and shall be fitted with closing arrangements. Except where they consist of bolted plates with bolts at watertight spacing, these closing arrangements shall be provided with locking arrangements which shall be under the control of the responsible ship's officer.

.4 Where cargo wing tanks are provided, cargo oil lines below deck shall be installed inside these tanks. However, the Administration may permit cargo oil lines to be placed in special ducts which shall be capable of being adequately cleaned and ventilated and be to the satisfaction of the Administration. Where cargo wing tanks are not provided cargo oil lines below deck shall be placed in special ducts.

5 Where the fitting of a navigation position above the cargo area is shown to be necessary, it shall be for navigation purposes only and it shall be separated from the cargo tank deck by means of an open space with a height of at least 2 m. The fire protection of such a navigation position shall in addition be as required for control spaces in regulation 58.1 and 58.2 and other provisions, as applicable, of this part.

6 Means shall be provided to keep deck spills away from the accommodation and service areas. This may be accomplished by provision of a permanent continuous coaming of a suitable height extending from side to side. Special consideration shall be given to the arrangements associated with stern loading.

7 Exterior boundaries of superstructures and deckhouses enclosing accommodation and including any overhanging decks which support such accommodation, shall be insulated to "A-60" standard for the whole of the portions which face the cargo area and on the outward sides for a distance of 3 m from the end boundary facing the cargo area. In the case of the sides of those superstructures and deckhouses, such insulation shall be carried as high as is deemed necessary by the Administration.

8.1 Except as permitted in paragraph 8.2 below, access doors, air inlets and openings to accommodation spaces, service spaces, control stations and machinery spaces shall not face the cargo area. They shall be located on the

transverse bulkhead not facing the cargo area or on the outboard side of the superstructure or deckhouse at a distance of at least 4% of the length of the ship but not less than 3 m from the end of the superstructure or deckhouse facing the cargo area. This distance need not exceed 5 m.

8.2 The Administration may permit access doors in boundary bulkheads facing the cargo area or within the 5 m limits specified in paragraph 8.1, to main cargo control stations and to such service spaces as provision rooms, store rooms and lockers, provided they do not give access directly or indirectly, to any other space containing or provided for accommodation, control stations or service spaces such as galleys, pantries or workshops, or similar spaces containing sources of vapour ignition. The boundary of such a space shall be insulated to "A-60" standard, with the exception of the boundary facing the cargo area. Bolted plates for the removal of machinery may be fitted within the limits specified in paragraph 8.1. Wheelhouse doors and wheelhouse windows may be located within the limits specified in paragraph 8.1 so long as they are designed to ensure that the wheelhouse can be made rapidly and efficiently gas and vapour tight.

8.3 Windows and sidescuttles facing the cargo area and on the sides of the superstructures and deckhouses within the limits specified in paragraph 8.1 shall be of the fixed (non-opening) type. Such windows and sidescuttles in the first tier on the main deck shall be fitted with inside covers of steel or other equivalent material".

Regulation 58

Fire integrity of bulkheads and decks

The following text is inserted after the heading:

"(Paragraph 2.(5) and 2.(9) of this regulation apply to ships constructed on or after 1 February 1992)".

The existing text of paragraphs 2.(5) and 2.(9) is replaced by the following:

"(5) Service spaces (low risk)

Lockers and store-rooms not having provision for the storage of flammable liquids and having areas less than 4 m^2 and drying rooms and laundries".

"(9) Service spaces (high risk)

Galleys, pantries containing cooking appliances, paint and lamp rooms, lockers and store-rooms having areas of 4 m^2 or more, spaces for the storage of flammable liquids, and workshops other than those forming part of the machinery spaces".

Regulation 59

Venting, purging, gas-freeing and ventilation

The following text is inserted after the heading:

"(Paragraph 2 of this regulation applies to ships constructed on or after 1 February 1992)".

The existing text of paragraph 2 is replaced by the following:

"2 Cargo tank purging and/or gas-freeing*

Arrangements for purging and/or gas-freeing shall be such as to minimize the hazards due to the dispersal of flammable vapours in the atmosphere and to flammable mixtures in a cargo tank. Accordingly:

.1 When the ship is provided with an inert gas system, the cargo tanks shall first be purged in accordance with the provisions of regulation 62.13 until the concentration of hydrocarbon vapours in the cargo tanks has been reduced to less than 2% by volume. Thereafter, gas-freeing may take place at the cargo tank deck level.

.2 When the ship is not provided with an inert gas system, the operation shall be such that the flammable vapour is discharged initially:

.2.1 through the vent outlets as specified in paragraph 1.9; or

.2.2 through outlets at least 2 m above the cargo tank deck level with a vertical efflux velocity of at least 30 m/sec maintained during the gas-freeing operation; or

.2.3 through outlets at least 2 m above the cargo tank deck level with a vertical efflux velocity of at least 20 m/sec and which are protected by suitable devices to prevent the passage of flame.

When the flammable vapour concentration at the outlet has been reduced to 30% of the lower flammable limit, gas-freeing may thereafter be continued at cargo tank deck level.

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* Reference is made to the Revised Standards for the Design, Testing and Locating of Devices to Prevent the Passage of Flame into Cargo Tanks in Tankers (MSC/Circ.373/Rev.1) and to Revised Factors to be taken into Consideration when Designing Cargo Tank Venting and Gas-Freeing Arrangements (MSC/Circ.450/Rev.1)".

Regulation 62

Inert gas systems

The following text is inserted after the heading:

"(Paragraphs 19.1 and 19.2 of this regulation apply to ships constructed on or after 1 February 1992)".

The existing text of the first line of paragraph 19.1 is replaced by the following:

"For inert gas systems of both the flue, gas type and the inert gas generator type, audible and visual alarms shall be provided to indicate:".

The existing text of the first three lines of paragraph 19.2 is replaced by the following:

"For inert gas systems of the inert gas generator type, additional visual and audible alarms shall be provided to indicate;".

CHAPTER III

LIFE-SAVING APPLIANCES AND ARRANGEMENTS

Regulation 41

General requirements for lifeboats

The existing text of paragraph 8.18 is replaced by the following:

"One copy of the life-saving signals referred to in regulation V/16 on a waterproof card or in a waterproof container;".

Regulation 48

Launching and embarkation appliances

For the existing text of paragraph 1.4 "o" is replaced by "y" (Spanish text only).

CHAPTER IV

Regulation 13

Radiotelegraph installations for fitting in motor lifeboats

The existing title is replaced by "Radiotelegraph installations for lifeboats".

In paragraph (a), first line, the existing words "Regulation 14 of Chapter III" are replaced by "regulation III/6.2.2".

In paragraph (h), second line, the existing words "Regulation 14 of Chapter III" are replaced by "regulation III/41.8.29".

Regulation 14

Portable radio apparatus for survival craft

In paragraph (a), first line, the existing words "Regulation 13 of Chapter III" are replaced by "regulation III/6.2.1".

CHAPTER V

SAFETY OF NAVIGATION

Regulation 3

Information required in danger messages

The reference to "Greenwich Mean Time" in subparagraph (a)(iii), (b)(ii) and (e)(i) is replaced by reference to "Universal Co-ordinated Time".

The references to "GMT" under "Examples" is replaced by "UTC".

Regulation 9

Misuse of distress signals

The existing text of this regulation is replaced by the following:

"The use of an international distress signal, except for the purpose of indicating that a ship, aircraft or person is in distress, and the use of any signal which may be confused with an international distress signal, are prohibited".

Regulation 12

Shipborne navigational equipment

The existing text of paragraph (f) is replaced by the following:

"(f) Ships with emergency steering positions shall at least be provided with a telephone or other means of communication for relaying heading information to such positions. In addition, ships of 500 tons gross tonnage and upwards constructed on or after 1 February 1992, shall be provided with arrangements for supplying visual compass readings to the emergency steering position".

Regulation 13

Manning

The existing text of regulation V/13 is renumbered as paragraph (a).

The following new paragraph (b) is added:

"(b) Every ship to which chapter I of this Convention applies shall be provided with an appropriate safe manning document or equivalent issued by the Administration as evidence of the minimum safe manning considered necessary to comply with the provisions of paragraph (a)".

Regulation 16

Life-saving signals

The existing text of this regulation is replaced by the following:

"Life-saving signals* shall be used by life-saving stations, maritime rescue units and aircraft engaged in search and rescue operations when communicating with ships or persons in distress or to direct ships, and by ships or persons in distress when communicating with life-saving stations, maritime rescue units and aircraft engaged in search and rescue operations. An illustrated table describing the life-saving signals shall be readily available to the officer of the watch of every ship to which this chapter applies.

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* Such life-saving signals are described in the Merchant Ship Search and Rescue Manual (MERSAR) (resolution A.229(VII), as amended), the IMO Search and Rescue Manual (IMOSAR) (resolution A.439(XI), as amended) and illustrated in the International Code of Signals as amended pursuant to resolution A.80(IV)".

CHAPTER VII

CARRIAGE OF DANGEROUS GOODS

Regulation 7

The existing text of regulation is replaced by the following:

"Explosives in passenger ships*

1 Explosives in division 1.4, compatibility group S may be carried in any amount in passenger ships. No other explosives may be carried except any one of the following:

.1 explosive articles for life-saving purposes, if the total net explosives mass of such articles does not exceed 50 kg per ship; or

.2 explosives in compatibility groups C, D and E, if the total net explosives mass does not exceed 10 kg per ship; or

.3 explosive articles in compatibility group G other than those requiring special stowage, if the total net explosives mass does not exceed 10 kg per ship; or

.4 explosive articles in compatibility group B, if the total net explosives mass does not exceed 5 kg per ship.

2 Notwithstanding the provisions of paragraph 1, additional quantitites or types of explosives may be carried in passenger ships in which special safety measures approved by the Administration are taken.

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* Reference is made to class 1 of the International Maritime Dangerous Goods Code (IMDG Code)".

第 79/2014 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》（下稱“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.31（63）號決議通過了公約的修正案；

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；

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.31（63）號決議的中文及英文正式文本。

二零一四年十月二十四日發佈。

行政長官　崔世安

Aviso do Chefe do Executivo n.º 79/2014

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 23 de Maio de 1994, o Comité de Segurança Marítima da Organização Marítima Internacional, através da resolução MSC.31(63), adoptou emendas à Convenção;

Considerando ainda 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, tal como emendada, na Região Administrativa Especial de Macau, a partir de 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.31(63), que contém as referidas emendas, nos seus textos autênticos em línguas chinesa e inglesa.

Promulgado em 24 de Outubro de 2014.

O Chefe do Executivo, *Chui Sai On*.